

General Specifications



GENERAL DESCRIPTION

AVX has a wide range of thin-film chip capacitors that feature highly repeatable performance, extremely accurate capacitance, and very high Q factor. These features have now been applied to the new Accu-P[®] MP series, which can provide all of these benefits in a thin-film chip capacitor for medical and healthcare RF signal and power applications. These capacitors provide ultra-tight capacitive tolerance, low ESR at very high frequency, and high stability with respect to temperature, time, frequency, and voltage variation. The Accu-P[®] MP is available in both Sn/Pb and RoHS compliant termination styles.

APPLICATIONS

- Embedded medical systems
- Medical systems featuring RF Signals
- Medical power applications which require extremely high accuracy

PRODUCT ADVANTAGES

- Extremely tight capacitive tolerance
- Low ESR and high Q at very high frequencies
- Improved RF power handling capability
- Sn/Pb and RoHS compliant termination styles available.

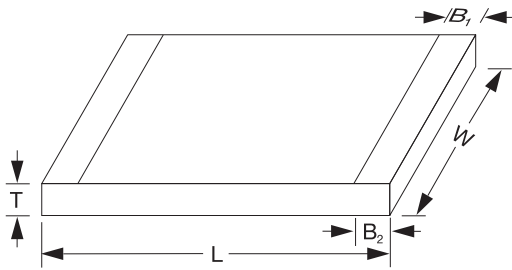
HOW TO ORDER

| | | | | | | | |
|-------------------------------------------|------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|---------------------------|----------------------|
| MP01 ↓ | Z ↓ | J ↓ | 100 ↓ | A ↓ | B ↓ | W ↓ | G ↓ |
| Size | Rated Voltage | Dielectric Code | Capacitance | Tolerance for C≤2.0pF* | Accu-P Technology Type | Termination Finish | Medical Grade |
| MP01 = 0201 MP02 = 0402 MP03 = 0603 | Z = 10V Y = 16V 3 = 25V 5 = 50V 1 = 100V | J = 0±30ppm/°C K = 0±60ppm/°C | Capacitance expressed in pF. (2 significant digits + number of zeros) for values <10pF , letter R denotes decimal point. Example: 68pF = 680 8.2pF = 8R2 | Z = ±0.01pF P = ±0.02pF Q = ±0.03pF A = ±0.05pF B = ±0.1pF C = ±0.25pF | for C≤3.0pF Q = ±0.03pF A = ±0.05pF B = ±0.1pF C = ±0.25pF | W = Sn90Pb10 S = Sn100 | |
| For 01005 case size, contact factory | | See <i>Capacitance Voltage Range Chart for available Temperature Coefficients</i> | <i>For Capacitance values which require more than 2 significant figures, contact factory.</i> | for C≤5.6pF A = ±0.05pF B = ±0.1pF C = ±0.25pF | | | |
| | | | | for 5.6pF<C<10pF B = ±0.1pF C = ±0.25pF D = ±0.5pF | | | |
| | | | | for C≥10pF F = ±1% G = ±2% J = ±5% | | | |



For RoHS compliant products, please select correct termination style.

General Specifications



ACCU-P[®] MP (Medical Thin-Film Chip Capacitors)

| | 0201 (MP01)* | 0402 (MP02)* | 0603 (MP03)* |
|----------------|-------------------------------|--------------------------------------------------------------------------------------|----------------------------|
| L | 0.05 (0.023±0.002) | 1.00±0.10 (0.039±0.004) | 1.60±0.10 (0.063±0.004) |
| W | 0.325±0.050 (0.0128±0.002) | 0.55±0.07 (0.022±0.003) | 0.81±0.10 (0.032±0.004) |
| T | 0.225±0.050 (0.009±0.002) | 0.40±0.10 (0.016±0.004) | 0.63±0.10 (0.025±0.004) |
| B ₁ | 0.10±0.10 (0.004±0.004) | 0.00 ^{+0.1} _{-0.0} (0.000 ^{+0.004} _{-0.000}) | 0.35±0.15 (0.014±0.006) |
| B ₂ | 0.15±0.05 (0.006±0.002) | 0.20±0.10 (0.008±0.004) | 0.35±0.15 (0.014±0.006) |

*Mount Black Side Up

DIMENSIONS: millimeters (inches)

ELECTRICAL SPECIFICATIONS

| | |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------|
| Operating and Storage Temperature Range | -55°C to +125°C |
| Temperature Coefficients ⁽¹⁾ | 0 ± 30ppm/°C dielectric code "J" / 0 ± 60ppm/°C dielectric code "K" |
| Capacitance Measurement | 1 MHz ±100 kHz; 1.0 Volt ±0.2Vrms |
| Insulation Resistance (IR) | ≥10 ¹¹ Ohms (≥10 ¹⁰ Ohms for 0201 and 0402 size) |
| Q Factor | Not less than 1000 for Capacitance values > 0.5 pF Not less than 500 for Capacitance values ≤ 0.5 pF |
| Proof Voltage | 8 x U _R for 5 secs. |
| Aging Characteristic | Zero |
| Dielectric Absorption | 0.01% |

Signal and Power Type Capacitors

Accu-P® Capacitance Ranges (pF)

TEMP. COEFFICIENT CODE

“J” = 0±30ppm/°C (-55°C to +125°C)⁽²⁾ “K” = 0±60ppm/°C (-55°C to +125°C)⁽²⁾

| Size | | 0201 | | | | 0402 | | | | 0603 | | | | |
|--------------------------|----------|------|----|----|----|------|----|----|----|------|----|----|----|-----|
| Size Code | | 10 | 16 | 25 | 50 | 10 | 16 | 25 | 50 | 10 | 16 | 25 | 50 | 100 |
| Cap in pF ⁽¹⁾ | Cap code | | | | | | | | | | | | | |
| 0.05 | — R05 | | | | | | | | | | | | | |
| 0.1 | — OR1 | | | | | | | | | | | | | |
| 0.2 | — OR2 | | | | | | | | | | | | | |
| 0.3 | — OR3 | | | | | | | | | | | | | |
| 0.4 | — OR4 | | | | | | | | | | | | | |
| 0.5 | — OR5 | | | | | | | | | | | | | |
| 0.6 | — OR6 | | | | | | | | | | | | | |
| 0.7 | — OR7 | | | | | | | | | | | | | |
| 0.8 | — OR8 | | | | | | | | | | | | | |
| 0.9 | — OR9 | | | | | | | | | | | | | |
| 1.0 | — 1R0 | | | | | | | | | | | | | |
| 1.1 | — 1R1 | | | | | | | | | | | | | |
| 1.2 | — 1R2 | | | | | | | | | | | | | |
| 1.3 | — 1R3 | | | | | | | | | | | | | |
| 1.4 | — 1R4 | | | | | | | | | | | | | |
| 1.5 | — 1R5 | | | | | | | | | | | | | |
| 1.6 | — 1R6 | | | | | | | | | | | | | |
| 1.7 | — 1R7 | | | | | | | | | | | | | |
| 1.8 | — 1R8 | | | | | | | | | | | | | |
| 1.9 | — 1R9 | | | | | | | | | | | | | |
| 2.0 | — 2R0 | | | | | | | | | | | | | |
| 2.1 | — 2R1 | | | | | | | | | | | | | |
| 2.2 | — 2R2 | | | | | | | | | | | | | |
| 2.3 | — 2R3 | | | | | | | | | | | | | |
| 2.4 | — 2R4 | | | | | | | | | | | | | |
| 2.5 | — 2R5 | | | | | | | | | | | | | |
| 2.6 | — 2R6 | | | | | | | | | | | | | |
| 2.7 | — 2R7 | | | | | | | | | | | | | |
| 2.8 | — 2R8 | | | | | | | | | | | | | |
| 2.9 | — 2R9 | | | | | | | | | | | | | |
| 3.0 | — 3R0 | | | | | | | | | | | | | |
| 3.1 | — 3R1 | | | | | | | | | | | | | |
| 3.2 | — 3R2 | | | | | | | | | | | | | |
| 3.3 | — 3R3 | | | | | | | | | | | | | |
| 3.4 | — 3R4 | | | | | | | | | | | | | |
| 3.5 | — 3R5 | | | | | | | | | | | | | |
| 3.6 | — 3R6 | | | | | | | | | | | | | |
| 3.7 | — 3R7 | | | | | | | | | | | | | |
| 3.8 | — 3R8 | | | | | | | | | | | | | |
| 3.9 | — 3R9 | | | | | | | | | | | | | |
| 4.0 | — 4R0 | | | | | | | | | | | | | |
| 4.1 | — 4R1 | | | | | | | | | | | | | |
| 4.2 | — 4R2 | | | | | | | | | | | | | |
| 4.3 | — 4R3 | | | | | | | | | | | | | |
| 4.4 | — 4R4 | | | | | | | | | | | | | |
| 4.5 | — 4R5 | | | | | | | | | | | | | |
| 4.6 | — 4R6 | | | | | | | | | | | | | |
| 4.7 | — 4R7 | | | | | | | | | | | | | |
| 5.1 | — 5R1 | | | | | | | | | | | | | |
| 5.6 | — 5R6 | | | | | | | | | | | | | |
| 6.2 | — 6R2 | | | | | | | | | | | | | |
| 6.8 | — 6R8 | | | | | | | | | | | | | |
| 7.5 | — 7R5 | | | | | | | | | | | | | |
| 8.2 | — 8R2 | | | | | | | | | | | | | |
| 9.1 | — 9R1 | | | | | | | | | | | | | |
| 10.0 | — 100 | | | | | | | | | | | | | |
| 11.0 | — 110 | | | | | | | | | | | | | |
| 12.0 | — 120 | | | | | | | | | | | | | |
| 13.0 | — 130 | | | | | | | | | | | | | |
| 14.0 | — 140 | | | | | | | | | | | | | |
| 15.0 | — 150 | | | | | | | | | | | | | |
| 16.0 | — 160 | | | | | | | | | | | | | |
| 17.0 | — 170 | | | | | | | | | | | | | |
| 18.0 | — 180 | | | | | | | | | | | | | |
| 19.0 | — 190 | | | | | | | | | | | | | |
| 20.0 | — 200 | | | | | | | | | | | | | |
| 21.0 | — 210 | | | | | | | | | | | | | |
| 22.0 | — 220 | | | | | | | | | | | | | |
| 24.0 | — 240 | | | | | | | | | | | | | |
| 27.0 | — 270 | | | | | | | | | | | | | |
| 30.0 | — 300 | | | | | | | | | | | | | |
| 33.0 | — 330 | | | | | | | | | | | | | |
| 39.0 | — 390 | | | | | | | | | | | | | |
| 47.0 | — 470 | | | | | | | | | | | | | |
| 56.0 | — 560 | | | | | | | | | | | | | |
| 68.0 | — 680 | | | | | | | | | | | | | |

Temperature Coefficients: J = 0±30ppm/°C (-55°C to +125°C)⁽²⁾; K = 0±60ppm/°C (-55°C to +125°C)⁽²⁾

(1) For capacitance values higher than listed in table, please consult factory.

(2) TC shown is per EIA/IEC Specifications.

These values are produced with “K” temperature coefficient code only.

0201 Typical Electrical Tables

| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|---------------------------------------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| U_p = 10V (Voltage code Z) | | | | | | | | | | | | | | |
| MP01Z#R05-B-- | 0.05 | N/A | 20.9 | 599 | 402 | 0.055 | 650 | 3220 | 0.056 | 265 | 4010 | 0.057 | 195 | 4450 |
| MP01Z#OR1-B-- | 0.1 | 6000 | 19.4 | 574 | 316 | 0.110 | 614 | 3682 | 0.112 | 246 | 3036 | 0.113 | 188 | 3113 |
| MP01Z#R15-B-- | 0.15 | 4800 | 17.9 | 510 | 280 | 0.163 | 550 | 2087 | 0.166 | 220 | 2404 | 0.168 | 170 | 2441 |
| MP01Z#OR2-B-- | 0.2 | 3600 | 16.4 | 445 | 245 | 0.216 | 520 | 1693 | 0.220 | 210 | 1971 | 0.223 | 160 | 1970 |
| MP01Z#R25-B-- | 0.25 | 2700 | 15.5 | 436 | 240 | 0.262 | 510 | 1371 | 0.268 | 204 | 1604 | 0.272 | 153 | 1646 |
| MP01Z#OR3-B-- | 0.3 | 1800 | 14.6 | 427 | 235 | 0.309 | 500 | 1149 | 0.316 | 199 | 1337 | 0.320 | 146 | 1421 |
| MP01Z#R35-B-- | 0.35 | 1650 | 14.1 | 423 | 232 | 0.360 | 494 | 1001 | 0.369 | 196 | 1177 | 0.374 | 144 | 1265 |
| MP01Z#OR4-B-- | 0.4 | 1500 | 12.5 | 418 | 230 | 0.411 | 489 | 874 | 0.421 | 193 | 1038 | 0.427 | 142 | 1129 |
| MP01Z#R45-B-- | 0.45 | 1400 | 11.9 | 413 | 227 | 0.461 | 484 | 819 | 0.473 | 191 | 972 | 0.481 | 140 | 1066 |
| MP01Z#OR5-B-- | 0.5 | 1300 | 11.3 | 408 | 224 | 0.512 | 478 | 765 | 0.526 | 188 | 906 | 0.535 | 138 | 1003 |
| MP01Z#R55-B-- | 0.55 | 1200 | 10.9 | 403 | 222 | 0.563 | 473 | 710 | 0.578 | 186 | 840 | 0.588 | 137 | 940 |
| MP01Z#OR6-B-- | 0.6 | 1100 | 10.4 | 398 | 219 | 0.614 | 468 | 663 | 0.631 | 183 | 791 | 0.642 | 135 | 882 |
| MP01Z#R65-B-- | 0.65 | 1025 | 10.0 | 394 | 217 | 0.664 | 462 | 624 | 0.683 | 181 | 742 | 0.695 | 133 | 825 |
| MP01Z#OR7-B-- | 0.7 | 950 | 9.5 | 389 | 214 | 0.715 | 457 | 580 | 0.735 | 178 | 693 | 0.749 | 131 | 767 |
| MP01Z#R75-B-- | 0.75 | 900 | 9.3 | 384 | 211 | 0.766 | 452 | 557 | 0.788 | 176 | 664 | 0.802 | 129 | 729 |
| MP01Z#OR8-B-- | 0.8 | 850 | 9.1 | 379 | 209 | 0.817 | 446 | 534 | 0.840 | 173 | 635 | 0.856 | 127 | 692 |
| MP01Z#R85-B-- | 0.85 | 825 | 8.9 | 374 | 206 | 0.868 | 441 | 511 | 0.893 | 171 | 606 | 0.909 | 126 | 654 |
| MP01Z#OR9-B-- | 0.9 | 800 | 8.8 | 370 | 203 | 0.918 | 436 | 487 | 0.945 | 168 | 577 | 0.963 | 124 | 616 |
| MP01Z#R95-B-- | 0.95 | 775 | 8.6 | 365 | 201 | 0.969 | 430 | 464 | 0.998 | 166 | 548 | 1.016 | 122 | 579 |
| MP01Z#1R0-B-- | 1 | 750 | 8.4 | 360 | 198 | 1.020 | 425 | 441 | 1.050 | 163 | 519 | 1.070 | 120 | 541 |
| Contact Factory | 1.05 | 725 | 8.2 | 358 | 197 | 1.078 | 421 | 426 | 1.112 | 161 | 502 | 1.134 | 119 | 523 |
| MP01Z#1R1-B-- | 1.1 | 700 | 8.0 | 355 | 195 | 1.135 | 418 | 410 | 1.173 | 159 | 486 | 1.199 | 117 | 505 |
| Contact Factory | 1.15 | 650 | 7.8 | 353 | 194 | 1.193 | 414 | 395 | 1.235 | 157 | 469 | 1.263 | 116 | 488 |
| MP01Z#1R2-B-- | 1.2 | 600 | 7.6 | 350 | 193 | 1.251 | 411 | 379 | 1.296 | 155 | 452 | 1.327 | 115 | 470 |
| Contact Factory | 1.25 | 580 | 7.5 | 348 | 191 | 1.308 | 407 | 364 | 1.358 | 153 | 436 | 1.392 | 114 | 452 |
| MP01Z#1R3-B-- | 1.3 | 560 | 7.4 | 345 | 190 | 1.355 | 403 | 348 | 1.419 | 151 | 419 | 1.456 | 112 | 434 |
| Contact Factory | 1.35 | 545 | 7.3 | 343 | 189 | 1.424 | 400 | 333 | 1.481 | 149 | 402 | 1.520 | 111 | 416 |
| MP01Z#1R4-B-- | 1.4 | 530 | 7.2 | 340 | 187 | 1.481 | 396 | 317 | 1.542 | 147 | 386 | 1.585 | 110 | 398 |
| Contact Factory | 1.45 | 515 | 7.1 | 338 | 186 | 1.539 | 393 | 302 | 1.604 | 145 | 369 | 1.649 | 109 | 381 |
| MP01Z#1R5-B-- | 1.5 | 500 | 7.0 | 335 | 184 | 1.597 | 389 | 287 | 1.665 | 144 | 353 | 1.713 | 107 | 363 |
| Contact Factory | 1.55 | 490 | 6.8 | 332 | 183 | 1.642 | 386 | 282 | 1.714 | 142 | 347 | 1.764 | 106 | 358 |
| MP01Z#1R6-B-- | 1.6 | 480 | 6.7 | 330 | 181 | 1.687 | 382 | 277 | 1.762 | 141 | 342 | 1.815 | 105 | 352 |
| Contact Factory | 1.65 | 470 | 6.6 | 327 | 180 | 1.732 | 378 | 272 | 1.810 | 140 | 337 | 1.866 | 104 | 347 |
| MP01Z#1R7-B-- | 1.7 | 460 | 6.5 | 324 | 178 | 1.777 | 375 | 267 | 1.859 | 138 | 331 | 1.917 | 103 | 342 |
| Contact Factory | 1.75 | 455 | 6.4 | 321 | 176 | 1.822 | 371 | 262 | 1.907 | 137 | 326 | 1.968 | 102 | 337 |
| MP01Z#1R8-B-- | 1.8 | 450 | 6.3 | 318 | 175 | 1.866 | 367 | 257 | 1.955 | 136 | 321 | 2.018 | 101 | 331 |
| Contact Factory | 1.85 | 435 | 6.2 | 315 | 173 | 1.911 | 364 | 252 | 2.003 | 134 | 316 | 2.069 | 100 | 326 |
| MP01Z#1R9-B-- | 1.9 | 425 | 6.2 | 312 | 172 | 1.956 | 360 | 247 | 2.052 | 133 | 310 | 2.12 | 99 | 321 |
| Contact Factory | 1.95 | 412 | 6.1 | 309 | 170 | 2.001 | 357 | 242 | 2.100 | 132 | 305 | 2.171 | 98 | 316 |
| MP01Z#2R0-B-- | 2 | 400 | 6.0 | 306 | 168 | 2.046 | 353 | 237 | 2.148 | 131 | 300 | 2.222 | 97 | 310 |
| MP01Z#2R1-B-- | 2.1 | 380 | 5.9 | 301 | 166 | 2.150 | 348 | 232 | 2.263 | 128 | 293 | 2.344 | 95 | 303 |
| MP01Z#2R2-B-- | 2.2 | 365 | 5.7 | 296 | 163 | 2.254 | 343 | 227 | 2.377 | 125 | 287 | 2.467 | 93 | 296 |
| MP01Z#2R3-B-- | 2.3 | 350 | 5.6 | 292 | 160 | 2.358 | 337 | 222 | 2.491 | 122 | 281 | 2.590 | 91 | 289 |
| MP01Z#2R4-B-- | 2.4 | 340 | 5.5 | 287 | 158 | 2.462 | 332 | 217 | 2.606 | 120 | 274 | 2.712 | 89 | 282 |
| MP01Z#2R5-B-- | 2.5 | 330 | 5.4 | 282 | 155 | 2.566 | 327 | 212 | 2.720 | 117 | 268 | 2.835 | 87 | 275 |
| MP01Z#2R6-B-- | 2.6 | 320 | 5.3 | 277 | 152 | 2.670 | 322 | 207 | 2.834 | 114 | 262 | 2.958 | 85 | 268 |
| MP01Z#2R7-B-- | 2.7 | 310 | 5.2 | 272 | 150 | 2.773 | 317 | 202 | 2.949 | 112 | 255 | 3.080 | 83 | 261 |
| MP01Z#2R8-B-- | 2.8 | 300 | 5.1 | 269 | 148 | 2.878 | 312 | 199 | 3.066 | 110 | 252 | 3.209 | 81 | 258 |
| MP01Z#2R9-B-- | 2.9 | 295 | 5.0 | 265 | 146 | 2.983 | 308 | 196 | 3.184 | 108 | 248 | 3.337 | 80 | 254 |
| MP01Z#3R0-B-- | 3 | 290 | 4.9 | 261 | 144 | 3.088 | 304 | 193 | 3.301 | 106 | 245 | 3.465 | 78 | 251 |
| MP01Z#3R1-B-- | 3.1 | 285 | 4.8 | 257 | 141 | 3.196 | 299 | 190 | 3.419 | 105 | 241 | 3.593 | 77 | 247 |
| MP01Z#3R2-B-- | 3.2 | 285 | 4.7 | 253 | 139 | 3.297 | 295 | 187 | 3.536 | 103 | 238 | 3.722 | 76 | 244 |
| MP01Z#3R3-B-- | 3.3 | 280 | 4.6 | 250 | 137 | 3.402 | 291 | 185 | 3.654 | 101 | 234 | 3.850 | 74 | 240 |
| MP01Z#3R4-B-- | 3.4 | 275 | 4.6 | 246 | 135 | 3.506 | 286 | 182 | 3.771 | 99 | 231 | 3.978 | 73 | 237 |
| MP01Z#3R5-B-- | 3.5 | 275 | 4.5 | 242 | 133 | 3.611 | 282 | 179 | 3.889 | 98 | 227 | 4.107 | 71 | 233 |
| MP01Z#3R6-B-- | 3.6 | 270 | 4.5 | 238 | 131 | 3.716 | 278 | 176 | 4.006 | 96 | 224 | 4.235 | 70 | 230 |
| MP01Z#3R7-B-- | 3.7 | 265 | 4.4 | 234 | 129 | 3.82 | 273 | 173 | 4.124 | 94 | 220 | 4.363 | 69 | 226 |
| MP01Z#3R8-B-- | 3.8 | 265 | 4.4 | 230 | 127 | 3.925 | 269 | 170 | 4.241 | 92 | 217 | 4.492 | 67 | 223 |
| MP01Z#3R9-B-- | 3.9 | 260 | 4.3 | 227 | 125 | 4.03 | 265 | 167 | 4.359 | 91 | 213 | 4.620 | 66 | 219 |
| MP01ZK4R0-B-- | 4 | 260 | 4.3 | 224 | 123 | 4.138 | 262 | 165 | 4.484 | 89 | 210 | 4.760 | 65 | 216 |
| MP01ZK4R1-B-- | 4.1 | 255 | 4.2 | 222 | 122 | 4.247 | 259 | 162 | 4.610 | 88 | 207 | 4.901 | 64 | 213 |
| MP01ZK4R2-B-- | 4.2 | 255 | 4.2 | 220 | 121 | 4.356 | 257 | 159 | 4.735 | 87 | 204 | 5.041 | 63 | 210 |
| MP01ZK4R3-B-- | 4.3 | 250 | 4.1 | 218 | 120 | 4.464 | 254 | 157 | 4.860 | 86 | 201 | 5.181 | 62 | 207 |
| MP01ZK4R4-B-- | 4.4 | 245 | 4.1 | 216 | 119 | 4.573 | 252 | 154 | 4.986 | 85 | 198 | 5.322 | 61 | 204 |

"#"-can be either "J" or "K" temperature coefficient

Accu-P® MP Medical Grade



0201 Typical Electrical Tables

| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|----------------------------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP01ZK4R5-B-- | 4.5 | 240 | 4.0 | 214 | 118 | 4.682 | 249 | 152 | 5.111 | 83 | 195 | 5.462 | 60 | 201 |
| MP01ZK4R6-B-- | 4.6 | 235 | 4.0 | 212 | 116 | 4.790 | 245 | 149 | 5.237 | 82 | 192 | 5.602 | 59 | 198 |
| MP01ZK4R7-B-- | 4.7 | 230 | 3.9 | 209 | 115 | 4.899 | 244 | 147 | 5.362 | 81 | 189 | 5.743 | 58 | 195 |
| MP01ZK5R1-B-- | 5.1 | 225 | 3.8 | 201 | 110 | 5.334 | 233 | 136 | 5.863 | 76 | 178 | 6.304 | 54 | 183 |
| MP01ZK5R6-B-- | 5.6 | 220 | 3.6 | 190 | 105 | 5.877 | 220 | 124 | 6.490 | 70 | 163 | 7.006 | 49 | 168 |
| MP01ZK6R2-B-- | 6.2 | 215 | 3.5 | 177 | 97 | 6.488 | 208 | 126 | 7.290 | 65 | 167 | 7.993 | 45 | 174 |
| MP01ZK6R8-B-- | 6.8 | 210 | 3.3 | 164 | 90 | 7.100 | 195 | 128 | 8.090 | 60 | 171 | 8.980 | 41 | 179 |
| MP01ZK7R5-B-- | 7.5 | 205 | 3.2 | 153 | 84 | 7.901 | 182 | 125 | 9.129 | 56 | 166 | 10.27 | 38 | 173 |
| MP01ZK8R2-B-- | 8.2 | 200 | 3.0 | 142 | 78 | 8.701 | 168 | 121 | 10.17 | 52 | 160 | 11.56 | 34 | 167 |
| MP01ZK9R1-B-- | 9.1 | 195 | 2.9 | 135 | 74 | 9.676 | 159 | 118 | 11.57 | 49 | 154 | 13.49 | 32 | 161 |
| MP01ZK100-B-- | 10 | 190 | 2.8 | 128 | 70 | 10.65 | 151 | 114 | 12.96 | 45 | 148 | 15.41 | 29 | 155 |
| MP01ZK110-B-- | 11 | 185 | 2.7 | 120 | 66 | 11.73 | 141 | 110 | 14.52 | 42 | 142 | 17.55 | 27 | 148 |
| MP01ZK120-B-- | 12 | 180 | 2.5 | 112 | 62 | 12.82 | 132 | 105 | 16.07 | 39 | 135 | 19.68 | 24 | 141 |
| MP01ZK130-B-- | 13 | 175 | 2.4 | 105 | 58 | 13.92 | 124 | 104 | 17.82 | 36 | 135 | 22.38 | 22 | 142 |
| MP01ZK140-B-- | 14 | 170 | 2.4 | 98 | 54 | 15.02 | 116 | 103 | 19.57 | 32 | 135 | 25.08 | 19 | 142 |
| MP01ZK150-B-- | 15 | 165 | 2.3 | 91 | 50 | 16.12 | 108 | 102 | 21.32 | 29 | 135 | 27.78 | 17 | 143 |
| MP01ZK160-B-- | 16 | 165 | 2.2 | 86 | 47 | 17.37 | 102 | 103 | 24.04 | 27 | 135 | N/A | N/A | N/A |
| MP01ZK170-B-- | 17 | 160 | 2.2 | 81 | 44 | 18.63 | 96 | 105 | 26.76 | 25 | 136 | N/A | N/A | N/A |
| MP01ZK180-B-- | 18 | 160 | 2.1 | 76 | 42 | 19.88 | 90 | 106 | 29.48 | 23 | 136 | N/A | N/A | N/A |
| MP01ZK190-B-- | 19 | 155 | 2.1 | 71 | 39 | 21.14 | 83 | 108 | 32.20 | 21 | 136 | N/A | N/A | N/A |
| MP01ZK200-B-- | 20 | 155 | 2.1 | 65 | 36 | 22.39 | 77 | 109 | 34.92 | 19 | 136 | N/A | N/A | N/A |
| MP01ZK210-B-- | 21 | 150 | 2.0 | 66 | 33 | 23.5 | 71 | 110 | 37.41 | 17 | 137 | N/A | N/A | N/A |
| MP01ZK220-B-- | 22 | 150 | 2.0 | 55 | 30 | 24.9 | 65 | 112 | 40.36 | 15 | 137 | N/A | N/A | N/A |
| UR = 16V (Voltage code Y) | | | | | | | | | | | | | | |
| MP01Y#R05-B-- | 0.05 | N/A | 20.9 | 599 | 402 | 0.055 | 650 | 3220 | 0.056 | 265 | 4010 | 0.057 | 195 | 4450 |
| MP01Y#R1-B-- | 0.1 | 6000 | 19.4 | 574 | 316 | 0.110 | 614 | 3682 | 0.112 | 246 | 3036 | 0.113 | 188 | 3113 |
| MP01Y#R15-B-- | 0.15 | 4800 | 17.9 | 510 | 280 | 0.163 | 550 | 2087 | 0.166 | 220 | 2404 | 0.168 | 170 | 2441 |
| MP01Y#R2-B-- | 0.2 | 3600 | 16.4 | 445 | 245 | 0.216 | 520 | 1693 | 0.220 | 210 | 1971 | 0.223 | 160 | 1970 |
| MP01Y#R25-B-- | 0.25 | 2700 | 15.5 | 436 | 240 | 0.262 | 510 | 1371 | 0.268 | 204 | 1604 | 0.272 | 153 | 1646 |
| MP01Y#R3-B-- | 0.3 | 1800 | 14.6 | 427 | 235 | 0.309 | 500 | 1149 | 0.316 | 199 | 1337 | 0.320 | 146 | 1421 |
| MP01Y#R35-B-- | 0.35 | 1650 | 14.1 | 423 | 232 | 0.360 | 494 | 1001 | 0.369 | 196 | 1177 | 0.374 | 144 | 1265 |
| MP01Y#R4-B-- | 0.4 | 1500 | 12.5 | 418 | 230 | 0.411 | 489 | 874 | 0.421 | 193 | 1038 | 0.427 | 142 | 1129 |
| MP01Y#R45-B-- | 0.45 | 1400 | 11.9 | 413 | 227 | 0.461 | 484 | 819 | 0.473 | 191 | 972 | 0.481 | 140 | 1066 |
| MP01Y#R5-B-- | 0.5 | 1300 | 11.3 | 408 | 224 | 0.512 | 478 | 765 | 0.526 | 188 | 906 | 0.535 | 138 | 1003 |
| MP01Y#R55-B-- | 0.55 | 1200 | 10.9 | 403 | 222 | 0.563 | 473 | 710 | 0.578 | 186 | 840 | 0.588 | 137 | 940 |
| MP01Y#R6-B-- | 0.6 | 1100 | 10.4 | 398 | 219 | 0.614 | 468 | 655 | 0.631 | 183 | 791 | 0.642 | 135 | 882 |
| MP01Y#R65-B-- | 0.65 | 1025 | 10.0 | 394 | 217 | 0.664 | 462 | 600 | 0.683 | 181 | 742 | 0.695 | 133 | 825 |
| MP01Y#R7-B-- | 0.7 | 950 | 9.5 | 389 | 214 | 0.715 | 457 | 545 | 0.735 | 178 | 693 | 0.749 | 131 | 767 |
| MP01Y#R75-B-- | 0.75 | 900 | 9.3 | 384 | 211 | 0.766 | 452 | 490 | 0.788 | 176 | 644 | 0.802 | 129 | 729 |
| MP01Y#R8-B-- | 0.8 | 850 | 9.1 | 379 | 209 | 0.817 | 446 | 435 | 0.840 | 173 | 635 | 0.856 | 127 | 692 |
| MP01Y#R85-B-- | 0.85 | 825 | 8.9 | 374 | 206 | 0.868 | 441 | 380 | 0.893 | 171 | 606 | 0.909 | 126 | 654 |
| MP01Y#R9-B-- | 0.9 | 800 | 8.8 | 370 | 203 | 0.918 | 436 | 325 | 0.945 | 168 | 577 | 0.963 | 124 | 616 |
| MP01Y#R95-B-- | 0.95 | 775 | 8.6 | 365 | 201 | 0.969 | 430 | 270 | 0.998 | 166 | 548 | 1.016 | 122 | 579 |
| MP01Y#R10-B-- | 1 | 750 | 8.4 | 360 | 198 | 1.020 | 425 | 215 | 1.050 | 163 | 519 | 1.070 | 120 | 541 |
| Contact Factory | 1.05 | 725 | 8.2 | 358 | 197 | 1.078 | 421 | 160 | 1.112 | 161 | 502 | 1.134 | 119 | 523 |
| MP01Y#R11-B-- | 1.1 | 700 | 8.0 | 355 | 195 | 1.135 | 418 | 105 | 1.173 | 159 | 486 | 1.199 | 117 | 505 |
| Contact Factory | 1.15 | 650 | 7.8 | 353 | 194 | 1.193 | 414 | 50 | 1.235 | 157 | 469 | 1.263 | 116 | 488 |
| MP01Y#R12-B-- | 1.2 | 600 | 7.6 | 350 | 193 | 1.251 | 411 | 45 | 1.296 | 155 | 452 | 1.327 | 115 | 470 |
| Contact Factory | 1.25 | 580 | 7.5 | 348 | 191 | 1.308 | 407 | 40 | 1.358 | 153 | 436 | 1.392 | 114 | 452 |
| MP01Y#R13-B-- | 1.3 | 560 | 7.4 | 345 | 190 | 1.355 | 403 | 35 | 1.419 | 151 | 419 | 1.456 | 112 | 434 |
| Contact Factory | 1.35 | 545 | 7.3 | 343 | 189 | 1.424 | 400 | 30 | 1.481 | 149 | 402 | 1.520 | 111 | 416 |
| MP01Y#R14-B-- | 1.4 | 530 | 7.2 | 340 | 187 | 1.481 | 396 | 25 | 1.542 | 147 | 386 | 1.585 | 110 | 398 |
| Contact Factory | 1.45 | 515 | 7.1 | 338 | 186 | 1.539 | 393 | 20 | 1.604 | 145 | 369 | 1.649 | 109 | 381 |
| MP01Y#R15-B-- | 1.5 | 500 | 7.0 | 335 | 184 | 1.597 | 389 | 15 | 1.665 | 144 | 353 | 1.713 | 107 | 363 |
| UR = 16V (Voltage code Y) | | | | | | | | | | | | | | |
| Contact Factory | 1.55 | 490 | 6.8 | 332 | 183 | 1.642 | 386 | 10 | 1.714 | 142 | 347 | 1.764 | 106 | 358 |
| MP01Y#R16-B-- | 1.6 | 480 | 6.7 | 330 | 181 | 1.687 | 382 | 5 | 1.762 | 141 | 342 | 1.815 | 105 | 352 |
| Contact Factory | 1.66 | 470 | 6.6 | 327 | 180 | 1.732 | 378 | 5 | 1.810 | 140 | 337 | 1.866 | 104 | 347 |
| MP01Y#R17-B-- | 1.7 | 460 | 6.5 | 324 | 178 | 1.777 | 375 | 5 | 1.859 | 138 | 331 | 1.917 | 103 | 342 |
| Contact Factory | 1.75 | 455 | 6.4 | 321 | 176 | 1.822 | 371 | 5 | 1.907 | 137 | 326 | 1.968 | 102 | 337 |
| MP01Y#R18-B-- | 1.8 | 450 | 6.3 | 318 | 175 | 1.866 | 367 | 5 | 1.955 | 136 | 321 | 2.018 | 101 | 331 |
| Contact Factory | 1.85 | 438 | 6.2 | 315 | 173 | 1.911 | 364 | 5 | 2.003 | 134 | 316 | 2.069 | 100 | 326 |
| MP01Y#R19-B-- | 1.9 | 425 | 6.2 | 312 | 172 | 1.956 | 360 | 5 | 2.052 | 133 | 310 | 2.120 | 99 | 321 |
| Contact Factory | 1.95 | 412 | 6.1 | 309 | 170 | 2.001 | 357 | 5 | 2.100 | 132 | 305 | 2.171 | 98 | 316 |
| MP01Y#R20-B-- | 2 | 400 | 6.0 | 306 | 168 | 2.046 | 353 | 5 | 2.148 | 131 | 300 | 2.222 | 97 | 310 |

"#"-can be either "J" or "K" temperature coefficient



0201 Typical Electrical Tables

| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|---------------------------------------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP01Y#2R1-B-- | 2.1 | 380 | 5.9 | 301 | 166 | 2.150 | 348 | 232 | 2.263 | 128 | 293 | 2.344 | 95 | 303 |
| MP01Y#2R2-B-- | 2.2 | 365 | 5.7 | 296 | 163 | 2.254 | 343 | 227 | 2.377 | 125 | 287 | 2.467 | 93 | 296 |
| MP01Y#2R3-B-- | 2.3 | 350 | 5.6 | 292 | 160 | 2.358 | 337 | 222 | 2.491 | 122 | 281 | 2.590 | 91 | 289 |
| MP01Y#2R4-B-- | 2.4 | 340 | 5.5 | 287 | 158 | 2.462 | 332 | 217 | 2.606 | 120 | 274 | 2.712 | 89 | 282 |
| MP01Y#2R5-B-- | 2.5 | 330 | 5.4 | 282 | 155 | 2.566 | 327 | 212 | 2.720 | 117 | 268 | 2.835 | 87 | 275 |
| MP01Y#2R6-B-- | 2.6 | 320 | 5.3 | 277 | 152 | 2.670 | 322 | 207 | 2.834 | 114 | 262 | 2.958 | 85 | 268 |
| MP01Y#2R7-B-- | 2.7 | 310 | 5.2 | 272 | 150 | 2.773 | 317 | 202 | 2.949 | 112 | 255 | 3.080 | 83 | 261 |
| MP01Y#2R8-B-- | 2.8 | 300 | 5.1 | 269 | 148 | 2.878 | 312 | 199 | 3.066 | 110 | 252 | 3.209 | 81 | 258 |
| MP01Y#2R9-B-- | 2.9 | 295 | 5.0 | 265 | 146 | 2.983 | 308 | 196 | 3.184 | 108 | 248 | 3.337 | 80 | 254 |
| MP01Y#3R0-B-- | 3 | 290 | 4.9 | 261 | 144 | 3.088 | 304 | 193 | 3.301 | 106 | 245 | 3.465 | 78 | 251 |
| MP01Y#3R1-B-- | 3.1 | 285 | 4.8 | 257 | 141 | 3.196 | 299 | 190 | 3.419 | 105 | 241 | 3.593 | 77 | 247 |
| MP01Y#3R2-B-- | 3.2 | 285 | 4.7 | 253 | 139 | 3.297 | 295 | 187 | 3.536 | 103 | 238 | 3.722 | 76 | 244 |
| MP01Y#3R3-B-- | 3.3 | 280 | 4.6 | 250 | 137 | 3.402 | 291 | 185 | 3.654 | 101 | 234 | 3.850 | 74 | 240 |
| MP01Y#3R4-B-- | 3.4 | 275 | 4.6 | 246 | 135 | 3.506 | 286 | 182 | 3.771 | 99 | 231 | 3.978 | 73 | 237 |
| MP01Y#3R5-B-- | 3.5 | 275 | 4.5 | 242 | 133 | 3.611 | 282 | 179 | 3.889 | 98 | 227 | 4.107 | 71 | 233 |
| MP01Y#3R6-B-- | 3.6 | 270 | 4.5 | 238 | 131 | 3.716 | 278 | 176 | 4.006 | 96 | 224 | 4.235 | 70 | 230 |
| MP01Y#3R7-B-- | 3.7 | 265 | 4.4 | 234 | 129 | 3.820 | 273 | 173 | 4.124 | 94 | 220 | 4.363 | 69 | 226 |
| U_R = 25V (Voltage code 3) | | | | | | | | | | | | | | |
| MP013#R05-B-- | 0.05 | N/A | 20.9 | 599 | 402 | 0.055 | 650 | 3220 | 0.056 | 265 | 4010 | 0.057 | 195 | 4450 |
| MP013#R1-B-- | 0.1 | 6000 | 19.4 | 574 | 316 | 0.110 | 614 | 3682 | 0.112 | 246 | 3036 | 0.113 | 188 | 3113 |
| MP013#R15-B-- | 0.15 | 4800 | 17.9 | 510 | 280 | 0.163 | 550 | 2087 | 0.166 | 220 | 2404 | 0.168 | 170 | 2441 |
| MP013#R2-B-- | 0.2 | 3600 | 16.4 | 445 | 245 | 0.216 | 520 | 1693 | 0.220 | 210 | 1971 | 0.223 | 160 | 1970 |
| MP013#R25-B-- | 0.25 | 2700 | 15.5 | 436 | 240 | 0.262 | 510 | 1371 | 0.268 | 204 | 1604 | 0.272 | 153 | 1646 |
| MP013#R3-B-- | 0.3 | 1800 | 14.6 | 427 | 235 | 0.309 | 500 | 1149 | 0.316 | 199 | 1337 | 0.320 | 146 | 1421 |
| MP013#R35-B-- | 0.35 | 1650 | 14.1 | 423 | 232 | 0.360 | 494 | 1001 | 0.369 | 196 | 1177 | 0.374 | 144 | 1265 |
| MP013#R4-B-- | 0.4 | 1500 | 12.5 | 418 | 230 | 0.411 | 489 | 874 | 0.421 | 193 | 1038 | 0.427 | 142 | 1129 |
| MP013#R45-B-- | 0.45 | 1400 | 11.9 | 413 | 227 | 0.461 | 484 | 819 | 0.473 | 191 | 972 | 0.481 | 140 | 1066 |
| MP013#R5-B-- | 0.5 | 1300 | 11.3 | 408 | 224 | 0.512 | 478 | 765 | 0.526 | 188 | 906 | 0.535 | 138 | 1003 |
| MP013#R55-B-- | 0.55 | 1200 | 10.9 | 403 | 222 | 0.563 | 473 | 710 | 0.578 | 186 | 840 | 0.588 | 137 | 940 |
| MP013#R6-B-- | 0.6 | 1100 | 10.4 | 398 | 219 | 0.614 | 468 | 664 | 0.631 | 183 | 791 | 0.642 | 135 | 882 |
| MP013#R65-B-- | 0.65 | 1025 | 10.0 | 394 | 217 | 0.664 | 462 | 624 | 0.683 | 181 | 742 | 0.695 | 133 | 825 |
| MP013#R7-B-- | 0.7 | 950 | 9.5 | 389 | 214 | 0.715 | 457 | 580 | 0.735 | 178 | 693 | 0.749 | 131 | 767 |
| MP013#R75-B-- | 0.75 | 900 | 9.3 | 384 | 211 | 0.766 | 452 | 557 | 0.788 | 176 | 664 | 0.802 | 129 | 729 |
| MP013#R8-B-- | 0.8 | 850 | 9.1 | 379 | 209 | 0.817 | 446 | 534 | 0.840 | 173 | 635 | 0.856 | 127 | 692 |
| MP013#R85-B-- | 0.85 | 825 | 8.9 | 374 | 206 | 0.868 | 441 | 511 | 0.893 | 171 | 606 | 0.909 | 126 | 654 |
| MP013#R9-B-- | 0.9 | 800 | 8.8 | 370 | 203 | 0.918 | 436 | 487 | 0.945 | 168 | 577 | 0.963 | 124 | 616 |
| MP013#R95-B-- | 0.95 | 775 | 8.6 | 365 | 201 | 0.969 | 430 | 464 | 0.998 | 166 | 548 | 1.016 | 122 | 579 |
| MP013#R10-B-- | 1 | 750 | 8.4 | 360 | 198 | 1.020 | 425 | 441 | 1.050 | 163 | 519 | 1.070 | 120 | 541 |
| Contact Factory | 1.05 | 725 | 8.2 | 358 | 197 | 1.078 | 421 | 426 | 1.112 | 161 | 502 | 1.134 | 119 | 523 |
| MP013#R11-B-- | 1.1 | 700 | 8.0 | 355 | 195 | 1.135 | 418 | 410 | 1.173 | 159 | 486 | 1.199 | 117 | 505 |
| Contact Factory | 1.15 | 650 | 7.8 | 353 | 194 | 1.193 | 414 | 395 | 1.235 | 157 | 469 | 1.263 | 116 | 488 |
| MP013#R12-B-- | 1.2 | 600 | 7.6 | 350 | 193 | 1.251 | 411 | 379 | 1.296 | 155 | 452 | 1.327 | 115 | 470 |
| Contact Factory | 1.25 | 580 | 7.5 | 348 | 191 | 1.308 | 407 | 364 | 1.358 | 153 | 436 | 1.392 | 114 | 452 |
| MP013#R13-B-- | 1.3 | 560 | 7.4 | 345 | 190 | 1.355 | 403 | 348 | 1.419 | 151 | 419 | 1.456 | 112 | 434 |
| Contact Factory | 1.35 | 545 | 7.3 | 343 | 189 | 1.424 | 400 | 333 | 1.481 | 149 | 402 | 1.520 | 111 | 416 |
| MP013#R14-B-- | 1.4 | 530 | 7.2 | 340 | 187 | 1.481 | 396 | 317 | 1.542 | 147 | 386 | 1.585 | 110 | 398 |
| Contact Factory | 1.45 | 515 | 7.1 | 338 | 186 | 1.539 | 393 | 302 | 1.604 | 145 | 369 | 1.649 | 109 | 381 |
| MP013#R15-B-- | 1.5 | 500 | 7.0 | 335 | 184 | 1.597 | 389 | 287 | 1.665 | 144 | 353 | 1.713 | 107 | 363 |
| Contact Factory | 1.55 | 490 | 6.8 | 332 | 183 | 1.642 | 386 | 282 | 1.714 | 142 | 347 | 1.764 | 106 | 358 |
| U_R = 25V (Voltage code 3) | | | | | | | | | | | | | | |
| MP013#R16-B-- | 1.6 | 480 | 6.7 | 330 | 181 | 1.687 | 382 | 277 | 1.762 | 141 | 342 | 1.815 | 105 | 352 |
| Contact Factory | 1.65 | 470 | 6.6 | 327 | 180 | 1.732 | 378 | 272 | 1.810 | 140 | 337 | 1.866 | 104 | 347 |
| MP013#R17-B-- | 1.7 | 460 | 6.5 | 324 | 178 | 1.777 | 375 | 267 | 1.859 | 138 | 331 | 1.917 | 103 | 342 |
| U_R = 50V (Voltage code 5) | | | | | | | | | | | | | | |
| MP015#R05-B-- | 0.05 | N/A | 20.9 | 599 | 402 | 0.055 | 650 | 3220 | 0.056 | 265 | 4010 | 0.057 | 195 | 4450 |
| MP015#R01-B-- | 0.1 | 6000 | 19.4 | 574 | 316 | 0.110 | 614 | 3682 | 0.112 | 246 | 3036 | 0.113 | 188 | 3113 |
| MP015#R15-B-- | 0.15 | 4800 | 17.9 | 510 | 280 | 0.163 | 550 | 2087 | 0.166 | 220 | 2404 | 0.168 | 170 | 2441 |
| MP015#R2-B-- | 0.2 | 3600 | 16.4 | 445 | 245 | 0.216 | 520 | 1693 | 0.22 | 210 | 1971 | 0.223 | 160 | 1970 |
| MP015#R25-B-- | 0.25 | 2700 | 15.5 | 436 | 240 | 0.262 | 510 | 1371 | 0.268 | 204 | 1604 | 0.272 | 153 | 1646 |
| MP015#R3-B-- | 0.3 | 1800 | 14.6 | 427 | 235 | 0.309 | 500 | 1149 | 0.316 | 199 | 1337 | 0.320 | 146 | 1421 |
| MP015#R35-B-- | 0.35 | 1650 | 14.1 | 423 | 232 | 0.360 | 494 | 1001 | 0.369 | 196 | 1177 | 0.374 | 144 | 1265 |
| MP015#R4-B-- | 0.4 | 1500 | 12.5 | 418 | 230 | 0.411 | 489 | 874 | 0.421 | 193 | 1038 | 0.427 | 142 | 1129 |
| MP015#R45-B-- | 0.45 | 1400 | 11.9 | 413 | 227 | 0.461 | 484 | 819 | 0.473 | 191 | 972 | 0.481 | 140 | 1066 |
| MP015#R5-B-- | 0.5 | 1300 | 11.3 | 408 | 224 | 0.512 | 478 | 765 | 0.526 | 188 | 906 | 0.535 | 138 | 1003 |

"#"=can be either "J" or "K" temperature coefficient

Accu-P® MP Medical Grade



0402 Typical Electrical Tables

| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|-----------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP023#R05-B-- | 0.05 | N/A | 20.9 | 856 | 471 | 0.06 | 881 | 1411 | 0.06 | 562 | 1216 | 0.06 | 498 | 983 |
| MP023#R1-B-- | 0.1 | 6000 | 19.4 | 848 | 466 | 0.11 | 873 | 1316 | 0.11 | 554 | 1115 | 0.11 | 490 | 914 |
| MP023#R15-B-- | 0.15 | 4800 | 17.9 | 840 | 462 | 0.16 | 866 | 1222 | 0.16 | 547 | 1013 | 0.16 | 482 | 845 |
| MP023#R2-B-- | 0.2 | 3600 | 16.4 | 832 | 457 | 0.21 | 858 | 1128 | 0.21 | 539 | 912 | 0.22 | 474 | 776 |
| MP023#R25-B-- | 0.25 | 2700 | 15.5 | 823 | 453 | 0.26 | 850 | 1033 | 0.27 | 523 | 810 | 0.27 | 465 | 707 |
| MP023#R3-B-- | 0.3 | 1800 | 14.6 | 815 | 448 | 0.31 | 842 | 939 | 0.32 | 525 | 708 | 0.32 | 457 | 638 |
| MP023#R35-B-- | 0.35 | 1650 | 14.1 | 807 | 444 | 0.36 | 834 | 844 | 0.37 | 517 | 607 | 0.37 | 449 | 569 |
| MP023#R4-B-- | 0.4 | 1500 | 125.0 | 799 | 439 | 0.41 | 827 | 750 | 0.42 | 510 | 505 | 0.42 | 441 | 500 |
| MP023#R45-B-- | 0.45 | 1400 | 11.9 | 791 | 435 | 0.46 | 819 | 667 | 0.47 | 502 | 458 | 0.48 | 432 | 453 |
| MP023#R5-B-- | 0.5 | 1300 | 11.3 | 783 | 430 | 0.51 | 811 | 583 | 0.52 | 495 | 410 | 0.53 | 424 | 407 |
| MP023#R55-B-- | 0.55 | 1200 | 10.9 | 774 | 426 | 0.57 | 803 | 500 | 0.57 | 487 | 363 | 0.58 | 416 | 360 |
| MP023#R6-B-- | 0.6 | 1100 | 10.4 | 766 | 421 | 0.62 | 796 | 465 | 0.62 | 480 | 343 | 0.63 | 408 | 339 |
| MP023#R65-B-- | 0.65 | 1025 | 10.0 | 758 | 417 | 0.67 | 788 | 431 | 0.67 | 472 | 322 | 0.68 | 399 | 317 |
| MP023#R7-B-- | 0.7 | 950 | 9.5 | 750 | 413 | 0.72 | 780 | 396 | 0.72 | 465 | 302 | 0.73 | 391 | 296 |
| MP023#R75-B-- | 0.75 | 900 | 9.3 | 746 | 410 | 0.77 | 776 | 375 | 0.78 | 456 | 290 | 0.79 | 381 | 285 |
| MP023#R8-B-- | 0.8 | 850 | 9.1 | 743 | 408 | 0.82 | 772 | 354 | 0.83 | 447 | 277 | 0.84 | 370 | 273 |
| MP023#R85-B-- | 0.85 | 800 | 9.0 | 739 | 406 | 0.87 | 768 | 334 | 0.88 | 438 | 265 | 0.89 | 360 | 262 |
| MP023#R9-B-- | 0.9 | 750 | 8.8 | 735 | 404 | 0.92 | 764 | 313 | 0.93 | 429 | 253 | 0.95 | 350 | 250 |
| MP023#R95-B-- | 0.95 | 712 | 8.4 | 732 | 402 | 0.97 | 760 | 292 | 0.98 | 420 | 240 | 1.00 | 339 | 239 |
| MP023#1R0-B-- | 1 | 675 | 8.0 | 728 | 400 | 1.02 | 756 | 271 | 1.04 | 411 | 228 | 1.05 | 329 | 227 |
| Contact Factory | 1.05 | 638 | 7.9 | 725 | 398 | 1.07 | 752 | 258 | 1.09 | 406 | 221 | 1.11 | 323 | 221 |
| MP023#1R1-B-- | 1.1 | 600 | 7.8 | 721 | 397 | 1.12 | 749 | 245 | 1.14 | 401 | 214 | 1.16 | 318 | 214 |
| Contact Factory | 1.15 | 575 | 7.6 | 718 | 395 | 1.17 | 745 | 232 | 1.20 | 396 | 207 | 1.22 | 312 | 208 |
| MP023#1R2-B-- | 1.2 | 550 | 7.4 | 714 | 393 | 1.22 | 742 | 218 | 1.25 | 391 | 200 | 1.27 | 306 | 202 |
| Contact Factory | 1.25 | 525 | 7.2 | 711 | 391 | 1.27 | 738 | 205 | 1.31 | 386 | 193 | 1.32 | 301 | 195 |
| MP023#1R3-B-- | 1.3 | 500 | 7.0 | 707 | 389 | 1.32 | 734 | 192 | 1.36 | 381 | 185 | 1.38 | 295 | 189 |
| Contact Factory | 1.35 | 485 | 6.9 | 704 | 387 | 1.37 | 731 | 179 | 1.41 | 376 | 178 | 1.43 | 289 | 183 |
| MP023#1R4-B-- | 1.4 | 470 | 6.8 | 700 | 385 | 1.42 | 727 | 165 | 1.47 | 371 | 171 | 1.49 | 283 | 177 |
| Contact Factory | 1.45 | 460 | 6.7 | 697 | 383 | 1.47 | 724 | 152 | 1.52 | 366 | 164 | 1.54 | 278 | 170 |
| MP023#1R5-B-- | 1.5 | 450 | 6.5 | 693 | 381 | 1.52 | 720 | 139 | 1.58 | 361 | 157 | 1.60 | 272 | 164 |
| Contact Factory | 1.55 | 440 | 6.5 | 690 | 379 | 1.56 | 716 | 135 | 1.62 | 358 | 153 | 1.65 | 269 | 159 |
| MP023#1R6-B-- | 1.6 | 430 | 6.5 | 686 | 377 | 1.61 | 716 | 130 | 1.67 | 355 | 148 | 1.70 | 267 | 155 |
| Contact Factory | 1.65 | 422 | 6.5 | 683 | 375 | 1.66 | 709 | 126 | 1.72 | 352 | 143 | 1.76 | 264 | 150 |
| MP023#1R7-B-- | 1.7 | 415 | 6.4 | 679 | 373 | 1.71 | 705 | 122 | 1.77 | 349 | 139 | 1.81 | 267 | 146 |
| Contact Factory | 1.75 | 408 | 6.3 | 676 | 372 | 1.75 | 702 | 118 | 1.82 | 347 | 134 | 1.86 | 259 | 141 |
| MP023#1R8-B-- | 1.8 | 400 | 6.2 | 672 | 370 | 1.80 | 698 | 113 | 1.87 | 344 | 130 | 1.92 | 256 | 137 |
| Contact Factory | 1.85 | 395 | 6.1 | 669 | 368 | 1.85 | 694 | 109 | 1.92 | 341 | 125 | 1.97 | 253 | 132 |
| MP023#1R9-B-- | 1.9 | 390 | 6.0 | 665 | 366 | 1.90 | 690 | 105 | 1.97 | 338 | 121 | 2.02 | 251 | 128 |
| Contact Factory | 1.95 | 385 | 5.9 | 662 | 364 | 1.94 | 687 | 101 | 2.01 | 335 | 116 | 2.08 | 248 | 123 |
| MP023#2R0-B-- | 2 | 380 | 5.7 | 658 | 362 | 1.99 | 683 | 96 | 2.06 | 332 | 112 | 2.13 | 245 | 119 |
| MP023#2R1-B-- | 2.1 | 370 | 5.4 | 651 | 358 | 2.10 | 676 | 93 | 2.18 | 326 | 108 | 2.26 | 241 | 115 |
| MP023#2R2-B-- | 2.2 | 360 | 5.1 | 643 | 354 | 2.21 | 669 | 89 | 2.30 | 321 | 104 | 2.38 | 236 | 112 |
| MP023#2R3-B-- | 2.3 | 350 | 5.0 | 636 | 350 | 2.31 | 662 | 85 | 2.42 | 315 | 101 | 2.51 | 231 | 109 |
| MP023#2R4-B-- | 2.4 | 340 | 4.9 | 629 | 346 | 2.42 | 656 | 81 | 2.54 | 309 | 97 | 2.64 | 226 | 106 |
| MP023#2R5-B-- | 2.5 | 330 | 4.7 | 622 | 342 | 2.53 | 649 | 77 | 2.65 | 303 | 94 | 2.76 | 221 | 102 |
| MP023#2R6-B-- | 2.6 | 320 | 4.6 | 614 | 338 | 2.64 | 642 | 74 | 2.77 | 298 | 90 | 2.89 | 216 | 99 |
| MP023#2R7-B-- | 2.7 | 310 | 4.5 | 607 | 334 | 2.75 | 635 | 70 | 2.89 | 292 | 86 | 3.02 | 211 | 96 |
| MP023#2R8-B-- | 2.8 | 300 | 4.5 | 600 | 330 | 2.85 | 628 | 68 | 3.01 | 288 | 83 | 3.15 | 207 | 92 |
| MP023#2R9-B-- | 2.9 | 295 | 4.4 | 592 | 326 | 2.95 | 621 | 66 | 3.13 | 283 | 80 | 3.28 | 203 | 88 |
| MP023#3R0-B-- | 3 | 280 | 4.4 | 585 | 322 | 3.06 | 614 | 64 | 3.24 | 279 | 76 | 3.41 | 200 | 84 |
| MP023#3R1-B-- | 3.1 | 275 | 4.4 | 578 | 318 | 3.16 | 607 | 62 | 3.36 | 274 | 73 | 3.54 | 196 | 80 |
| MP023#3R2-B-- | 3.2 | 275 | 4.3 | 570 | 314 | 3.27 | 600 | 60 | 3.48 | 270 | 70 | 3.67 | 192 | 76 |
| MP023#3R3-B-- | 3.3 | 270 | 4.3 | 563 | 310 | 3.37 | 593 | 58 | 3.60 | 265 | 67 | 3.80 | 188 | 72 |
| MP023#3R4-B-- | 3.4 | 265 | 4.3 | 556 | 306 | 3.47 | 586 | 57 | 3.71 | 261 | 63 | 3.93 | 184 | 68 |
| MP023#3R5-B-- | 3.5 | 260 | 4.2 | 548 | 302 | 3.58 | 579 | 55 | 3.83 | 256 | 60 | 4.06 | 180 | 64 |
| MP023#3R6-B-- | 3.6 | 255 | 4.2 | 541 | 298 | 3.68 | 572 | 53 | 3.95 | 252 | 57 | 4.19 | 177 | 60 |
| MP023#3R7-B-- | 3.7 | 250 | 4.1 | 534 | 294 | 3.78 | 565 | 51 | 4.06 | 247 | 54 | 4.32 | 173 | 56 |
| MP023#3R8-B-- | 3.8 | 245 | 4.0 | 526 | 289 | 3.89 | 558 | 49 | 4.18 | 243 | 50 | 4.45 | 169 | 52 |
| MP023#3R9-B-- | 3.9 | 240 | 3.9 | 519 | 285 | 3.99 | 551 | 47 | 4.30 | 238 | 47 | 4.58 | 165 | 48 |
| MP02Z#4R0-B-- | 4 | 235 | 3.9 | 513 | 282 | 4.10 | 545 | 47 | 4.42 | 235 | 47 | 4.73 | 162 | 48 |
| MP02Z#4R1-B-- | 4.1 | 235 | 3.8 | 507 | 279 | 4.20 | 539 | 47 | 4.55 | 232 | 46 | 4.87 | 160 | 48 |
| MP02Z#4R2-B-- | 4.2 | 230 | 3.8 | 501 | 275 | 4.30 | 534 | 46 | 4.67 | 228 | 46 | 5.01 | 157 | 48 |
| MP02Z#4R3-B-- | 4.3 | 225 | 3.7 | 495 | 272 | 4.41 | 528 | 46 | 4.79 | 225 | 46 | 5.16 | 154 | 48 |
| MP02Z#4R4-B-- | 4.4 | 220 | 3.7 | 489 | 269 | 4.51 | 522 | 46 | 4.92 | 222 | 46 | 5.30 | 151 | 47 |

"#"-can be either "J" or "K" temperature coefficient



0402 Typical Electrical Tables

| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|----------------------------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP02Z#4R5-B-- | 4.5 | 215 | 3.6 | 483 | 265 | 4.61 | 516 | 46 | 5.04 | 219 | 45 | 5.44 | 149 | 47 |
| MP02Z#4R6-B-- | 4.6 | 215 | 3.6 | 477 | 262 | 4.72 | 511 | 45 | 5.16 | 216 | 45 | 5.59 | 146 | 47 |
| MP02Z#4R7-B-- | 4.7 | 210 | 3.5 | 471 | 259 | 4.82 | 505 | 45 | 5.29 | 213 | 45 | 5.73 | 143 | 47 |
| MP02Z#5R1-B-- | 5.1 | 205 | 3.4 | 446 | 245 | 5.23 | 482 | 44 | 5.78 | 200 | 43 | 6.30 | 133 | 47 |
| MP02Z#5R6-B-- | 5.6 | 200 | 3.3 | 416 | 229 | 5.75 | 453 | 43 | 6.40 | 184 | 42 | 7.02 | 119 | 46 |
| MP02Z#6R2-B-- | 6.2 | 195 | 3.0 | 488 | 213 | 6.41 | 427 | 44 | 7.26 | 167 | 44 | 8.11 | 107 | 47 |
| MP02Z#6R8-B-- | 6.8 | 190 | 2.8 | 360 | 198 | 7.07 | 400 | 44 | 8.12 | 150 | 45 | 9.19 | 95 | 48 |
| MP02Z#7R5-B-- | 7.5 | 185 | 2.7 | 338 | 186 | 7.85 | 378 | 45 | 9.17 | 139 | 47 | 10.57 | 86 | 49 |
| MP02Z#8R2-B-- | 8.2 | 180 | 2.6 | 315 | 173 | 8.62 | 356 | 45 | 10.22 | 128 | 48 | 11.95 | 77 | 50 |
| MP02Z#9R1-B-- | 9.1 | 175 | 2.5 | 292 | 160 | 9.63 | 333 | 45 | 11.75 | 115 | 47 | 14.23 | 69 | 50 |
| MP02Z#100-B-- | 10 | 170 | 2.4 | 268 | 148 | 10.65 | 310 | 45 | 13.28 | 103 | 47 | 16.50 | 61 | 49 |
| MP02Z#110-B-- | 11 | 170 | 2.3 | 242 | 133 | 11.77 | 285 | 44 | 14.98 | 89 | 46 | 19.04 | 51 | 49 |
| MP02Z#120-B-- | 12 | 165 | 2.2 | 217 | 119 | 12.90 | 259 | 44 | 16.68 | 75 | 45 | 21.57 | 42 | 48 |
| MP02ZK130-B-- | 13 | 165 | 2.2 | 202 | 111 | 14.03 | 241 | 44 | 18.83 | 68 | 47 | 25.73 | 38 | 49 |
| MP02ZK140-B-- | 14 | 160 | 2.1 | 187 | 103 | 15.17 | 223 | 44 | 20.97 | 62 | 49 | 29.89 | 33 | 49 |
| MP02ZK150-B-- | 15 | 160 | 2.1 | 173 | 94 | 16.30 | 204 | 45 | 23.12 | 56 | 51 | 34.05 | 29 | 50 |
| MP02ZK160-B-- | 16 | 155 | 2.0 | 157 | 87 | 17.53 | 187 | 44 | 25.91 | 50 | 49 | 41.44 | 25 | 49 |
| MP02ZK170-B-- | 17 | 155 | 1.9 | 143 | 79 | 18.75 | 169 | 43 | 28.70 | 45 | 46 | 48.82 | 21 | 47 |
| MP02ZK180-B-- | 18 | 150 | 1.8 | 129 | 71 | 19.98 | 152 | 42 | 31.49 | 39 | 44 | 56.21 | 17 | 46 |
| MP02ZK190-B-- | 19 | 150 | 1.8 | 121 | 67 | 21.11 | 143 | 42 | 33.51 | 36 | 44 | 60.92 | 15 | 47 |
| MP02ZK200-B-- | 20 | 145 | 1.8 | 110 | 61 | 22.25 | 131 | 41 | 35.53 | 33 | 43 | 65.63 | 14 | 48 |
| MP02ZK220-B-- | 22 | 145 | 1.8 | 98 | 54 | 24.51 | 116 | 41 | 39.57 | 26 | 42 | 75.05 | 10 | 51 |
| MP02ZK240-B-- | 24 | 140 | 1.8 | 87 | 48 | 27.51 | 104 | 37 | 54.94 | 21 | 35 | N/A | N/A | N/A |
| MP02ZK270-B-- | 27 | 140 | 1.7 | 70 | 39 | 32.01 | 85 | 32 | 77.98 | 13 | 23 | N/A | N/A | N/A |
| MP02ZK300-B-- | 30 | 135 | 1.7 | 65 | 36 | 35.89 | 78 | 28 | 106.50 | 10 | 12 | N/A | N/A | N/A |
| MP02ZK330-B-- | 33 | 135 | 1.7 | 60 | 33 | 40.05 | 74 | 27 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP02ZK390-B-- | 39 | 130 | 1.7 | 56 | 31 | 50.21 | 69 | 28 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP02ZK470-B-- | 47 | 130 | 1.6 | 50 | 28 | 63.75 | 63 | 30 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP02ZK560-B-- | 56 | 130 | 1.6 | 44 | 24 | 78.99 | 56 | 33 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP02ZK680-B-- | 68 | 130 | 1.6 | 32 | 18 | 106.28 | 42 | 40 | N/A | N/A | N/A | N/A | N/A | N/A |
| UR = 16V (Voltage code Y) | | | | | | | | | | | | | | |
| MP02Y#R05-B-- | 0.05 | N/A | 20.9 | 856 | 471 | 0.06 | 881 | 1411 | 0.06 | 562 | 1216 | 0.06 | 498 | 983 |
| MP02Y#R15-B-- | 0.15 | 4800 | 17.9 | 840 | 462 | 0.16 | 866 | 1222 | 0.16 | 547 | 1013 | 0.16 | 482 | 845 |
| MP02Y#R25-B-- | 0.25 | 2700 | 16.5 | 823 | 453 | 0.26 | 850 | 1033 | 0.27 | 523 | 810 | 0.27 | 465 | 707 |
| MP02Y#R35-B-- | 0.35 | 1650 | 14.1 | 807 | 444 | 0.36 | 834 | 844 | 0.37 | 517 | 607 | 0.37 | 449 | 569 |
| MP02Y#R45-B-- | 0.45 | 1400 | 11.9 | 791 | 435 | 0.46 | 819 | 667 | 0.47 | 502 | 458 | 0.48 | 432 | 453 |
| MP02Y#R55-B-- | 0.55 | 1200 | 10.9 | 774 | 426 | 0.57 | 803 | 500 | 0.57 | 487 | 363 | 0.58 | 416 | 360 |
| MP02Y#R65-B-- | 0.65 | 1025 | 10.0 | 758 | 417 | 0.67 | 788 | 431 | 0.67 | 472 | 322 | 0.68 | 399 | 317 |
| MP02Y#R75-B-- | 0.75 | 900 | 9.3 | 746 | 410 | 0.77 | 776 | 375 | 0.78 | 456 | 290 | 0.79 | 381 | 285 |
| MP02Y#R85-B-- | 0.85 | 800 | 9.0 | 739 | 406 | 0.87 | 768 | 334 | 0.88 | 438 | 265 | 0.89 | 360 | 262 |
| MP02Y#R95-B-- | 0.95 | 712 | 8.4 | 732 | 402 | 0.97 | 760 | 292 | 0.98 | 420 | 240 | 1.00 | 339 | 239 |
| MP02Y#1R0-B-- | 1 | 675 | 8.0 | 728 | 400 | 1.02 | 756 | 271 | 1.04 | 411 | 228 | 1.05 | 329 | 227 |
| Contact Factory | 1.05 | 638 | 7.9 | 725 | 398 | 1.07 | 752 | 258 | 1.09 | 406 | 221 | 1.11 | 323 | 221 |
| MP02Y#1R1-B-- | 1.1 | 600 | 7.8 | 721 | 397 | 1.12 | 749 | 245 | 1.14 | 401 | 214 | 1.16 | 318 | 214 |
| Contact Factory | 1.15 | 575 | 7.6 | 718 | 395 | 1.17 | 745 | 232 | 1.20 | 396 | 207 | 1.22 | 312 | 208 |
| UR = 16V (Voltage code Y) | | | | | | | | | | | | | | |
| MP02Y#1R2-B-- | 1.2 | 550 | 7.4 | 714 | 393 | 1.22 | 742 | 218 | 1.25 | 391 | 200 | 1.27 | 306 | 202 |
| Contact Factory | 1.25 | 525 | 7.2 | 711 | 391 | 1.27 | 738 | 205 | 1.31 | 386 | 193 | 1.32 | 301 | 195 |
| MP02Y#1R3-B-- | 1.3 | 500 | 7.0 | 707 | 389 | 1.32 | 734 | 192 | 1.36 | 381 | 185 | 1.38 | 295 | 189 |
| Contact Factory | 1.35 | 485 | 6.9 | 704 | 387 | 1.37 | 731 | 179 | 1.41 | 376 | 178 | 1.43 | 289 | 183 |
| MP02Y#1R4-B-- | 1.4 | 470 | 6.8 | 700 | 385 | 1.42 | 727 | 165 | 1.47 | 371 | 171 | 1.49 | 283 | 177 |
| Contact Factory | 1.45 | 460 | 6.7 | 697 | 383 | 1.47 | 724 | 152 | 1.52 | 366 | 164 | 1.54 | 278 | 170 |
| MP02Y#1R5-B-- | 1.5 | 450 | 6.5 | 693 | 381 | 1.52 | 720 | 139 | 1.58 | 361 | 157 | 1.60 | 272 | 164 |
| Contact Factory | 1.55 | 440 | 6.5 | 690 | 379 | 1.56 | 716 | 135 | 1.62 | 358 | 153 | 1.65 | 269 | 159 |
| MP02Y#1R6-B-- | 1.6 | 430 | 6.5 | 686 | 377 | 1.61 | 716 | 130 | 1.67 | 355 | 148 | 1.70 | 267 | 155 |
| Contact Factory | 1.65 | 422 | 6.5 | 683 | 375 | 1.66 | 709 | 126 | 1.72 | 352 | 143 | 1.76 | 264 | 150 |

"#"-can be either "J" or "K" temperature coefficient

0402 Typical Electrical Tables

| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|----------------------------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP02Y#1R7-B-- | 1.7 | 415 | 6.4 | 679 | 373 | 1.71 | 705 | 122 | 1.77 | 349 | 139 | 1.81 | 267 | 146 |
| Contact Factory | 1.75 | 408 | 6.3 | 676 | 372 | 1.75 | 702 | 118 | 1.82 | 347 | 134 | 1.86 | 259 | 141 |
| MP02Y#1R8-B-- | 1.8 | 400 | 6.2 | 672 | 370 | 1.80 | 698 | 113 | 1.87 | 344 | 130 | 1.92 | 256 | 137 |
| Contact Factory | 1.85 | 395 | 6.1 | 669 | 368 | 1.85 | 694 | 109 | 1.92 | 341 | 125 | 1.97 | 253 | 132 |
| MP02Y#1R9-B-- | 1.9 | 390 | 6.0 | 665 | 366 | 1.90 | 690 | 105 | 1.97 | 338 | 121 | 2.02 | 251 | 128 |
| Contact Factory | 1.95 | 385 | 5.9 | 662 | 364 | 1.94 | 687 | 101 | 2.01 | 335 | 116 | 2.08 | 248 | 123 |
| MP02Y#2R0-B-- | 2 | 380 | 5.7 | 658 | 362 | 1.99 | 683 | 96 | 2.06 | 332 | 112 | 2.13 | 245 | 119 |
| MP02Y#2R1-B-- | 2.1 | 370 | 5.4 | 651 | 358 | 2.10 | 676 | 93 | 2.18 | 326 | 108 | 2.26 | 241 | 115 |
| MP02Y#2R2-B-- | 2.2 | 360 | 5.1 | 643 | 354 | 2.21 | 669 | 89 | 2.30 | 321 | 104 | 2.38 | 236 | 112 |
| MP02Y#2R3-B-- | 2.3 | 350 | 5.0 | 636 | 350 | 2.31 | 662 | 85 | 2.42 | 315 | 101 | 2.51 | 231 | 109 |
| MP02Y#2R4-B-- | 2.4 | 340 | 4.9 | 629 | 346 | 2.42 | 656 | 81 | 2.54 | 309 | 97 | 2.64 | 226 | 106 |
| MP02Y#2R5-B-- | 2.5 | 330 | 4.7 | 622 | 342 | 2.53 | 649 | 77 | 2.65 | 303 | 94 | 2.76 | 221 | 102 |
| MP02Y#2R6-B-- | 2.6 | 320 | 4.6 | 614 | 338 | 2.64 | 642 | 74 | 2.77 | 298 | 90 | 2.89 | 216 | 99 |
| MP02Y#2R7-B-- | 2.7 | 310 | 4.5 | 607 | 334 | 2.75 | 635 | 70 | 2.89 | 292 | 86 | 3.02 | 211 | 96 |
| MP02Y#2R8-B-- | 2.8 | 300 | 4.5 | 600 | 330 | 2.85 | 628 | 68 | 3.01 | 288 | 83 | 3.15 | 207 | 92 |
| MP02Y#2R9-B-- | 2.9 | 295 | 4.4 | 592 | 326 | 2.95 | 621 | 66 | 3.13 | 283 | 80 | 3.28 | 203 | 88 |
| MP02Y#3R0-B-- | 3 | 280 | 4.4 | 585 | 322 | 3.06 | 614 | 64 | 3.24 | 279 | 76 | 3.41 | 200 | 84 |
| MP02Y#3R1-B-- | 3.1 | 275 | 4.4 | 578 | 318 | 3.16 | 607 | 62 | 3.36 | 274 | 73 | 3.54 | 196 | 80 |
| MP02Y#3R2-B-- | 3.2 | 275 | 4.3 | 570 | 314 | 327.00 | 600 | 60 | 3.48 | 270 | 70 | 3.67 | 192 | 76 |
| MP02Y#3R3-B-- | 3.3 | 270 | 4.3 | 563 | 310 | 3.37 | 593 | 58 | 3.60 | 265 | 67 | 3.80 | 188 | 72 |
| MP02Y#3R4-B-- | 3.4 | 265 | 4.3 | 556 | 306 | 3.47 | 586 | 57 | 3.71 | 261 | 63 | 3.93 | 184 | 68 |
| MP02Y#3R5-B-- | 3.5 | 260 | 4.2 | 548 | 302 | 3.58 | 579 | 55 | 3.83 | 256 | 60 | 4.06 | 180 | 64 |
| MP02Y#3R6-B-- | 3.6 | 255 | 4.2 | 541 | 298 | 3.68 | 572 | 53 | 3.95 | 252 | 57 | 4.19 | 177 | 60 |
| MP02Y#3R7-B-- | 3.7 | 250 | 4.1 | 534 | 294 | 3.78 | 565 | 51 | 4.06 | 247 | 54 | 4.32 | 173 | 56 |
| MP02Y#3R8-B-- | 3.8 | 245 | 4.0 | 526 | 289 | 3.89 | 558 | 49 | 4.18 | 243 | 50 | 4.45 | 169 | 52 |
| MP02Y#3R9-B-- | 3.9 | 240 | 3.9 | 519 | 285 | 3.99 | 551 | 47 | 4.30 | 238 | 47 | 4.58 | 165 | 48 |
| MP02Y#4R0-B-- | 4 | 235 | 3.9 | 513 | 282 | 4.10 | 545 | 47 | 4.42 | 235 | 47 | 4.73 | 162 | 48 |
| MP02Y#4R1-B-- | 4.1 | 235 | 3.8 | 507 | 279 | 4.20 | 539 | 47 | 4.55 | 232 | 46 | 4.87 | 160 | 48 |
| MP02Y#4R2-B-- | 4.2 | 230 | 3.8 | 501 | 275 | 4.30 | 534 | 46 | 4.67 | 228 | 46 | 5.01 | 157 | 48 |
| MP02Y#4R3-B-- | 4.3 | 225 | 3.7 | 495 | 272 | 4.41 | 528 | 46 | 4.79 | 225 | 46 | 5.16 | 154 | 48 |
| MP02Y#4R4-B-- | 4.4 | 220 | 3.7 | 489 | 269 | 4.51 | 522 | 46 | 4.92 | 222 | 46 | 5.30 | 151 | 47 |
| MP02Y#4R5-B-- | 4.5 | 215 | 3.6 | 483 | 265 | 4.61 | 516 | 46 | 5.04 | 219 | 45 | 5.44 | 149 | 47 |
| MP02Y#4R6-B-- | 4.6 | 215 | 3.6 | 477 | 262 | 4.72 | 511 | 45 | 5.16 | 216 | 45 | 5.59 | 146 | 47 |
| MP02Y#4R7-B-- | 4.7 | 210 | 3.5 | 471 | 259 | 4.82 | 505 | 45 | 5.29 | 213 | 45 | 5.73 | 143 | 47 |
| MP02Y#5R1-B-- | 5.1 | 205 | 3.4 | 446 | 245 | 5.23 | 482 | 44 | 5.78 | 200 | 43 | 6.30 | 133 | 47 |
| MP02Y#5R6-B-- | 5.6 | 200 | 3.3 | 416 | 229 | 5.75 | 453 | 43 | 6.40 | 184 | 42 | 7.02 | 119 | 46 |
| MP02Y#6R2-B-- | 6.2 | 195 | 3.0 | 488 | 213 | 6.41 | 427 | 44 | 7.26 | 167 | 44 | 8.11 | 107 | 47 |
| MP02Y#6R8-B-- | 6.8 | 190 | 2.8 | 360 | 198 | 7.07 | 400 | 44 | 8.12 | 150 | 45 | 9.19 | 95 | 48 |
| MP02Y#7R5-B-- | 7.5 | 185 | 2.7 | 338 | 186 | 7.85 | 378 | 45 | 9.17 | 139 | 47 | 10.57 | 86 | 49 |
| MP02Y#8R2-B-- | 8.2 | 180 | 2.6 | 315 | 173 | 8.62 | 356 | 45 | 10.22 | 128 | 48 | 11.95 | 77 | 50 |
| MP02Y#9R1-B-- | 9.1 | 175 | 2.5 | 292 | 160 | 9.63 | 333 | 45 | 11.75 | 115 | 47 | 14.23 | 69 | 50 |
| MP02Y#100-B-- | 10 | 170 | 2.4 | 268 | 148 | 10.65 | 310 | 45 | 13.28 | 103 | 47 | 16.50 | 61 | 49 |
| MP02Y#110-B-- | 11 | 170 | 2.3 | 242 | 133 | 11.77 | 285 | 44 | 14.98 | 89 | 46 | 19.04 | 51 | 49 |
| MP02Y#120-B-- | 12 | 165 | 2.2 | 217 | 119 | 12.90 | 259 | 44 | 16.68 | 75 | 45 | 21.57 | 42 | 48 |
| MP02YK130-B-- | 13 | 165 | 2.2 | 202 | 111 | 14.03 | 241 | 44 | 18.83 | 68 | 47 | 25.73 | 38 | 49 |
| MP02YK140-B-- | 14 | 160 | 2.1 | 187 | 103 | 15.17 | 223 | 44 | 20.97 | 62 | 49 | 29.89 | 33 | 49 |
| MP02YK150-B-- | 15 | 160 | 2.1 | 173 | 94 | 16.30 | 204 | 45 | 23.12 | 56 | 51 | 34.05 | 29 | 50 |
| MP02-K160-B-- | 16 | 155 | 2.0 | 157 | 87 | 17.53 | 187 | 44 | 25.91 | 50 | 49 | 41.44 | 25 | 49 |
| MP02YK170-B-- | 17 | 155 | 1.9 | 143 | 79 | 18.75 | 169 | 43 | 28.70 | 45 | 46 | 48.82 | 21 | 47 |
| UR = 25V (Voltage code 3) | | | | | | | | | | | | | | |
| MP023#R05-B-- | 0.05 | N/A | 20.9 | 856 | 471 | 0.06 | 881 | 1411 | 0.06 | 562 | 1216 | 0.06 | 498 | 983 |
| MP023#0R1-B-- | 0.1 | 6000 | 19.4 | 848 | 466 | 0.11 | 873 | 1316 | 0.11 | 554 | 1115 | 0.11 | 490 | 914 |
| MP023#R15-B-- | 0.15 | 4800 | 17.9 | 840 | 462 | 0.16 | 866 | 1222 | 0.16 | 547 | 1013 | 0.16 | 482 | 845 |
| MP023#0R2-B-- | 0.2 | 3600 | 16.4 | 832 | 457 | 0.21 | 858 | 1128 | 0.21 | 539 | 912 | 0.22 | 474 | 776 |
| MP023#R25-B-- | 0.25 | 2700 | 15.5 | 823 | 453 | 0.26 | 850 | 1033 | 0.27 | 523 | 810 | 0.27 | 465 | 707 |
| MP023#0R3-B-- | 0.3 | 1800 | 14.6 | 815 | 448 | 0.31 | 842 | 939 | 0.32 | 525 | 708 | 0.32 | 457 | 638 |
| MP023#R35-B-- | 0.35 | 1650 | 14.1 | 807 | 444 | 0.36 | 834 | 844 | 0.37 | 517 | 607 | 0.37 | 449 | 569 |
| MP023#0R4-B-- | 0.4 | 1500 | 125.0 | 799 | 439 | 0.41 | 827 | 750 | 0.42 | 510 | 505 | 0.42 | 441 | 500 |
| MP023#R45-B-- | 0.45 | 1400 | 11.9 | 791 | 435 | 0.46 | 819 | 667 | 0.47 | 502 | 458 | 0.48 | 432 | 453 |
| MP023#0R5-B-- | 0.5 | 1300 | 11.3 | 783 | 430 | 0.51 | 811 | 583 | 0.52 | 495 | 410 | 0.53 | 424 | 407 |
| MP023#R55-B-- | 0.55 | 1200 | 10.9 | 774 | 426 | 0.57 | 803 | 500 | 0.57 | 487 | 363 | 0.58 | 416 | 360 |
| MP023#0R6-B-- | 0.6 | 1100 | 10.4 | 766 | 421 | 0.62 | 796 | 465 | 0.62 | 480 | 343 | 0.63 | 408 | 339 |
| MP023#R65-B-- | 0.65 | 1025 | 10.0 | 758 | 417 | 0.67 | 788 | 431 | 0.67 | 472 | 322 | 0.68 | 399 | 317 |
| MP023#0R7-B-- | 0.7 | 950 | 9.5 | 750 | 413 | 0.72 | 780 | 396 | 0.72 | 465 | 302 | 0.73 | 391 | 296 |
| MP023#R75-B-- | 0.75 | 900 | 9.3 | 746 | 410 | 0.77 | 776 | 375 | 0.78 | 456 | 290 | 0.79 | 381 | 285 |

"#"-can be either "J" or "K" temperature coefficient

Accu-P® MP Medical Grade



0402 Typical Electrical Tables

| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|----------------------------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP023#0R8-B-- | 0.8 | 850 | 9.1 | 743 | 408 | 0.82 | 772 | 354 | 0.83 | 447 | 277 | 0.84 | 370 | 273 |
| MP023#R85-B-- | 0.85 | 800 | 9.0 | 739 | 406 | 0.87 | 768 | 334 | 0.88 | 438 | 265 | 0.89 | 360 | 262 |
| MP023#0R9-B-- | 0.9 | 750 | 8.8 | 735 | 404 | 0.92 | 764 | 313 | 0.93 | 429 | 253 | 0.95 | 350 | 250 |
| MP023#R95-B-- | 0.95 | 712 | 8.4 | 732 | 402 | 0.97 | 760 | 292 | 0.98 | 420 | 240 | 1.00 | 339 | 239 |
| MP023#1R0-B-- | 1 | 675 | 8.0 | 728 | 400 | 1.02 | 756 | 271 | 1.04 | 411 | 228 | 1.05 | 329 | 227 |
| Contact Factory | 1.05 | 638 | 7.9 | 725 | 398 | 1.07 | 752 | 258 | 1.09 | 406 | 221 | 1.11 | 323 | 221 |
| MP023#1R1-B-- | 1.1 | 600 | 7.8 | 721 | 397 | 1.12 | 749 | 245 | 1.14 | 401 | 214 | 1.16 | 318 | 214 |
| Contact Factory | 1.15 | 575 | 7.6 | 718 | 395 | 1.17 | 745 | 232 | 1.20 | 396 | 207 | 1.22 | 312 | 208 |
| MP023#1R2-B-- | 1.2 | 550 | 7.4 | 714 | 393 | 1.22 | 742 | 218 | 1.25 | 391 | 200 | 1.27 | 306 | 202 |
| Contact Factory | 1.25 | 525 | 7.2 | 711 | 391 | 1.27 | 738 | 205 | 1.31 | 386 | 193 | 1.32 | 301 | 195 |
| MP023#1R3-B-- | 1.3 | 500 | 7.0 | 707 | 389 | 1.32 | 734 | 192 | 1.36 | 381 | 185 | 1.38 | 295 | 189 |
| Contact Factory | 1.35 | 485 | 6.9 | 704 | 387 | 1.37 | 731 | 179 | 1.41 | 376 | 178 | 1.43 | 289 | 183 |
| MP023#1R4-B-- | 1.4 | 470 | 6.8 | 700 | 385 | 1.42 | 727 | 165 | 1.47 | 371 | 171 | 1.49 | 283 | 177 |
| Contact Factory | 1.45 | 460 | 6.7 | 697 | 383 | 1.47 | 724 | 152 | 1.52 | 366 | 164 | 1.54 | 278 | 170 |
| MP023#1R5-B-- | 1.5 | 450 | 6.5 | 693 | 381 | 1.52 | 720 | 139 | 1.58 | 361 | 157 | 1.60 | 272 | 164 |
| Contact Factory | 1.55 | 440 | 6.5 | 690 | 379 | 1.56 | 716 | 135 | 1.62 | 358 | 153 | 1.65 | 269 | 159 |
| MP023#1R6-B-- | 1.6 | 430 | 6.5 | 686 | 377 | 1.61 | 716 | 130 | 1.67 | 355 | 148 | 1.70 | 267 | 155 |
| Contact Factory | 1.65 | 422 | 6.5 | 683 | 375 | 1.66 | 709 | 126 | 1.72 | 352 | 143 | 1.76 | 264 | 150 |
| MP023#1R7-B-- | 1.7 | 415 | 6.4 | 679 | 373 | 1.71 | 705 | 122 | 1.77 | 349 | 139 | 1.81 | 267 | 146 |
| Contact Factory | 1.75 | 408 | 6.3 | 676 | 372 | 1.75 | 702 | 118 | 1.82 | 347 | 134 | 1.86 | 259 | 141 |
| MP023#1R8-B-- | 1.8 | 400 | 6.2 | 672 | 370 | 1.80 | 698 | 113 | 1.87 | 344 | 130 | 1.92 | 256 | 137 |
| Contact Factory | 1.85 | 395 | 6.1 | 669 | 368 | 1.85 | 694 | 109 | 1.92 | 341 | 125 | 1.97 | 253 | 132 |
| MP023#1R9-B-- | 1.9 | 390 | 6.0 | 665 | 366 | 1.90 | 690 | 105 | 1.97 | 338 | 121 | 2.02 | 251 | 128 |
| Contact Factory | 1.95 | 385 | 5.9 | 662 | 364 | 1.94 | 687 | 101 | 2.01 | 335 | 116 | 2.08 | 248 | 123 |
| MP023#2R0-B-- | 2 | 380 | 5.7 | 658 | 362 | 1.99 | 683 | 96 | 2.06 | 332 | 112 | 2.13 | 245 | 119 |
| MP023#2R1-B-- | 2.1 | 370 | 5.4 | 651 | 358 | 2.10 | 676 | 93 | 2.18 | 326 | 108 | 2.26 | 241 | 115 |
| MP023#2R2-B-- | 2.2 | 360 | 5.1 | 643 | 354 | 2.21 | 669 | 89 | 2.30 | 321 | 104 | 2.38 | 236 | 112 |
| MP023#2R3-B-- | 2.3 | 350 | 5.0 | 636 | 350 | 2.31 | 662 | 85 | 2.42 | 315 | 101 | 2.51 | 231 | 109 |
| MP023#2R4-B-- | 2.4 | 340 | 4.9 | 629 | 346 | 2.42 | 656 | 81 | 2.54 | 309 | 97 | 2.64 | 226 | 106 |
| MP023#2R5-B-- | 2.5 | 330 | 4.7 | 622 | 342 | 2.53 | 649 | 77 | 2.65 | 303 | 94 | 2.76 | 221 | 102 |
| MP023#2R6-B-- | 2.6 | 320 | 4.6 | 614 | 338 | 2.64 | 642 | 74 | 2.77 | 298 | 90 | 2.89 | 216 | 99 |
| MP023#2R7-B-- | 2.7 | 310 | 4.5 | 607 | 334 | 2.75 | 635 | 70 | 2.89 | 292 | 86 | 3.02 | 211 | 96 |
| MP023#2R8-B-- | 2.8 | 300 | 4.5 | 600 | 330 | 2.85 | 628 | 68 | 3.01 | 288 | 83 | 3.15 | 207 | 92 |
| MP023#2R9-B-- | 2.9 | 295 | 4.4 | 592 | 326 | 2.95 | 621 | 66 | 3.13 | 283 | 80 | 3.28 | 203 | 88 |
| MP023#3R0-B-- | 3 | 280 | 4.4 | 585 | 322 | 3.06 | 614 | 64 | 3.24 | 279 | 76 | 3.41 | 200 | 84 |
| MP023#3R1-B-- | 3.1 | 275 | 4.4 | 578 | 318 | 3.16 | 607 | 62 | 3.36 | 274 | 73 | 3.54 | 196 | 80 |
| MP023#3R2-B-- | 3.2 | 275 | 4.3 | 570 | 314 | 3.27 | 600 | 60 | 3.48 | 270 | 70 | 3.67 | 192 | 76 |
| MP023#3R3-B-- | 3.3 | 270 | 4.3 | 563 | 310 | 3.37 | 593 | 58 | 3.60 | 265 | 67 | 3.80 | 188 | 72 |
| MP023#3R4-B-- | 3.4 | 265 | 4.3 | 556 | 306 | 3.47 | 586 | 57 | 3.71 | 261 | 63 | 3.93 | 184 | 68 |
| MP023#3R5-B-- | 3.5 | 260 | 4.2 | 548 | 302 | 3.58 | 579 | 55 | 3.83 | 256 | 60 | 4.06 | 180 | 64 |
| MP023#3R6-B-- | 3.6 | 255 | 4.2 | 541 | 298 | 3.68 | 572 | 53 | 3.95 | 252 | 57 | 4.19 | 177 | 60 |
| MP023#3R7-B-- | 3.7 | 250 | 4.1 | 534 | 294 | 3.78 | 565 | 51 | 4.06 | 247 | 54 | 4.32 | 173 | 56 |
| MP023#3R8-B-- | 3.8 | 245 | 4.0 | 526 | 289 | 3.89 | 558 | 49 | 4.18 | 243 | 50 | 4.45 | 169 | 52 |
| MP023#3R9-B-- | 3.9 | 240 | 3.9 | 519 | 285 | 3.99 | 551 | 47 | 4.30 | 238 | 47 | 4.58 | 165 | 48 |
| UR = 25V (Voltage code 3) | | | | | | | | | | | | | | |
| MP023#4R0-B-- | 4 | 235 | 3.9 | 513 | 282 | 4.10 | 545 | 47 | 4.42 | 235 | 47 | 4.73 | 162 | 48 |
| MP023#4R1-B-- | 4.1 | 235 | 3.8 | 507 | 279 | 4.20 | 539 | 47 | 4.55 | 232 | 46 | 4.87 | 160 | 48 |
| MP023#4R2-B-- | 4.2 | 230 | 3.8 | 501 | 275 | 4.30 | 534 | 46 | 4.67 | 228 | 46 | 5.01 | 157 | 48 |
| MP023#4R3-B-- | 4.3 | 225 | 3.7 | 495 | 272 | 4.41 | 528 | 46 | 4.79 | 225 | 46 | 5.16 | 154 | 48 |
| MP023#4R4-B-- | 4.4 | 220 | 3.7 | 489 | 269 | 4.51 | 522 | 46 | 4.92 | 222 | 46 | 5.30 | 151 | 47 |
| MP023#4R5-B-- | 4.5 | 215 | 3.6 | 483 | 265 | 4.61 | 516 | 46 | 5.04 | 219 | 45 | 5.44 | 149 | 47 |
| MP023#4R6-B-- | 4.6 | 215 | 3.6 | 477 | 262 | 4.72 | 511 | 45 | 5.16 | 216 | 45 | 5.59 | 146 | 47 |
| MP023#4R7-B-- | 4.7 | 210 | 3.5 | 471 | 259 | 4.82 | 505 | 45 | 5.29 | 213 | 45 | 5.73 | 143 | 47 |
| MP023#5R1-B-- | 5.1 | 205 | 3.4 | 446 | 245 | 5.23 | 482 | 44 | 5.78 | 200 | 43 | 6.30 | 133 | 47 |
| MP023#5R6-B-- | 5.6 | 200 | 3.3 | 416 | 229 | 5.75 | 453 | 43 | 6.40 | 184 | 42 | 7.02 | 119 | 46 |
| MP023#6R2-B-- | 6.2 | 195 | 3.0 | 488 | 213 | 6.41 | 427 | 44 | 7.26 | 167 | 44 | 8.11 | 107 | 47 |
| MP023#6R8-B-- | 6.8 | 190 | 2.8 | 360 | 198 | 7.07 | 400 | 44 | 8.12 | 150 | 45 | 9.19 | 95 | 48 |
| MP023#7R5-B-- | 7.5 | 185 | 2.7 | 338 | 186 | 7.85 | 378 | 45 | 9.17 | 139 | 47 | 10.57 | 86 | 49 |
| UR = 50V (Voltage code 5) | | | | | | | | | | | | | | |
| MP025#R05-B-- | 0.05 | N/A | 20.9 | 856 | 471 | 0.06 | 881 | 1411 | 0.06 | 562 | 1216 | 0.06 | 498 | 983 |
| MP025#0R1-B-- | 0.1 | 6000 | 19.4 | 848 | 466 | 0.11 | 873 | 1316 | 0.11 | 554 | 1115 | 0.11 | 490 | 914 |
| MP025#R15-B-- | 0.15 | 4800 | 17.9 | 840 | 462 | 0.16 | 866 | 1222 | 0.16 | 547 | 1013 | 0.16 | 482 | 845 |
| MP025#0R2-B-- | 0.2 | 3600 | 16.4 | 832 | 457 | 0.21 | 858 | 1128 | 0.21 | 539 | 912 | 0.22 | 474 | 776 |
| MP025#R25-B-- | 0.25 | 2700 | 15.5 | 823 | 453 | 0.26 | 850 | 1033 | 0.27 | 523 | 810 | 0.27 | 465 | 707 |
| MP025#0R3-B-- | 0.3 | 1800 | 14.6 | 815 | 448 | 0.31 | 842 | 939 | 0.32 | 525 | 708 | 0.32 | 457 | 638 |

"#"=can be either "J" or "K" temperature coefficient



0402 Typical Electrical Tables

| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|-----------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP025#R35-B-- | 0.35 | 1650 | 14.1 | 807 | 444 | 0.36 | 834 | 844 | 0.37 | 517 | 607 | 0.37 | 449 | 569 |
| MP025#OR4-B-- | 0.4 | 1500 | 125.0 | 799 | 439 | 0.41 | 827 | 750 | 0.42 | 510 | 505 | 0.42 | 441 | 500 |
| MP025#R45-B-- | 0.45 | 1400 | 11.9 | 791 | 435 | 0.46 | 819 | 667 | 0.47 | 502 | 458 | 0.48 | 432 | 453 |
| MP025#OR5-B-- | 0.5 | 1300 | 11.3 | 783 | 430 | 0.51 | 811 | 583 | 0.52 | 495 | 410 | 0.53 | 424 | 407 |
| MP025#R55-B-- | 0.55 | 1200 | 10.9 | 774 | 426 | 0.57 | 803 | 500 | 0.57 | 487 | 363 | 0.58 | 416 | 360 |
| MP025#OR6-B-- | 0.6 | 1100 | 10.4 | 766 | 421 | 0.62 | 796 | 465 | 0.62 | 480 | 343 | 0.63 | 408 | 339 |
| MP025#R65-B-- | 0.65 | 1025 | 10.0 | 758 | 417 | 0.67 | 788 | 431 | 0.67 | 472 | 322 | 0.68 | 399 | 317 |
| MP025#OR7-B-- | 0.7 | 950 | 9.5 | 750 | 413 | 0.72 | 780 | 396 | 0.72 | 465 | 302 | 0.73 | 391 | 296 |
| MP025#R75-B-- | 0.75 | 900 | 9.3 | 746 | 410 | 0.77 | 776 | 375 | 0.78 | 456 | 290 | 0.79 | 381 | 285 |
| MP025#OR8-B-- | 0.8 | 850 | 9.1 | 743 | 408 | 0.82 | 772 | 354 | 0.83 | 447 | 277 | 0.84 | 370 | 273 |
| MP025#R85-B-- | 0.85 | 800 | 9.0 | 739 | 406 | 0.87 | 768 | 334 | 0.88 | 438 | 265 | 0.89 | 360 | 262 |
| MP025#OR9-B-- | 0.9 | 750 | 8.8 | 735 | 404 | 0.92 | 764 | 313 | 0.93 | 429 | 253 | 0.95 | 350 | 250 |
| MP025#R95-B-- | 0.95 | 712 | 8.4 | 732 | 402 | 0.97 | 760 | 292 | 0.98 | 420 | 240 | 1.00 | 339 | 239 |
| MP025#1R0-B-- | 1 | 675 | 8.0 | 728 | 400 | 1.02 | 756 | 271 | 1.04 | 411 | 228 | 1.05 | 329 | 227 |
| Contact Factory | 1.05 | 638 | 7.9 | 725 | 398 | 1.07 | 752 | 258 | 1.09 | 406 | 221 | 1.11 | 323 | 221 |
| MP025#1R1-B-- | 1.1 | 600 | 7.8 | 721 | 397 | 1.12 | 749 | 245 | 1.14 | 401 | 214 | 1.16 | 318 | 214 |
| Contact Factory | 1.15 | 575 | 7.6 | 718 | 395 | 1.17 | 745 | 232 | 1.20 | 396 | 207 | 1.22 | 312 | 208 |
| MP025#1R2-B-- | 1.2 | 550 | 7.4 | 714 | 393 | 1.22 | 742 | 218 | 1.25 | 391 | 200 | 1.27 | 306 | 202 |
| Contact Factory | 1.25 | 525 | 7.2 | 711 | 391 | 1.27 | 738 | 205 | 1.31 | 386 | 193 | 1.32 | 301 | 195 |
| MP025#1R3-B-- | 1.3 | 500 | 7.0 | 707 | 389 | 1.32 | 734 | 192 | 1.36 | 381 | 185 | 1.38 | 295 | 189 |
| Contact Factory | 1.35 | 485 | 6.9 | 704 | 387 | 1.37 | 731 | 179 | 1.41 | 376 | 178 | 1.43 | 289 | 183 |
| MP025#1R4-B-- | 1.4 | 470 | 6.8 | 700 | 385 | 1.42 | 727 | 165 | 1.47 | 371 | 171 | 1.49 | 283 | 177 |
| Contact Factory | 1.45 | 460 | 6.7 | 697 | 383 | 1.47 | 724 | 152 | 1.52 | 366 | 164 | 1.54 | 278 | 170 |
| MP025#1R5-B-- | 1.5 | 450 | 6.5 | 693 | 381 | 1.52 | 720 | 139 | 1.58 | 361 | 157 | 1.60 | 272 | 164 |
| Contact Factory | 1.55 | 440 | 6.5 | 690 | 379 | 1.56 | 716 | 135 | 1.62 | 358 | 153 | 1.65 | 269 | 159 |
| MP025#1R6-B-- | 1.6 | 430 | 6.5 | 686 | 377 | 1.61 | 716 | 130 | 1.67 | 355 | 148 | 1.70 | 267 | 155 |
| Contact Factory | 1.65 | 422 | 6.5 | 683 | 375 | 1.66 | 709 | 126 | 1.72 | 352 | 143 | 1.76 | 264 | 150 |
| MP025#1R7-B-- | 1.7 | 415 | 6.4 | 679 | 373 | 1.71 | 705 | 122 | 1.77 | 349 | 139 | 1.81 | 267 | 146 |
| Contact Factory | 1.75 | 408 | 6.3 | 676 | 372 | 1.75 | 702 | 118 | 1.82 | 347 | 134 | 1.86 | 259 | 141 |
| MP025#1R8-B-- | 1.8 | 400 | 6.2 | 672 | 370 | 1.80 | 698 | 113 | 1.87 | 344 | 130 | 1.92 | 256 | 137 |

"# "=can be either "J" or "K" temperature coefficient

Accu-P[®] MP Medical Grade

0603 Typical Electrical Tables



| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|-----------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP03Z#R05-B-- | 0.05 | N/A | 25.6 | 1200 | 660 | 0.06 | 1333 | 945 | 0.06 | 556 | 832 | 0.06 | 397 | 880 |
| MP03Z#R1-B-- | 0.1 | 6000 | 18.1 | 1156 | 636 | 0.11 | 1284 | 675 | 0.11 | 535 | 628 | 0.11 | 382 | 667 |
| MP03Z#R15-B-- | 0.15 | 4800 | 14.8 | 1111 | 611 | 0.16 | 1235 | 555 | 0.16 | 514 | 533 | 0.16 | 367 | 567 |
| MP03Z#R2-B-- | 0.2 | 3600 | 12.8 | 1067 | 587 | 0.21 | 1185 | 483 | 0.21 | 494 | 474 | 0.22 | 353 | 505 |
| MP03Z#R25-B-- | 0.25 | 2700 | 11.4 | 1022 | 562 | 0.26 | 1136 | 433 | 0.27 | 473 | 433 | 0.27 | 338 | 462 |
| MP03Z#R3-B-- | 0.3 | 1800 | 10.4 | 978 | 538 | 0.31 | 1086 | 397 | 0.32 | 453 | 402 | 0.32 | 323 | 430 |
| MP03Z#R35-B-- | 0.35 | 1650 | 9.7 | 933 | 513 | 0.36 | 1037 | 368 | 0.37 | 432 | 378 | 0.37 | 309 | 404 |
| MP03Z#R4-B-- | 0.4 | 1500 | 9.0 | 889 | 489 | 0.41 | 988 | 345 | 0.42 | 412 | 358 | 0.42 | 294 | 383 |
| MP03Z#R45-B-- | 0.45 | 1400 | 8.5 | 844 | 464 | 0.46 | 938 | 326 | 0.47 | 391 | 341 | 0.48 | 279 | 365 |
| MP03Z#R5-B-- | 0.5 | 1300 | 8.1 | 800 | 440 | 0.51 | 889 | 310 | 0.52 | 370 | 327 | 0.53 | 265 | 350 |
| MP03Z#R55-B-- | 0.55 | 1200 | 7.7 | 788 | 434 | 0.57 | 875 | 296 | 0.57 | 363 | 315 | 0.58 | 261 | 337 |
| MP03Z#R6-B-- | 0.6 | 1100 | 7.4 | 777 | 427 | 0.62 | 860 | 283 | 0.62 | 356 | 304 | 0.63 | 258 | 326 |
| MP03Z#R65-B-- | 0.65 | 1025 | 7.1 | 765 | 421 | 0.67 | 846 | 273 | 0.67 | 348 | 294 | 0.68 | 255 | 315 |
| MP03Z#R7-B-- | 0.7 | 950 | 6.8 | 754 | 414 | 0.72 | 832 | 263 | 0.72 | 341 | 285 | 0.73 | 252 | 306 |
| MP03Z#R75-B-- | 0.75 | 900 | 6.6 | 742 | 408 | 0.77 | 817 | 254 | 0.78 | 334 | 277 | 0.79 | 248 | 298 |
| MP03Z#R8-B-- | 0.8 | 800 | 6.4 | 730 | 402 | 0.82 | 803 | 247 | 0.83 | 326 | 270 | 0.84 | 245 | 290 |
| MP03Z#R85-B-- | 0.85 | 750 | 6.2 | 719 | 395 | 0.87 | 789 | 239 | 0.88 | 319 | 264 | 0.89 | 242 | 283 |
| MP03Z#R9-B-- | 0.9 | 700 | 6.0 | 707 | 389 | 0.92 | 775 | 233 | 0.93 | 312 | 258 | 0.95 | 239 | 277 |
| MP03Z#R95-B-- | 0.95 | 650 | 5.9 | 696 | 383 | 0.97 | 760 | 227 | 0.98 | 304 | 252 | 1.00 | 235 | 271 |
| MP03Z#1R0-B-- | 1 | 600 | 5.7 | 684 | 376 | 1.019 | 746 | 216 | 1.061 | 297 | 242 | 1.101 | 232 | 260 |
| Contact Factory | 1.05 | 575 | 5.6 | 667 | 367 | 1.076 | 731 | 213 | 1.126 | 290 | 239 | 1.171 | 226 | 256 |
| MP03Z#1R1-B-- | 1.1 | 550 | 5.4 | 649 | 357 | 1.134 | 717 | 210 | 1.190 | 282 | 236 | 1.241 | 220 | 253 |
| Contact Factory | 1.15 | 525 | 5.3 | 632 | 347 | 1.192 | 702 | 206 | 1.254 | 275 | 233 | 1.311 | 214 | 250 |
| MP03Z#1R2-B-- | 1.2 | 500 | 5.2 | 614 | 338 | 1.250 | 687 | 203 | 1.318 | 267 | 230 | 1.381 | 209 | 247 |
| Contact Factory | 1.25 | 475 | 5.1 | 605 | 333 | 1.307 | 677 | 200 | 1.382 | 262 | 227 | 1.451 | 203 | 244 |
| MP03Z#1R3-B-- | 1.3 | 450 | 5.0 | 596 | 328 | 1.365 | 667 | 197 | 1.446 | 257 | 224 | 1.521 | 197 | 241 |
| Contact Factory | 1.35 | 435 | 4.9 | 587 | 323 | 1.423 | 658 | 194 | 1.511 | 252 | 221 | 1.591 | 191 | 238 |
| MP03Z#1R4-B-- | 1.4 | 420 | 4.8 | 578 | 318 | 1.481 | 648 | 190 | 1.575 | 247 | 218 | 1.661 | 185 | 235 |
| Contact Factory | 1.45 | 405 | 4.8 | 569 | 313 | 1.538 | 638 | 187 | 1.639 | 242 | 215 | 1.731 | 179 | 232 |
| MP03Z#1R5-B-- | 1.5 | 390 | 4.7 | 560 | 308 | 1.596 | 628 | 184 | 1.703 | 237 | 212 | 1.801 | 173 | 229 |
| Contact Factory | 1.55 | 380 | 4.6 | 551 | 303 | 1.645 | 620 | 181 | 1.760 | 233 | 209 | 1.866 | 170 | 226 |
| MP03Z#1R6-B-- | 1.6 | 370 | 4.5 | 542 | 298 | 1.694 | 611 | 178 | 1.817 | 228 | 206 | 1.930 | 166 | 222 |
| Contact Factory | 1.65 | 360 | 4.5 | 534 | 293 | 1.743 | 603 | 175 | 1.874 | 224 | 203 | 1.995 | 163 | 219 |
| MP03Z#1R7-B-- | 1.7 | 350 | 4.4 | 525 | 289 | 1.792 | 595 | 172 | 1.931 | 219 | 200 | 2.060 | 159 | 216 |
| Contact Factory | 1.75 | 340 | 4.3 | 516 | 284 | 1.841 | 587 | 169 | 1.988 | 215 | 197 | 2.124 | 156 | 213 |
| MP03Z#1R8-B-- | 1.8 | 330 | 4.2 | 507 | 279 | 1.890 | 578 | 166 | 2.045 | 211 | 194 | 2.189 | 153 | 209 |
| Contact Factory | 1.85 | 320 | 4.2 | 498 | 274 | 1.939 | 570 | 163 | 2.102 | 206 | 191 | 2.253 | 149 | 206 |
| MP03Z#1R9-B-- | 1.9 | 310 | 4.1 | 490 | 269 | 1.988 | 562 | 160 | 2.158 | 202 | 188 | 2.318 | 146 | 203 |
| Contact Factory | 1.95 | 300 | 4.1 | 481 | 264 | 2.037 | 553 | 157 | 2.215 | 197 | 185 | 2.383 | 142 | 199 |
| MP03Z#2R0-B-- | 2 | 290 | 4.0 | 472 | 260 | 2.086 | 545 | 154 | 2.272 | 193 | 182 | 2.447 | 139 | 196 |
| MP03Z#2R1-B-- | 2.1 | 285 | 3.9 | 462 | 254 | 2.190 | 535 | 151 | 2.402 | 187 | 180 | 2.604 | 134 | 193 |
| MP03Z#2R2-B-- | 2.2 | 280 | 3.8 | 452 | 249 | 2.295 | 524 | 148 | 2.532 | 181 | 177 | 2.761 | 129 | 191 |
| MP03Z#2R3-B-- | 2.3 | 275 | 3.8 | 442 | 243 | 2.400 | 514 | 145 | 2.662 | 175 | 175 | 2.917 | 124 | 188 |
| MP03Z#2R4-B-- | 2.4 | 270 | 3.7 | 433 | 238 | 2.504 | 503 | 143 | 2.793 | 168 | 172 | 3.074 | 118 | 186 |
| MP03Z#2R5-B-- | 2.5 | 265 | 3.6 | 423 | 232 | 2.609 | 493 | 140 | 2.923 | 162 | 170 | 3.230 | 113 | 183 |
| MP03Z#2R6-B-- | 2.6 | 265 | 3.6 | 413 | 227 | 2.714 | 482 | 137 | 3.053 | 156 | 167 | 3.387 | 108 | 181 |
| MP03Z#2R7-B-- | 2.7 | 260 | 3.5 | 403 | 222 | 2.818 | 472 | 134 | 3.183 | 150 | 165 | 3.543 | 103 | 178 |
| MP03Z#2R8-B-- | 2.8 | 255 | 3.4 | 395 | 217 | 3.933 | 463 | 133 | 3.336 | 147 | 164 | 3.742 | 100 | 177 |
| MP03Z#2R9-B-- | 2.9 | 255 | 3.4 | 388 | 213 | 3.047 | 453 | 131 | 3.489 | 144 | 162 | 3.940 | 97 | 175 |
| MP03Z#3R0-B-- | 3 | 250 | 3.3 | 380 | 209 | 3.162 | 444 | 130 | 3.642 | 140 | 161 | 4.139 | 95 | 174 |
| MP03Z#3R1-B-- | 3.1 | 245 | 3.2 | 372 | 205 | 3.276 | 435 | 129 | 3.795 | 137 | 160 | 4.337 | 92 | 172 |
| MP03Z#3R2-B-- | 3.2 | 245 | 3.2 | 365 | 201 | 3.391 | 425 | 127 | 3.947 | 134 | 159 | 4.536 | 89 | 171 |
| MP03Z#3R3-B-- | 3.3 | 250 | 3.1 | 357 | 196 | 3.506 | 416 | 126 | 4.100 | 131 | 157 | 4.734 | 86 | 169 |
| MP03Z#3R4-B-- | 3.4 | 235 | 3.1 | 349 | 192 | 3.620 | 407 | 125 | 4.253 | 128 | 156 | 4.933 | 84 | 168 |
| MP03Z#3R5-B-- | 3.5 | 235 | 3.1 | 342 | 188 | 3.735 | 397 | 123 | 4.406 | 125 | 155 | 5.131 | 81 | 166 |
| MP03Z#3R6-B-- | 3.6 | 230 | 3.0 | 334 | 184 | 3.849 | 388 | 122 | 4.559 | 121 | 154 | 5.330 | 78 | 165 |
| MP03Z#3R7-B-- | 3.7 | 225 | 3.0 | 326 | 179 | 3.964 | 379 | 121 | 4.712 | 118 | 152 | 5.528 | 75 | 164 |
| MP03Z#3R8-B-- | 3.8 | 225 | 3.0 | 318 | 175 | 4.078 | 369 | 119 | 4.865 | 115 | 151 | 5.727 | 73 | 162 |
| MP03Z#3R9-B-- | 3.9 | 220 | 2.9 | 311 | 171 | 4.193 | 360 | 118 | 5.019 | 112 | 150 | 5.925 | 70 | 161 |
| MP03Z#4R0-B-- | 4 | 215 | 2.9 | 307 | 169 | 4.301 | 355 | 117 | 5.188 | 110 | 149 | 6.188 | 68 | 160 |
| MP03Z#4R1-B-- | 4.1 | 215 | 2.8 | 303 | 167 | 4.410 | 351 | 116 | 5.358 | 108 | 148 | 6.450 | 67 | 159 |
| MP03Z#4R2-B-- | 4.2 | 210 | 2.8 | 299 | 164 | 4.518 | 347 | 116 | 5.528 | 106 | 148 | 6.713 | 65 | 158 |
| MP03Z#4R3-B-- | 4.3 | 210 | 2.7 | 295 | 162 | 4.627 | 342 | 115 | 5.698 | 104 | 147 | 6.975 | 64 | 157 |
| MP03Z#4R4-B-- | 4.4 | 205 | 2.7 | 291 | 160 | 4.735 | 338 | 114 | 5.867 | 102 | 146 | 7.238 | 62 | 157 |

"#"-can be either "J" or "K" temperature coefficient



Accu-P[®] MP Medical Grade



0603 Typical Electrical Tables

| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|----------------------------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP03Z#4R5-B-- | 4.5 | 205 | 2.7 | 287 | 158 | 4.843 | 333 | 113 | 6.037 | 100 | 146 | 7.500 | 61 | 156 |
| MP03Z#4R6-B-- | 4.6 | 200 | 2.6 | 283 | 156 | 4.952 | 329 | 112 | 6.207 | 98 | 145 | 7.763 | 59 | 155 |
| MP03Z#4R7-B-- | 4.7 | 200 | 2.6 | 279 | 154 | 5.060 | 324 | 112 | 6.377 | 96 | 144 | 8.025 | 58 | 154 |
| MP03Z#5R1-B-- | 5.1 | 195 | 2.5 | 263 | 145 | 5.494 | 307 | 109 | 7.057 | 88 | 142 | 9.075 | 52 | 151 |
| MP03Z#5R6-B-- | 5.6 | 190 | 2.4 | 244 | 134 | 6.035 | 285 | 105 | 7.906 | 78 | 138 | 10.39 | 44 | 147 |
| MP03Z#6R2-B-- | 6.2 | 185 | 2.3 | 228 | 126 | 6.865 | 267 | 102 | 9.517 | 72 | 133 | 13.66 | 40 | 141 |
| MP03Z#6R8-B-- | 6.8 | 180 | 2.2 | 213 | 117 | 7.694 | 250 | 100 | 11.13 | 66 | 128 | 16.93 | 35 | 135 |
| MP03Z#7R5-B-- | 7.5 | 175 | 2.1 | 195 | 107 | 8.367 | 227 | 98 | 12.63 | 57 | 125 | 20.91 | 28 | 132 |
| MP03Z#8R2-B-- | 8.2 | 170 | 2.0 | 176 | 97 | 9.041 | 205 | 96 | 14.14 | 49 | 123 | 24.88 | 21 | 129 |
| MP03Z#9R1-B-- | 9.1 | 165 | 1.9 | 161 | 89 | 10.20 | 188 | 96 | 18.09 | 42 | 122 | 40.00 | 16 | 128 |
| MP03Z#100-B-- | 10 | 160 | 1.8 | 146 | 80 | 11.37 | 171 | 95 | 22.05 | 36 | 121 | 70.00 | 12 | 127 |
| MP03Z#110-B-- | 11 | 155 | 1.7 | 129 | 71 | 12.66 | 153 | 95 | 26.44 | 29 | 120 | 140.0 | 6 | 126 |
| MP03Z#120-B-- | 12 | 155 | 1.6 | 112 | 62 | 13.95 | 134 | 94 | 30.83 | 22 | 119 | 231.3 | 1 | 125 |
| MP03Z#130-B-- | 13 | 150 | 1.6 | 102 | 56 | 15.31 | 122 | 93 | 40.37 | 18 | 118 | N/A | N/A | N/A |
| MP03Z#140-B-- | 14 | 150 | 1.5 | 92 | 51 | 16.67 | 111 | 92 | 49.91 | 15 | 118 | N/A | N/A | N/A |
| MP03Z#150-B-- | 15 | 145 | 1.5 | 82 | 45 | 18.03 | 99 | 90 | 59.44 | 11 | 117 | N/A | N/A | N/A |
| MP03Z#160-B-- | 16 | 145 | 1.4 | 79 | 43 | 19.61 | 96 | 90 | 80.00 | 8 | 117 | N/A | N/A | N/A |
| MP03Z#170-B-- | 17 | 140 | 1.4 | 76 | 42 | 21.18 | 92 | 90 | 120.0 | 6 | 116 | N/A | N/A | N/A |
| MP03Z#180-B-- | 18 | 140 | 1.3 | 73 | 40 | 22.76 | 89 | 90 | 190.0 | 4 | 116 | N/A | N/A | N/A |
| MP03Z#190-B-- | 19 | 140 | 1.3 | 69 | 38 | 24.37 | 84 | 89 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03Z#200-B-- | 20 | 135 | 1.2 | 65 | 36 | 25.98 | 80 | 89 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03Z#220-B-- | 22 | 135 | 1.2 | 57 | 31 | 29.21 | 72 | 87 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03Z#240-B-- | 24 | 135 | 1.2 | 48 | 26 | 34.44 | 62 | 87 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03ZK270-B-- | 27 | 130 | 1.1 | 43 | 24 | 41.87 | 56 | 86 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03ZK300-B-- | 30 | 130 | 1.0 | 37 | 21 | 49.29 | 49 | 85 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03ZK330-B-- | 33 | 130 | 1.0 | 32 | 18 | 56.72 | 43 | 84 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03ZK390-B-- | 39 | 120 | 1.0 | 21 | 12 | 71.57 | 30 | 82 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03ZK470-B-- | 47 | 120 | 1.0 | 15 | 10 | 92.31 | 10 | 79 | N/A | N/A | N/A | N/A | N/A | N/A |
| Ur = 16V (Voltage code Y) | | | | | | | | | | | | | | |
| MP03Y#R05-B-- | 0.05 | N/A | 25.6 | 1200 | 660 | 0.06 | 1333 | 945 | 0.06 | 556 | 832 | 0.06 | 397 | 880 |
| MP03Y#R1-B-- | 0.1 | 6000 | 18.1 | 1156 | 636 | 0.11 | 1284 | 675 | 0.11 | 535 | 628 | 0.11 | 382 | 667 |
| MP03Y#R15-B-- | 0.15 | 4800 | 14.8 | 1111 | 611 | 0.16 | 1235 | 555 | 0.16 | 514 | 533 | 0.16 | 367 | 567 |
| MP03Y#R2-B-- | 0.2 | 3600 | 12.8 | 1067 | 587 | 0.21 | 1185 | 483 | 0.21 | 494 | 474 | 0.22 | 353 | 505 |
| MP03Y#R25-B-- | 0.25 | 2700 | 11.4 | 1022 | 562 | 0.26 | 1136 | 433 | 0.27 | 473 | 433 | 0.27 | 338 | 462 |
| MP03Y#R3-B-- | 0.3 | 1800 | 10.4 | 978 | 538 | 0.31 | 1086 | 397 | 0.32 | 453 | 402 | 0.32 | 323 | 430 |
| MP03Y#R35-B-- | 0.35 | 1650 | 9.7 | 933 | 513 | 0.36 | 1037 | 368 | 0.37 | 432 | 378 | 0.37 | 309 | 404 |
| MP03Y#R4-B-- | 0.4 | 1500 | 9.0 | 889 | 489 | 0.41 | 988 | 345 | 0.42 | 412 | 358 | 0.42 | 294 | 383 |
| MP03Y#R45-B-- | 0.45 | 1400 | 8.5 | 844 | 464 | 0.46 | 938 | 326 | 0.47 | 391 | 341 | 0.48 | 279 | 365 |
| MP03Y#R5-B-- | 0.5 | 1300 | 8.1 | 800 | 440 | 0.51 | 889 | 310 | 0.52 | 370 | 327 | 0.53 | 265 | 350 |
| MP03Y#R55-B-- | 0.55 | 1200 | 7.7 | 788 | 434 | 0.57 | 875 | 296 | 0.57 | 363 | 315 | 0.58 | 261 | 337 |
| MP03Y#R6-B-- | 0.6 | 1100 | 7.4 | 777 | 427 | 0.62 | 860 | 283 | 0.62 | 356 | 304 | 0.63 | 258 | 326 |
| MP03Y#R65-B-- | 0.65 | 1025 | 7.1 | 765 | 421 | 0.67 | 846 | 273 | 0.67 | 348 | 294 | 0.68 | 255 | 315 |
| MP03Y#R7-B-- | 0.7 | 950 | 6.8 | 754 | 414 | 0.72 | 832 | 263 | 0.72 | 341 | 285 | 0.73 | 252 | 306 |
| MP03Y#R75-B-- | 0.75 | 900 | 6.6 | 742 | 408 | 0.77 | 817 | 254 | 0.78 | 334 | 277 | 0.79 | 248 | 298 |
| MP03Y#R8-B-- | 0.8 | 800 | 6.4 | 730 | 402 | 0.82 | 803 | 247 | 0.83 | 326 | 270 | 0.84 | 245 | 290 |
| MP03Y#R85-B-- | 0.85 | 750 | 6.2 | 719 | 395 | 0.87 | 789 | 239 | 0.88 | 319 | 264 | 0.89 | 242 | 283 |
| MP03Y#R9-B-- | 0.9 | 700 | 6.0 | 707 | 389 | 0.92 | 775 | 233 | 0.93 | 312 | 258 | 0.95 | 239 | 277 |
| MP03Y#R95-B-- | 0.95 | 650 | 5.9 | 696 | 383 | 0.97 | 760 | 227 | 0.98 | 304 | 252 | 1.00 | 235 | 271 |
| MP03Y#R10-B-- | 1 | 600 | 5.7 | 684 | 376 | 1.019 | 746 | 216 | 1.061 | 297 | 242 | 1.101 | 232 | 260 |
| Contact Factory | 1.05 | 575 | 5.6 | 667 | 367 | 1.076 | 731 | 213 | 1.126 | 290 | 239 | 1.171 | 226 | 256 |
| MP03Y#R11-B-- | 1.1 | 550 | 5.4 | 649 | 357 | 1.134 | 717 | 210 | 1.190 | 282 | 236 | 1.241 | 220 | 253 |
| Contact Factory | 1.15 | 525 | 5.3 | 632 | 347 | 1.192 | 702 | 206 | 1.254 | 275 | 233 | 1.311 | 214 | 250 |
| MP03Y#R12-B-- | 1.2 | 500 | 5.2 | 614 | 338 | 1.250 | 687 | 203 | 1.318 | 267 | 230 | 1.381 | 209 | 247 |
| Contact Factory | 1.25 | 475 | 5.1 | 605 | 333 | 1.307 | 677 | 200 | 1.382 | 262 | 227 | 1.451 | 203 | 244 |
| Ur = 16V (Voltage code Y) | | | | | | | | | | | | | | |
| MP03Y#R13-B-- | 1.3 | 450 | 5.0 | 596 | 328 | 1.365 | 667 | 197 | 1.446 | 257 | 224 | 1.521 | 197 | 241 |
| Contact Factory | 1.35 | 435 | 4.9 | 587 | 323 | 1.423 | 658 | 194 | 1.511 | 252 | 221 | 1.591 | 191 | 238 |
| MP03Y#R14-B-- | 1.4 | 420 | 4.8 | 578 | 318 | 1.481 | 648 | 190 | 1.575 | 247 | 218 | 1.661 | 185 | 235 |
| Contact Factory | 1.45 | 405 | 4.8 | 569 | 313 | 1.538 | 638 | 187 | 1.639 | 242 | 215 | 1.731 | 179 | 232 |
| MP03Y#R15-B-- | 1.5 | 390 | 4.7 | 560 | 308 | 1.596 | 628 | 184 | 1.703 | 237 | 212 | 1.801 | 173 | 229 |
| Contact Factory | 1.55 | 380 | 4.6 | 551 | 303 | 1.645 | 620 | 181 | 1.760 | 233 | 209 | 1.866 | 170 | 226 |
| MP03Y#R16-B-- | 1.6 | 370 | 4.5 | 542 | 298 | 1.694 | 611 | 178 | 1.817 | 228 | 206 | 1.930 | 166 | 222 |
| Contact Factory | 1.65 | 360 | 4.5 | 534 | 293 | 1.743 | 603 | 175 | 1.874 | 224 | 203 | 1.995 | 163 | 219 |
| MP03Y#R17-B-- | 1.7 | 350 | 4.4 | 525 | 289 | 1.792 | 595 | 172 | 1.931 | 219 | 200 | 2.060 | 159 | 216 |
| Contact Factory | 1.75 | 340 | 4.3 | 516 | 284 | 1.841 | 587 | 169 | 1.988 | 215 | 197 | 2.124 | 156 | 213 |

"#"-can be either "J" or "K" temperature coefficient



0603 Typical Electrical Tables

| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|----------------------------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP03Y#1R8-B-- | 1.8 | 330 | 4.2 | 507 | 279 | 1.890 | 578 | 166 | 2.045 | 211 | 194 | 2.189 | 153 | 209 |
| Contact Factory | 1.85 | 320 | 4.2 | 498 | 274 | 1.939 | 570 | 163 | 2.102 | 206 | 191 | 2.253 | 149 | 206 |
| MP03Y#1R9-B-- | 1.9 | 310 | 4.1 | 490 | 269 | 1.988 | 562 | 160 | 2.158 | 202 | 188 | 2.318 | 146 | 203 |
| Contact Factory | 1.95 | 300 | 4.1 | 481 | 264 | 2.037 | 553 | 157 | 2.215 | 197 | 185 | 2.383 | 142 | 199 |
| MP03Y#2R0-B-- | 2 | 290 | 4.0 | 472 | 260 | 2.086 | 545 | 154 | 2.272 | 193 | 182 | 2.447 | 139 | 196 |
| MP03Y#2R1-B-- | 2.1 | 285 | 3.9 | 462 | 254 | 2.190 | 535 | 151 | 2.402 | 187 | 180 | 2.604 | 134 | 193 |
| MP03Y#2R2-B-- | 2.2 | 280 | 3.8 | 452 | 249 | 2.295 | 524 | 148 | 2.532 | 181 | 177 | 2.761 | 129 | 191 |
| MP03Y#2R3-B-- | 2.3 | 275 | 3.8 | 442 | 243 | 2.400 | 514 | 145 | 2.662 | 175 | 175 | 2.917 | 124 | 188 |
| MP03Y#2R4-B-- | 2.4 | 270 | 3.7 | 433 | 238 | 2.504 | 503 | 143 | 2.793 | 168 | 172 | 3.074 | 118 | 186 |
| MP03Y#2R5-B-- | 2.5 | 265 | 3.6 | 423 | 232 | 2.609 | 493 | 140 | 2.923 | 162 | 170 | 3.230 | 113 | 183 |
| MP03Y#2R6-B-- | 2.6 | 265 | 3.6 | 413 | 227 | 2.714 | 482 | 137 | 3.053 | 156 | 167 | 3.387 | 108 | 181 |
| MP03Y#2R7-B-- | 2.7 | 260 | 3.5 | 403 | 222 | 2.818 | 472 | 134 | 3.183 | 150 | 165 | 3.543 | 103 | 178 |
| MP03Y#2R8-B-- | 2.8 | 255 | 3.4 | 395 | 217 | 3.933 | 463 | 133 | 3.336 | 147 | 164 | 3.742 | 100 | 177 |
| MP03Y#2R9-B-- | 2.9 | 255 | 3.4 | 388 | 213 | 3.047 | 453 | 131 | 3.489 | 144 | 162 | 3.940 | 97 | 175 |
| MP03Y#3R0-B-- | 3 | 250 | 3.3 | 380 | 209 | 3.162 | 444 | 130 | 3.642 | 140 | 161 | 4.139 | 95 | 174 |
| MP03Y#3R1-B-- | 3.1 | 245 | 3.2 | 372 | 205 | 3.276 | 435 | 129 | 3.795 | 137 | 160 | 4.337 | 92 | 172 |
| MP03Y#3R2-B-- | 3.2 | 245 | 3.2 | 365 | 201 | 3.391 | 425 | 127 | 3.947 | 134 | 159 | 4.536 | 89 | 171 |
| MP03Y#3R3-B-- | 3.3 | 250 | 3.1 | 357 | 196 | 3.506 | 416 | 126 | 4.100 | 131 | 157 | 4.734 | 86 | 169 |
| MP03Y#3R4-B-- | 3.4 | 235 | 3.1 | 349 | 192 | 3.620 | 407 | 125 | 4.253 | 128 | 156 | 4.933 | 84 | 168 |
| MP03Y#3R5-B-- | 3.5 | 235 | 3.1 | 342 | 188 | 3.735 | 397 | 123 | 4.406 | 125 | 155 | 5.131 | 81 | 166 |
| MP03Y#3R6-B-- | 3.6 | 230 | 3.0 | 334 | 184 | 3.849 | 388 | 122 | 4.559 | 121 | 154 | 5.330 | 78 | 165 |
| MP03Y#3R7-B-- | 3.7 | 225 | 3.0 | 326 | 179 | 3.964 | 379 | 121 | 4.712 | 118 | 152 | 5.528 | 75 | 164 |
| MP03Y#3R8-B-- | 3.8 | 225 | 3.0 | 318 | 175 | 4.078 | 369 | 119 | 4.865 | 115 | 151 | 5.727 | 73 | 162 |
| MP03Y#3R9-B-- | 3.9 | 220 | 2.9 | 311 | 171 | 4.193 | 360 | 118 | 5.019 | 112 | 150 | 5.925 | 70 | 161 |
| MP03Y#4R0-B-- | 4 | 215 | 2.9 | 307 | 169 | 4.301 | 355 | 117 | 5.188 | 110 | 149 | 6.188 | 68 | 160 |
| MP03Y#4R1-B-- | 4.1 | 215 | 2.8 | 303 | 167 | 4.410 | 351 | 116 | 5.358 | 108 | 148 | 6.450 | 67 | 159 |
| MP03Y#4R2-B-- | 4.2 | 210 | 2.8 | 299 | 164 | 4.518 | 347 | 116 | 5.528 | 106 | 148 | 6.713 | 65 | 158 |
| MP03Y#4R3-B-- | 4.3 | 210 | 2.7 | 295 | 162 | 4.627 | 342 | 115 | 5.698 | 104 | 147 | 6.975 | 64 | 157 |
| MP03Y#4R4-B-- | 4.4 | 205 | 2.7 | 291 | 160 | 4.735 | 338 | 114 | 5.867 | 102 | 146 | 7.238 | 62 | 157 |
| MP03Y#4R5-B-- | 4.5 | 205 | 2.7 | 287 | 158 | 4.843 | 333 | 113 | 6.037 | 100 | 146 | 7.500 | 61 | 156 |
| MP03Y#4R6-B-- | 4.6 | 200 | 2.6 | 283 | 156 | 4.952 | 329 | 112 | 6.207 | 98 | 145 | 7.763 | 59 | 155 |
| MP03Y#4R7-B-- | 4.7 | 200 | 2.6 | 279 | 154 | 5.060 | 324 | 112 | 6.377 | 96 | 144 | 8.025 | 58 | 154 |
| MP03Y#5R1-B-- | 5.1 | 195 | 2.5 | 263 | 145 | 5.494 | 307 | 109 | 7.057 | 88 | 142 | 9.075 | 52 | 151 |
| MP03Y#5R6-B-- | 5.6 | 190 | 2.4 | 244 | 134 | 6.035 | 285 | 105 | 7.906 | 78 | 138 | 10.390 | 44 | 147 |
| MP03Y#6R2-B-- | 6.2 | 185 | 2.3 | 228 | 126 | 6.865 | 267 | 102 | 9.517 | 72 | 133 | 13.660 | 40 | 141 |
| MP03Y#6R8-B-- | 6.8 | 180 | 2.2 | 213 | 117 | 7.694 | 250 | 100 | 11.130 | 66 | 128 | 16.930 | 35 | 135 |
| MP03Y#7R5-B-- | 7.5 | 175 | 2.1 | 195 | 107 | 8.367 | 227 | 98 | 12.630 | 57 | 125 | 20.910 | 28 | 132 |
| MP03Y#8R2-B-- | 8.2 | 170 | 2.0 | 176 | 97 | 9.041 | 205 | 96 | 14.140 | 49 | 123 | 24.880 | 21 | 129 |
| MP03Y#9R1-B-- | 9.1 | 165 | 1.9 | 161 | 89 | 10.20 | 188 | 96 | 18.09 | 42 | 122 | 40.00 | 16 | 128 |
| MP03Y#100-B-- | 10 | 160 | 1.8 | 146 | 80 | 11.37 | 171 | 95 | 22.05 | 36 | 121 | 70.00 | 12 | 127 |
| MP03Y#110-B-- | 11 | 155 | 1.7 | 129 | 71 | 12.66 | 153 | 95 | 26.44 | 29 | 120 | 140.0 | 6 | 126 |
| MP03Y#120-B-- | 12 | 155 | 1.6 | 112 | 62 | 13.95 | 134 | 94 | 30.83 | 22 | 119 | 231.3 | 1 | 125 |
| MP03Y#130-B-- | 13 | 150 | 1.6 | 102 | 56 | 15.31 | 122 | 93 | 40.37 | 18 | 118 | N/A | N/A | N/A |
| MP03Y#140-B-- | 14 | 150 | 1.5 | 92 | 51 | 16.67 | 111 | 92 | 49.91 | 15 | 118 | N/A | N/A | N/A |
| MP03Y#150-B-- | 15 | 145 | 1.5 | 82 | 45 | 18.03 | 99 | 90 | 59.44 | 11 | 117 | N/A | N/A | N/A |
| MP03Y#160-B-- | 16 | 145 | 1.4 | 79 | 43 | 19.61 | 96 | 90 | 80.00 | 8 | 117 | N/A | N/A | N/A |
| MP03Y#170-B-- | 17 | 140 | 1.4 | 76 | 42 | 21.18 | 92 | 90 | 120.0 | 6 | 116 | N/A | N/A | N/A |
| MP03Y#180-B-- | 18 | 140 | 1.3 | 73 | 40 | 22.76 | 89 | 90 | 190.0 | 4 | 116 | N/A | N/A | N/A |
| MP03Y#190-B-- | 19 | 140 | 1.3 | 69 | 38 | 24.37 | 84 | 89 | N/A | N/A | N/A | N/A | N/A | N/A |
| UR = 16V (Voltage code Y) | | | | | | | | | | | | | | |
| MP03Y#200-B-- | 20 | 135 | 1.2 | 65 | 36 | 25.98 | 80 | 89 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03Y#220-B-- | 22 | 135 | 1.2 | 57 | 31 | 29.21 | 72 | 87 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03Y#240-B-- | 24 | 135 | 1.2 | 48 | 26 | 34.44 | 62 | 87 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03YK270-B-- | 27 | 130 | 1.1 | 43 | 24 | 41.87 | 56 | 86 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03YK300-B-- | 30 | 130 | 1.0 | 37 | 21 | 49.29 | 49 | 85 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03YK330-B-- | 33 | 130 | 1.0 | 32 | 18 | 56.72 | 43 | 84 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP03YK390-B-- | 39 | 120 | 1.0 | 21 | 12 | 71.57 | 30 | 82 | N/A | N/A | N/A | N/A | N/A | N/A |
| UR = 25V (Voltage code 3) | | | | | | | | | | | | | | |
| MP033#R05-B-- | 0.05 | N/A | 25.6 | 1200 | 660 | 0.06 | 1333 | 945 | 0.06 | 556 | 832 | 0.06 | 397 | 880 |
| MP033#R1-B-- | 0.1 | 6000 | 18.1 | 1156 | 636 | 0.11 | 1284 | 675 | 0.11 | 535 | 628 | 0.11 | 382 | 667 |
| MP033#R15-B-- | 0.15 | 4800 | 14.8 | 1111 | 611 | 0.16 | 1235 | 555 | 0.16 | 514 | 533 | 0.16 | 367 | 567 |
| MP033#R2-B-- | 0.2 | 3600 | 12.8 | 1067 | 587 | 0.21 | 1185 | 483 | 0.21 | 494 | 474 | 0.22 | 353 | 505 |
| MP033#R25-B-- | 0.25 | 2700 | 11.4 | 1022 | 562 | 0.26 | 1136 | 433 | 0.27 | 473 | 433 | 0.27 | 338 | 462 |
| MP033#R3-B-- | 0.3 | 1800 | 10.4 | 978 | 538 | 0.31 | 1086 | 397 | 0.32 | 453 | 402 | 0.32 | 323 | 430 |
| MP033#R35-B-- | 0.35 | 1650 | 9.7 | 933 | 513 | 0.36 | 1037 | 368 | 0.37 | 432 | 378 | 0.37 | 309 | 404 |

"#"-can be either "J" or "K" temperature coefficient

Accu-P® MP Medical Grade

0603 Typical Electrical Tables



| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|----------------------------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP033#0R4-B-- | 0.4 | 1500 | 9.0 | 889 | 489 | 0.41 | 988 | 345 | 0.42 | 412 | 358 | 0.42 | 294 | 383 |
| MP033#R45-B-- | 0.45 | 1400 | 8.5 | 844 | 464 | 0.46 | 938 | 326 | 0.47 | 391 | 341 | 0.48 | 279 | 365 |
| MP033#0R5-B-- | 0.5 | 1300 | 8.1 | 800 | 440 | 0.51 | 889 | 310 | 0.52 | 370 | 327 | 0.53 | 265 | 350 |
| MP033#R55-B-- | 0.55 | 1200 | 7.7 | 788 | 434 | 0.57 | 875 | 296 | 0.57 | 363 | 315 | 0.58 | 261 | 337 |
| MP033#0R6-B-- | 0.6 | 1100 | 7.4 | 777 | 427 | 0.62 | 860 | 283 | 0.62 | 356 | 304 | 0.63 | 258 | 326 |
| MP033#R65-B-- | 0.65 | 1025 | 7.1 | 765 | 421 | 0.67 | 846 | 273 | 0.67 | 348 | 294 | 0.68 | 255 | 315 |
| MP033#0R7-B-- | 0.7 | 950 | 6.8 | 754 | 414 | 0.72 | 832 | 263 | 0.72 | 341 | 285 | 0.73 | 252 | 306 |
| MP033#R75-B-- | 0.75 | 900 | 6.6 | 742 | 408 | 0.77 | 817 | 254 | 0.78 | 334 | 277 | 0.79 | 248 | 298 |
| MP033#0R8-B-- | 0.8 | 800 | 6.4 | 730 | 402 | 0.82 | 803 | 247 | 0.83 | 326 | 270 | 0.84 | 245 | 290 |
| MP033#R85-B-- | 0.85 | 750 | 6.2 | 719 | 395 | 0.87 | 789 | 239 | 0.88 | 319 | 264 | 0.89 | 242 | 283 |
| MP033#0R9-B-- | 0.9 | 700 | 6.0 | 707 | 389 | 0.92 | 775 | 233 | 0.93 | 312 | 258 | 0.95 | 239 | 277 |
| MP033#R95-B-- | 0.95 | 650 | 5.9 | 696 | 383 | 0.97 | 760 | 227 | 0.98 | 304 | 252 | 1.00 | 235 | 271 |
| MP033#1R0-B-- | 1 | 600 | 5.7 | 684 | 376 | 1.019 | 746 | 216 | 1.061 | 297 | 242 | 1.101 | 232 | 260 |
| Contact Factory | 1.05 | 575 | 5.6 | 667 | 367 | 1.076 | 731 | 213 | 1.126 | 290 | 239 | 1.171 | 226 | 256 |
| MP033#1R1-B-- | 1.1 | 550 | 5.4 | 649 | 357 | 1.134 | 717 | 210 | 1.190 | 282 | 236 | 1.241 | 220 | 253 |
| Contact Factory | 1.15 | 525 | 5.3 | 632 | 347 | 1.192 | 702 | 206 | 1.254 | 275 | 233 | 1.311 | 214 | 250 |
| MP033#1R2-B-- | 1.2 | 500 | 5.2 | 614 | 338 | 1.250 | 687 | 203 | 1.318 | 267 | 230 | 1.381 | 209 | 247 |
| Contact Factory | 1.25 | 475 | 5.1 | 605 | 333 | 1.307 | 677 | 200 | 1.382 | 262 | 227 | 1.451 | 203 | 244 |
| MP033#1R3-B-- | 1.3 | 450 | 5.0 | 596 | 328 | 1.365 | 667 | 197 | 1.446 | 257 | 224 | 1.521 | 197 | 241 |
| Contact Factory | 1.35 | 435 | 4.9 | 587 | 323 | 1.423 | 658 | 194 | 1.511 | 252 | 221 | 1.591 | 191 | 238 |
| MP033#1R4-B-- | 1.4 | 420 | 4.8 | 578 | 318 | 1.481 | 648 | 190 | 1.575 | 247 | 218 | 1.661 | 185 | 235 |
| Contact Factory | 1.45 | 405 | 4.8 | 569 | 313 | 1.538 | 638 | 187 | 1.639 | 242 | 215 | 1.731 | 179 | 232 |
| MP033#1R5-B-- | 1.5 | 390 | 4.7 | 560 | 308 | 1.596 | 628 | 184 | 1.703 | 237 | 212 | 1.801 | 173 | 229 |
| Contact Factory | 1.55 | 380 | 4.6 | 551 | 303 | 1.645 | 620 | 181 | 1.760 | 233 | 209 | 1.866 | 170 | 226 |
| MP033#1R6-B-- | 1.6 | 370 | 4.5 | 542 | 298 | 1.694 | 611 | 178 | 1.817 | 228 | 206 | 1.930 | 166 | 222 |
| Contact Factory | 1.65 | 360 | 4.5 | 534 | 293 | 1.743 | 603 | 175 | 1.874 | 224 | 203 | 1.995 | 163 | 219 |
| MP033#1R7-B-- | 1.7 | 350 | 4.4 | 525 | 289 | 1.792 | 595 | 172 | 1.931 | 219 | 200 | 2.060 | 159 | 216 |
| Contact Factory | 1.75 | 340 | 4.3 | 516 | 284 | 1.841 | 587 | 169 | 1.988 | 215 | 197 | 2.124 | 156 | 213 |
| MP033#1R8-B-- | 1.8 | 330 | 4.2 | 507 | 279 | 1.890 | 578 | 166 | 2.045 | 211 | 194 | 2.189 | 153 | 209 |
| Contact Factory | 1.85 | 320 | 4.2 | 498 | 274 | 1.939 | 570 | 163 | 2.102 | 206 | 191 | 2.253 | 149 | 206 |
| MP033#1R9-B-- | 1.9 | 310 | 4.1 | 490 | 269 | 1.988 | 562 | 160 | 2.158 | 202 | 188 | 2.318 | 146 | 203 |
| Contact Factory | 1.95 | 300 | 4.1 | 481 | 264 | 2.037 | 553 | 157 | 2.215 | 197 | 185 | 2.383 | 142 | 199 |
| MP033#2R0-B-- | 2 | 290 | 4.0 | 472 | 260 | 2.086 | 545 | 154 | 2.272 | 193 | 182 | 2.447 | 139 | 196 |
| MP033#2R1-B-- | 2.1 | 285 | 3.9 | 462 | 254 | 2.190 | 535 | 151 | 2.402 | 187 | 180 | 2.604 | 134 | 193 |
| MP033#2R2-B-- | 2.2 | 280 | 3.8 | 452 | 249 | 2.295 | 524 | 148 | 2.532 | 181 | 177 | 2.761 | 129 | 191 |
| MP033#2R3-B-- | 2.3 | 275 | 3.8 | 442 | 243 | 2.400 | 514 | 145 | 2.662 | 175 | 175 | 2.917 | 124 | 188 |
| MP033#2R4-B-- | 2.4 | 270 | 3.7 | 433 | 238 | 2.504 | 503 | 143 | 2.793 | 168 | 172 | 3.074 | 118 | 186 |
| MP033#2R5-B-- | 2.5 | 265 | 3.6 | 423 | 232 | 2.609 | 493 | 140 | 2.923 | 162 | 170 | 3.230 | 113 | 183 |
| MP033#2R6-B-- | 2.6 | 265 | 3.6 | 413 | 227 | 2.714 | 482 | 137 | 3.053 | 156 | 167 | 3.387 | 108 | 181 |
| MP033#2R7-B-- | 2.7 | 260 | 3.5 | 403 | 222 | 2.818 | 472 | 134 | 3.183 | 150 | 165 | 3.543 | 103 | 178 |
| MP033#2R8-B-- | 2.8 | 255 | 3.4 | 395 | 217 | 3.933 | 463 | 133 | 3.336 | 147 | 164 | 3.742 | 100 | 177 |
| MP033#2R9-B-- | 2.9 | 255 | 3.4 | 388 | 213 | 3.047 | 453 | 131 | 3.489 | 144 | 162 | 3.940 | 97 | 175 |
| MP033#3R0-B-- | 3 | 250 | 3.3 | 380 | 209 | 3.162 | 444 | 130 | 3.642 | 140 | 161 | 4.139 | 95 | 174 |
| MP033#3R1-B-- | 3.1 | 245 | 3.2 | 372 | 205 | 3.276 | 435 | 129 | 3.795 | 137 | 160 | 4.337 | 92 | 172 |
| UR = 25V (Voltage code 3) | | | | | | | | | | | | | | |
| MP033#3R2-B-- | 3.2 | 245 | 3.2 | 365 | 201 | 3.391 | 425 | 127 | 3.947 | 134 | 159 | 4.536 | 89 | 171 |
| MP033#3R3-B-- | 3.3 | 250 | 3.1 | 357 | 196 | 3.506 | 416 | 126 | 4.100 | 131 | 157 | 4.734 | 86 | 169 |
| MP033#3R4-B-- | 3.4 | 235 | 3.1 | 349 | 192 | 3.620 | 407 | 125 | 4.253 | 128 | 156 | 4.933 | 84 | 168 |
| MP033#3R5-B-- | 3.5 | 235 | 3.1 | 342 | 188 | 3.735 | 397 | 123 | 4.406 | 125 | 155 | 5.131 | 81 | 166 |
| MP033#3R6-B-- | 3.6 | 230 | 3.0 | 334 | 184 | 3.849 | 388 | 122 | 4.559 | 121 | 154 | 5.330 | 78 | 165 |
| MP033#3R7-B-- | 3.7 | 225 | 3.0 | 326 | 179 | 3.964 | 379 | 121 | 4.712 | 118 | 152 | 5.528 | 75 | 164 |
| MP033#3R8-B-- | 3.8 | 225 | 3.0 | 318 | 175 | 4.078 | 369 | 119 | 4.865 | 115 | 151 | 5.727 | 73 | 162 |
| MP033#3R9-B-- | 3.9 | 220 | 2.9 | 311 | 171 | 4.193 | 360 | 118 | 5.019 | 112 | 150 | 5.925 | 70 | 161 |
| MP033#4R0-B-- | 4 | 215 | 2.9 | 307 | 169 | 4.301 | 355 | 117 | 5.188 | 110 | 149 | 6.188 | 68 | 160 |
| MP033#4R1-B-- | 4.1 | 215 | 2.8 | 303 | 167 | 4.410 | 351 | 116 | 5.358 | 108 | 148 | 6.450 | 67 | 159 |
| MP033#4R2-B-- | 4.2 | 210 | 2.8 | 299 | 164 | 4.518 | 347 | 116 | 5.528 | 106 | 148 | 6.713 | 65 | 158 |
| MP033#4R3-B-- | 4.3 | 210 | 2.7 | 295 | 162 | 4.627 | 342 | 115 | 5.698 | 104 | 147 | 6.975 | 64 | 157 |
| MP033#4R4-B-- | 4.4 | 205 | 2.7 | 291 | 160 | 4.735 | 338 | 114 | 5.867 | 102 | 146 | 7.238 | 62 | 157 |
| MP033#4R5-B-- | 4.5 | 205 | 2.7 | 287 | 158 | 4.843 | 333 | 113 | 6.037 | 100 | 146 | 7.500 | 61 | 156 |
| MP033#4R6-B-- | 4.6 | 200 | 2.6 | 283 | 156 | 4.952 | 329 | 112 | 6.207 | 98 | 145 | 7.763 | 59 | 155 |
| MP033#4R7-B-- | 4.7 | 200 | 2.6 | 279 | 154 | 5.060 | 324 | 112 | 6.377 | 96 | 144 | 8.025 | 58 | 154 |
| MP033#5R1-B-- | 5.1 | 195 | 2.5 | 263 | 145 | 5.494 | 307 | 109 | 7.057 | 88 | 142 | 9.075 | 52 | 151 |
| MP033#5R6-B-- | 5.6 | 190 | 2.4 | 244 | 134 | 6.035 | 285 | 105 | 7.906 | 78 | 138 | 10.390 | 44 | 147 |
| MP033#6R2-B-- | 6.2 | 185 | 2.3 | 228 | 126 | 6.865 | 267 | 102 | 9.517 | 72 | 133 | 13.660 | 40 | 141 |
| MP033#6R8-B-- | 6.8 | 180 | 2.2 | 213 | 117 | 7.694 | 250 | 100 | 11.130 | 66 | 128 | 16.930 | 35 | 135 |

"#"-can be either "J" or "K" temperature coefficient



0603 Typical Electrical Tables

| Part Number | Capacitance (pF) | ESR Max. mOhm | SRF GHz | Q Standard Value @ 1GHz | | Frequency 900MHz | | | Frequency 1900MHz | | | Frequency 2400MHz | | |
|---------------------------------------------|------------------|---------------|---------|-------------------------|------|------------------|--------|-----------------|-------------------|--------|-----------------|-------------------|--------|-----------------|
| | | | | Typ. | Min. | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) | Ceff (pF) | Q Typ. | ESR Typ. (mOhm) |
| | | | | | | | | | | | | | | |
| MP033#7R5-B-- | 7.5 | 175 | 2.1 | 195 | 107 | 8.367 | 227 | 98 | 12.630 | 57 | 125 | 20.910 | 28 | 132 |
| MP033#8R2-B-- | 8.2 | 170 | 2.0 | 176 | 97 | 9.041 | 205 | 96 | 14.140 | 49 | 123 | 24.880 | 21 | 129 |
| MP033#9R1-B-- | 9.1 | 165 | 1.9 | 161 | 89 | 10.20 | 188 | 96 | 18.09 | 42 | 122 | 40.00 | 16 | 128 |
| MP033#100-B-- | 10 | 160 | 1.8 | 146 | 80 | 11.37 | 171 | 95 | 22.05 | 36 | 121 | 70.00 | 12 | 127 |
| MP033#110-B-- | 11 | 155 | 1.7 | 129 | 71 | 12.66 | 153 | 95 | 26.44 | 29 | 120 | 140.0 | 6 | 126 |
| MP033#120-B-- | 12 | 155 | 1.6 | 112 | 62 | 13.95 | 134 | 94 | 30.83 | 22 | 119 | 231.3 | 1 | 125 |
| MP033#130-B-- | 13 | 150 | 1.6 | 102 | 56 | 15.31 | 122 | 93 | 40.37 | 18 | 118 | N/A | N/A | N/A |
| MP033#140-B-- | 14 | 150 | 1.5 | 92 | 51 | 16.67 | 111 | 92 | 49.91 | 15 | 118 | N/A | N/A | N/A |
| MP033#150-B-- | 15 | 145 | 1.5 | 82 | 45 | 18.03 | 99 | 90 | 59.44 | 11 | 117 | N/A | N/A | N/A |
| MP033#160-B-- | 16 | 145 | 1.4 | 79 | 43 | 19.61 | 96 | 90 | 80.00 | 8 | 117 | N/A | N/A | N/A |
| MP033#170-B-- | 17 | 140 | 1.4 | 76 | 42 | 21.18 | 92 | 90 | 120.0 | 6 | 116 | N/A | N/A | N/A |
| MP033#180-B-- | 18 | 140 | 1.3 | 73 | 40 | 22.76 | 89 | 90 | 190.0 | 4 | 116 | N/A | N/A | N/A |
| MP033#190-B-- | 19 | 140 | 1.3 | 69 | 38 | 24.37 | 84 | 89 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP033#200-B-- | 20 | 135 | 1.2 | 65 | 36 | 25.98 | 80 | 89 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP033#220-B-- | 22 | 135 | 1.2 | 57 | 31 | 29.21 | 72 | 87 | N/A | N/A | N/A | N/A | N/A | N/A |
| MP033#240-B-- | 24 | 135 | 1.2 | 48 | 26 | 34.44 | 62 | 87 | N/A | N/A | N/A | N/A | N/A | N/A |
| U_R = 50V (Voltage code 5) | | | | | | | | | | | | | | |
| MP035#R05-B-- | 0.05 | N/A | 25.6 | 1200 | 660 | 0.06 | 1333 | 945 | 0.06 | 556 | 832 | 0.06 | 397 | 880 |
| MP035#R15-B-- | 0.15 | 4800 | 14.8 | 1111 | 611 | 0.16 | 1235 | 555 | 0.16 | 514 | 533 | 0.16 | 367 | 567 |
| MP035#R25-B-- | 0.25 | 2700 | 11.4 | 1022 | 562 | 0.26 | 1136 | 433 | 0.27 | 473 | 433 | 0.27 | 338 | 462 |
| MP035#R35-B-- | 0.35 | 1650 | 9.7 | 933 | 513 | 0.36 | 1037 | 368 | 0.37 | 432 | 378 | 0.37 | 309 | 404 |
| MP035#R45-B-- | 0.45 | 1400 | 8.5 | 844 | 464 | 0.46 | 938 | 326 | 0.47 | 391 | 341 | 0.48 | 279 | 365 |
| MP035#R55-B-- | 0.55 | 1200 | 7.7 | 788 | 434 | 0.57 | 875 | 296 | 0.57 | 363 | 315 | 0.58 | 261 | 337 |
| MP035#R65-B-- | 0.65 | 1025 | 7.1 | 765 | 421 | 0.67 | 846 | 273 | 0.67 | 348 | 294 | 0.68 | 255 | 315 |
| MP035#R75-B-- | 0.75 | 900 | 6.6 | 742 | 408 | 0.77 | 817 | 254 | 0.78 | 334 | 277 | 0.79 | 248 | 298 |
| MP035#R85-B-- | 0.85 | 750 | 6.2 | 719 | 395 | 0.87 | 789 | 239 | 0.88 | 319 | 264 | 0.89 | 242 | 283 |
| MP035#R95-B-- | 0.95 | 650 | 5.9 | 696 | 383 | 0.97 | 760 | 227 | 0.98 | 304 | 252 | 1.00 | 235 | 271 |
| MP035#R1R0-B-- | 1 | 600 | 5.7 | 684 | 376 | 1.019 | 746 | 216 | 1.061 | 297 | 242 | 1.101 | 232 | 260 |
| Contact Factory | 1.05 | 575 | 5.6 | 667 | 367 | 1.076 | 731 | 213 | 1.126 | 290 | 239 | 1.171 | 226 | 256 |
| MP035#R1R1-B-- | 1.1 | 550 | 5.4 | 649 | 357 | 1.134 | 717 | 210 | 1.190 | 282 | 236 | 1.241 | 220 | 253 |
| U_R = 50V (Voltage code 5) | | | | | | | | | | | | | | |
| MP031#R05-B-- | 0.05 | N/A | 25.6 | 1200 | 660 | 0.06 | 1333 | 945 | 0.06 | 556 | 832 | 0.06 | 397 | 880 |
| MP031#R15-B-- | 0.15 | 4800 | 14.8 | 1111 | 611 | 0.16 | 1235 | 555 | 0.16 | 514 | 533 | 0.16 | 367 | 567 |
| MP031#R25-B-- | 0.25 | 2700 | 11.4 | 1022 | 562 | 0.26 | 1136 | 433 | 0.27 | 473 | 433 | 0.27 | 338 | 462 |
| MP031#R35-B-- | 0.35 | 1650 | 9.7 | 933 | 513 | 0.36 | 1037 | 368 | 0.37 | 432 | 378 | 0.37 | 309 | 404 |
| MP031#R45-B-- | 0.45 | 1400 | 8.5 | 844 | 464 | 0.46 | 938 | 326 | 0.47 | 391 | 341 | 0.48 | 279 | 365 |
| MP031#R55-B-- | 0.55 | 1200 | 7.7 | 788 | 434 | 0.57 | 875 | 296 | 0.57 | 363 | 315 | 0.58 | 261 | 337 |
| MP031#R65-B-- | 0.65 | 1025 | 7.1 | 765 | 421 | 0.67 | 846 | 273 | 0.67 | 348 | 294 | 0.68 | 255 | 315 |
| MP031#R75-B-- | 0.75 | 900 | 6.6 | 742 | 408 | 0.77 | 817 | 254 | 0.78 | 334 | 277 | 0.79 | 248 | 298 |
| MP031#R85-B-- | 0.85 | 750 | 6.2 | 719 | 395 | 0.87 | 789 | 239 | 0.88 | 319 | 264 | 0.89 | 242 | 283 |
| MP031#R95-B-- | 0.95 | 650 | 5.9 | 696 | 383 | 0.97 | 760 | 227 | 0.98 | 304 | 252 | 1.00 | 235 | 271 |

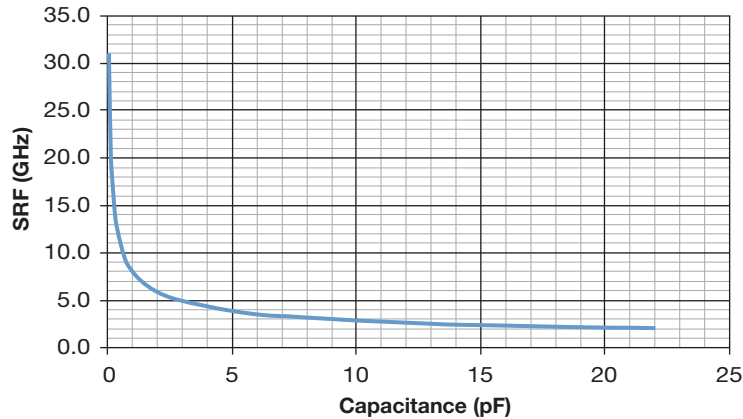
“#”=can be either “J” or “K” temperature coefficient

Accu-P[®] MP Medical Grade

High Frequency Characteristics

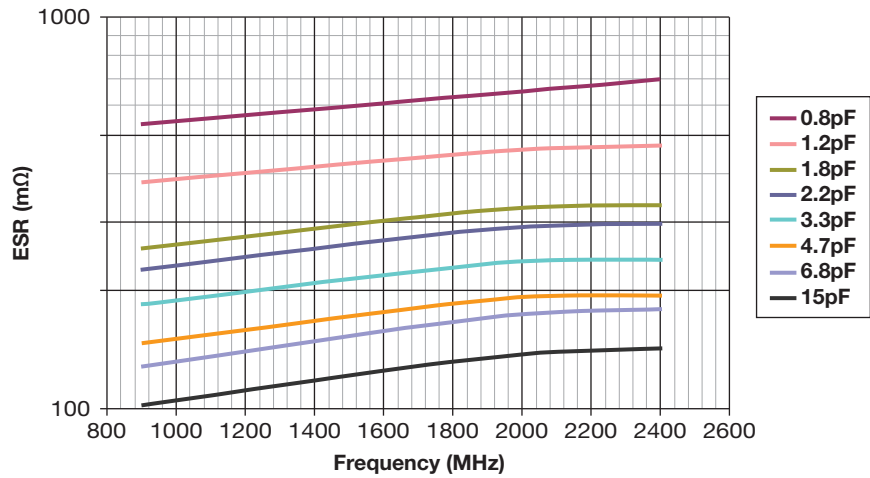


Accu-P[®] 0201 Typical SRF vs Capacitance



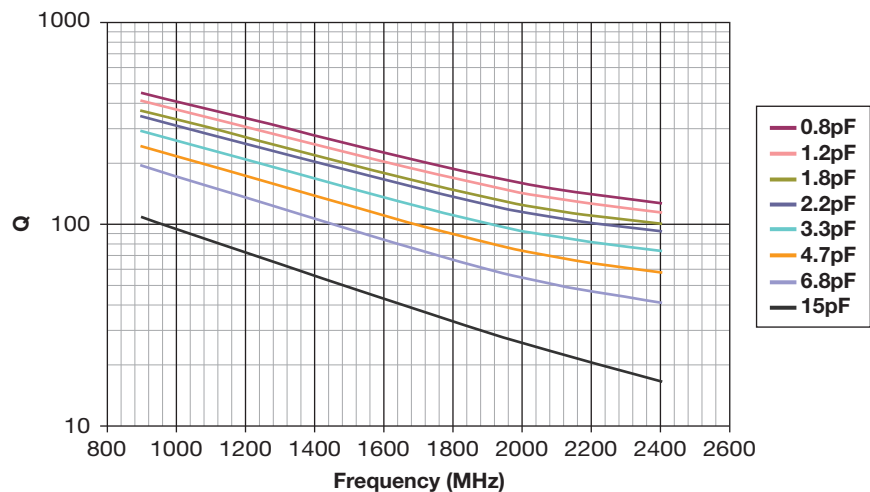
Measured on HP8720ES

Accu-P[®] 0201 Typical ESR vs Frequency



Measured on Agilent 4278A/4991A

Accu-P[®] 0201 Typical Q vs Frequency



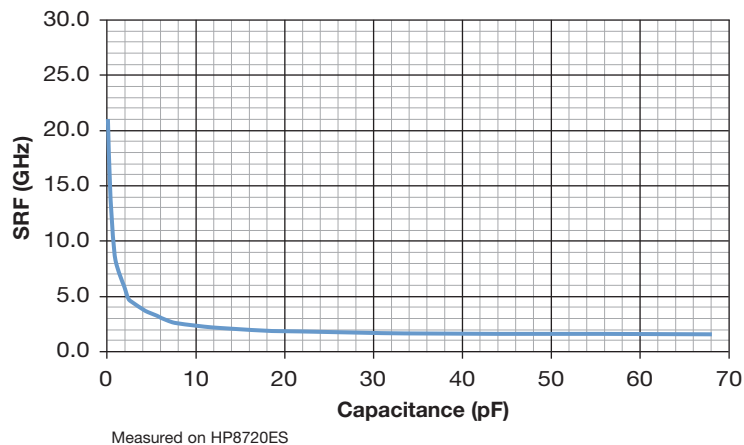
Measured on Agilent 4278A/4991A

Accu-P[®] MP Medical Grade

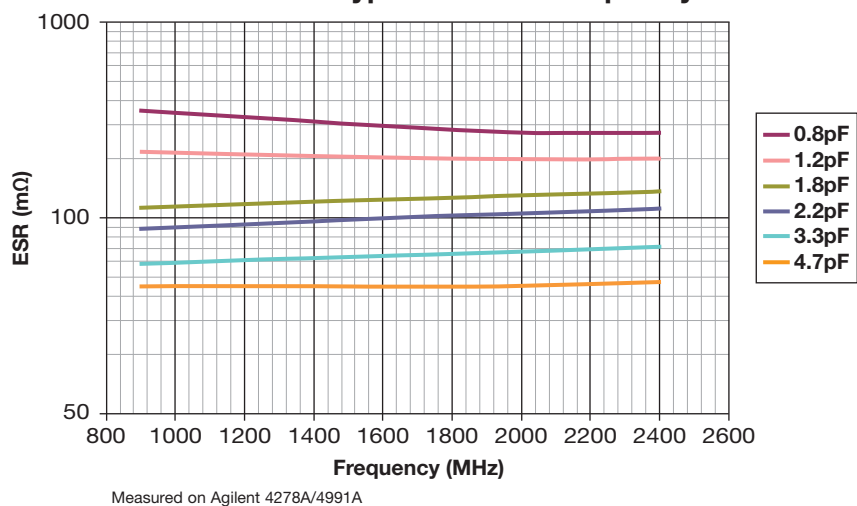
High Frequency Characteristics



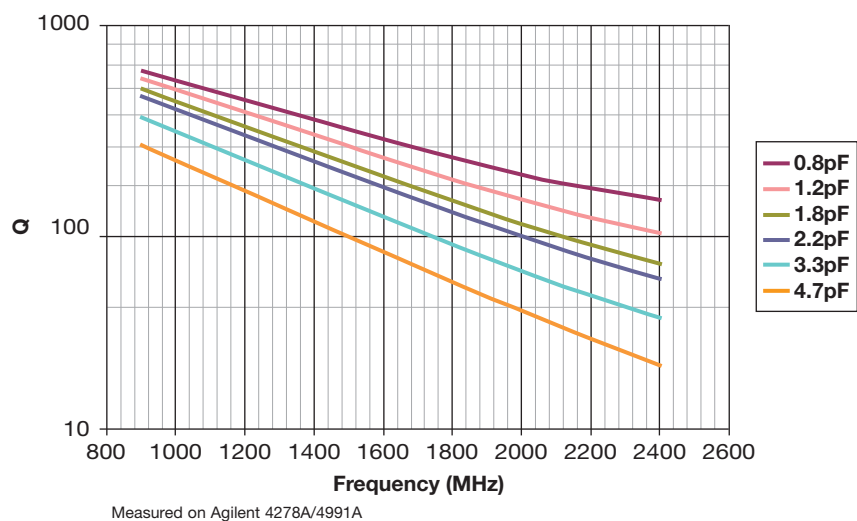
Accu-P[®] 0402 Typical SRF vs Capacitance



Accu-P[®] 0402 Typical ESR vs Frequency



Accu-P[®] 0402 Typical Q vs Frequency

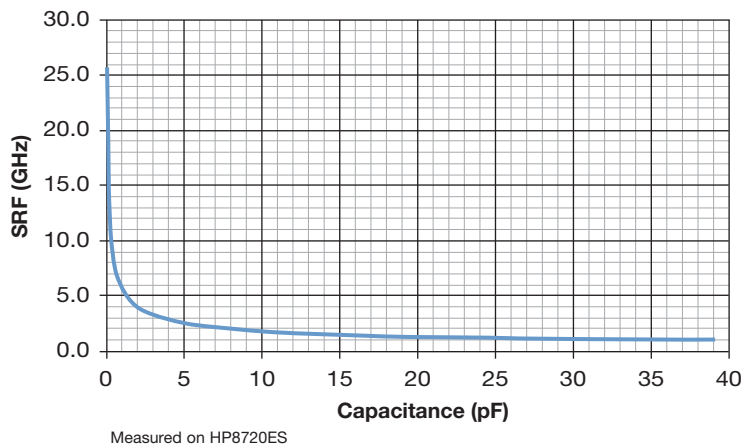


Accu-P[®] MP Medical Grade

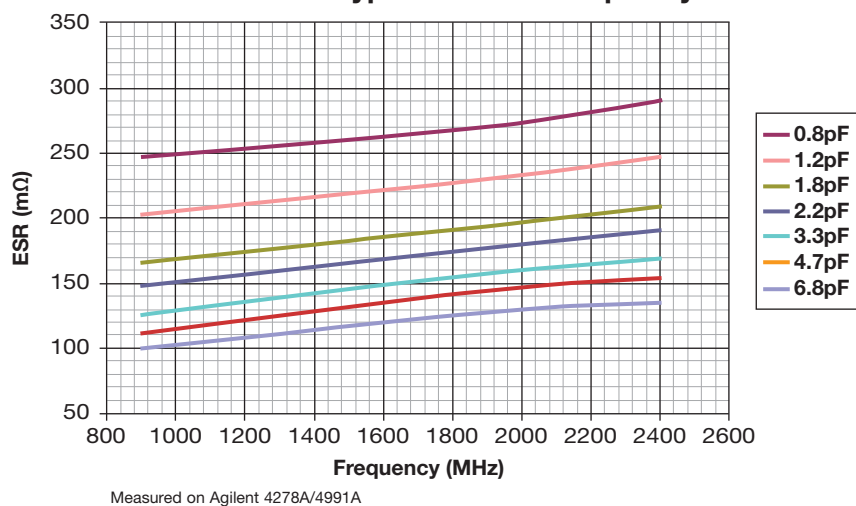
High Frequency Characteristics



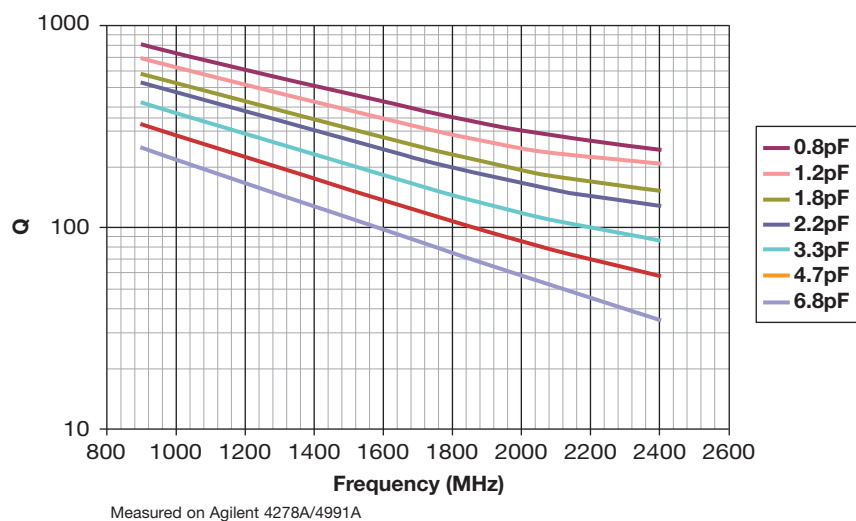
Accu-P[®] 0603 Typical SRF vs Capacitance



Accu-P[®] 0603 Typical ESR vs Frequency



Accu-P[®] 0603 Typical Q vs Frequency



Accu-P[®] MP Medical Grade

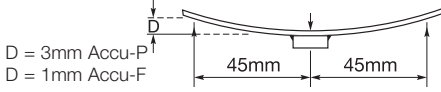
Environmental / Mechanical Characteristics



ENVIRONMENTAL CHARACTERISTICS

| TEST | CONDITIONS | REQUIREMENT |
|--------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Life (Endurance) MIL-STD-202F Method 108A | 125°C, 2U _R , 1000 hours | No visible damage $\Delta C/C \leq 2\%$ for $C \geq 5\text{pF}$ $\Delta C \leq 0.25\text{pF}$ for $C < 5\text{pF}$ |
| Accelerated Damp Heat Steady State MIL-STD-202F Method 103B | 85°C, 85% RH, U _R , 1000 hours | No visible damage $\Delta C/C \leq 2\%$ for $C \geq 5\text{pF}$ $\Delta C \leq 0.25\text{pF}$ for $C < 5\text{pF}$ |
| Temperature Cycling MIL-STD-202F Method 107E MIL-STD-883D Method 1010.7 | -55°C to +125°C, 15 cycles – Accu-P [®] | No visible damage $\Delta C/C \leq 2\%$ for $C \geq 5\text{pF}$ $\Delta C \leq 0.25\text{pF}$ for $C < 5\text{pF}$ |
| Resistance to Solder Heat IEC-68-2-58 | 260°C \pm 5°C for 10 secs | C remains within initial limits |

MECHANICAL CHARACTERISTICS

| TEST | CONDITIONS | REQUIREMENT |
|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Solderability IEC-68-2-58 | Components completely immersed in a solder bath at 235°C for 2 secs. | Terminations to be well tinned, minimum 95% coverage |
| Leach Resistance IEC-68-2-58 | Components completely immersed in a solder bath at 260 \pm 5°C for 60 secs. | Dissolution of termination faces $\leq 15\%$ of area Dissolution of termination edges $\leq 25\%$ of length |
| Adhesion MIL-STD-202F Method 211A | A force of 5N applied for 10 secs. | No visible damage |
| Termination Bond Strength IEC-68-2-21 Amend. 2 | Tested as shown in diagram  D = 3mm Accu-P D = 1mm Accu-F | No visible damage $\Delta C/C \leq 2\%$ for $C \geq 5\text{pF}$ $\Delta C \leq 0.25\text{pF}$ for $C < 5\text{pF}$ |
| Robustness of Termination IEC-68-2-21 Amend. 2 | A force of 5N applied for 10 secs. | No visible damage |
| High Frequency Vibration MIL-STD-202F Method 201A, 204D (Accu-P [®] only) | 55Hz to 2000Hz, 20G | No visible damage |
| Storage | 12 months minimum with components stored in “as received” packaging | Good solderability |

QUALITY & RELIABILITY

Accu-P[®] is based on well established thin-film technology and materials.

• ON-LINE PROCESS CONTROL

This program forms an integral part of the production cycle and acts as a feedback system to regulate and control production processes. The test procedures, which are integrated into the production process, were developed after long research work and are based on the highly developed semiconductor industry test procedures and equipment. These measures help AVX to produce a consistent and high yield line of products.

• FINAL QUALITY INSPECTION

Finished parts are tested for standard electrical parameters and visual/mechanical characteristics. Each production lot is 100% evaluated for: capacitance and proof voltage at 2.5 U_R. In addition, production is periodically evaluated for:

Average capacitance with histogram printout for capacitance distribution;
IR and Breakdown Voltage distribution;
Temperature Coefficient;
Solderability;
Dimensional, mechanical and temperature stability.

QUALITY ASSURANCE

The reliability of these thin-film chip capacitors has been studied intensively for several years. Various measures have been taken to obtain the high reliability required today by the industry. Quality assurance policy is based on well established international industry standards. The reliability of the capacitors is determined by accelerated testing under the following conditions:

| | |
|------------------------------------|--------------------------------------------|
| Life (Endurance) | 125°C, 2U _R , 1000 hours |
| Accelerated Damp Heat Steady State | 85°C, 85% RH, U _R , 1000 hours. |

Performance Characteristics RF Power Applications

RF POWER APPLICATIONS

In RF power applications capacitor losses generate heat. Two factors of particular importance to designers are:

- Minimizing the generation of heat.
- Dissipating heat as efficiently as possible.

CAPACITOR HEATING

- The major source of heat generation in a capacitor in RF power applications is a function of RF current (I) and ESR, from the relationship:

$$\text{Power dissipation} = I_{\text{RMS}}^2 \times \text{ESR}$$

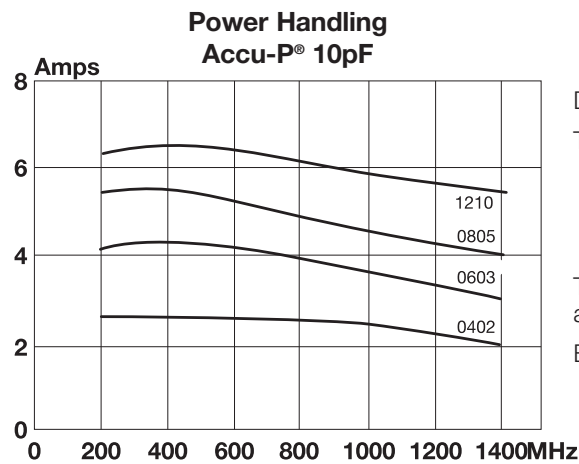
- Accu-P® capacitors are specially designed to minimize

ESR and therefore RF heating. Values of ESR for Accu-P® capacitors are significantly less than those of ceramic MLC components currently available.

HEAT DISSIPATION

- Heat is dissipated from a capacitor through a variety of paths, but the key factor in the removal of heat is the thermal conductivity of the capacitor material.
- The higher the thermal conductivity of the capacitor, the more rapidly heat will be dissipated.
- The table below illustrates the importance of thermal conductivity to the performance of Accu-P® in power applications.

| PRODUCT | MATERIAL | THERMAL CONDUCTIVITY W/mK |
|--------------------------|-------------------------------|---------------------------|
| Accu-P® Microwave MLC | Alumina Magnesium Titanate | 18.9 6.0 |



Data used in calculating the graph:

Thermal impedance of capacitors:

| | |
|------|---------|
| 0402 | 17°C/W |
| 0603 | 12°C/W |
| 0805 | 6.5°C/W |
| 1210 | 5°C/W |

Thermal impedance measured using RF generator, amplifier and strip-line transformer.

ESR of capacitors measured on Boonton 34A

THERMAL IMPEDANCE

Thermal impedance of Accu-P® chips is shown below compared with the thermal impedance of Microwave MLC's.

| CAPACITOR TYPE | CHIP SIZE | THERMAL IMPEDANCE (°C/W) |
|----------------|-----------|--------------------------|
| Accu-P® | 0805 | 6.5 |
| | 1210 | 5 |
| Microwave MLC | 0505 | 12 |
| | 1210 | 7.5 |

The thermal impedance expresses the temperature difference in °C between chip center and termination caused by a power dissipation of 1 watt in the chip. It is expressed in °C/W.

ADVANTAGES OF ACCU-P® IN RF POWER CIRCUITS

The optimized design of Accu-P® offers the designer of RF power circuits the following advantages:

- Reduced power losses due to the inherently low ESR of Accu-P®.
- Increased power dissipation due to the high thermal conductivity of Accu-P®.

• THE ONLY TRUE TEST OF A CAPACITOR IN ANY PARTICULAR APPLICATION IS ITS PERFORMANCE UNDER OPERATING CONDITIONS IN THE ACTUAL CIRCUIT.

PRACTICAL APPLICATION IN RF POWER CIRCUITS

- There is a wide variety of different experimental methods for measuring the power handling performance of a capacitor in RF power circuits. Each method has its own problems and few of them exactly reproduce the conditions present in "real" circuit applications.
- Similarly, there is a very wide range of different circuit applications, all with their unique characteristics and operating conditions which cannot possibly be covered by such "theoretical" testing.

Application Notes

GENERAL

Accu-P[®] SMD capacitors are designed for soldering to printed circuit boards or other substrates. The construction of the components is such that they will withstand the time/temperature profiles used in both wave and reflow soldering methods.

CIRCUIT BOARD TYPE

The circuit board types which may be used with Accu-P[®] are as follows:

All flexible types of circuit boards (eg. FR-4, G-10) and also alumina.

For other circuit board materials, please consult factory.

HANDLING

SMD capacitors should be handled with care to avoid damage or contamination from perspiration and skin oils. The use of plastic tipped tweezers or vacuum pick-ups is strongly recommended for individual components. Bulk handling should ensure that abrasion and mechanical shock are minimized. For automatic equipment, taped and reeled product gives the ideal medium for direct presentation to the placement machine.

COMPONENT PAD DESIGN

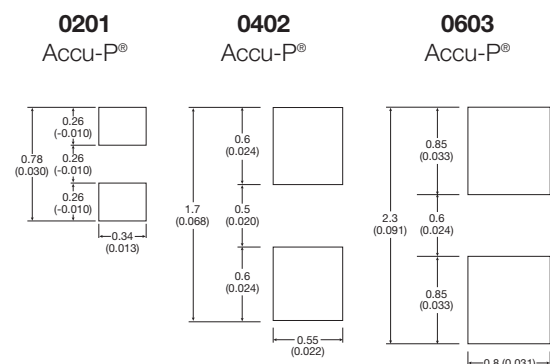
Component pads must be designed to achieve good joints and minimize component movement during reflow soldering. Pad designs are given below for both wave and reflow soldering.

The basis of these designs is:

- Pad width equal to component width. It is permissible to decrease this to as low as 85% of component width but it is not advisable to go below this.
- Pad overlap 0.5mm beneath large components. Pad overlap about 0.3mm beneath small components.
- Pad extension of 0.5mm for reflow of large components and pad extension about 0.3mm for reflow of small components. Pad extension about 1.0mm for wave soldering.

REFLOW SOLDERING

PAD DIMENSIONS: millimeters (inches)



Application Notes

PREHEAT & SOLDERING

The rate of preheat in production should not exceed 4°C/second and a recommended maximum is about 2°C/second. Temperature differential from preheat to soldering should not exceed 100°C.

For further specific application or process advice, please consult AVX.

COOLING

After soldering, the assembly should preferably be allowed to cool naturally. In the event of assisted cooling, similar conditions to those recommended for preheating should be used.

HAND SOLDERING & REWORK

Hand soldering is permissible. Preheat of the PCB to 150°C is required. The most preferable technique is to use hot air soldering tools. Where a soldering iron is used, a temperature controlled model not exceeding 30 watts should be used and set to not more than 260°C.

CLEANING RECOMMENDATIONS

Care should be taken to ensure that the devices are thoroughly cleaned of flux residues, especially the space beneath the device. Such residues may otherwise become conductive and effectively offer a lossy bypass to the device. Various recommended cleaning conditions (which must be optimized for the flux system being used) are as follows:

Cleaning liquids. i-propanol, ethanol, acetylacetone, water and other standard PCB cleaning liquids.

Ultrasonic conditions . . power-20w/liter max.
frequency-20kHz to 45kHz.

Temperature 80°C maximum (if not otherwise limited by chosen solvent system).

Time 5 minutes max.

STORAGE CONDITIONS

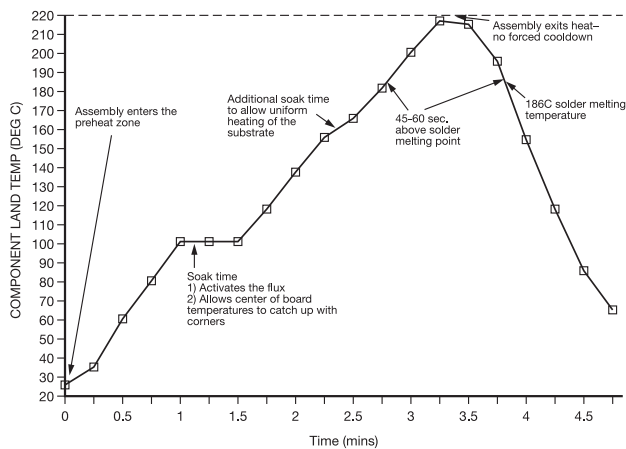
Recommended storage conditions for Accu-P[®] prior to use are as follows:

Temperature 15°C to 35°C

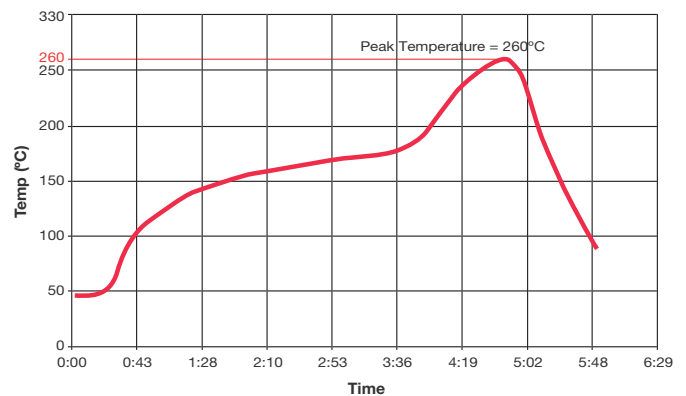
Humidity ≤65%

Air Pressure 860mbar to 1060mbar

RECOMMENDED REFLOW SOLDERING PROFILE COMPONENTS WITH SnPb TERMINATIONS



RECOMMENDED REFLOW SOLDERING PROFILE LEAD FREE COMPONENTS WITH Sn100 TERMINATIONS



Automatic Insertion Packaging

TAPE & REEL

All tape and reel specifications are in compliance with EIA 481-1-A.
(equivalent to IEC 286 part 3).

- 8mm carrier
- Reeled quantities: Reels of 3,000 per 7" reel or 10,000 pieces per 13" reel
01005, 0201 and 0402 = 5,000 pieces per 7" reel and 20,000 pieces per 13" reel

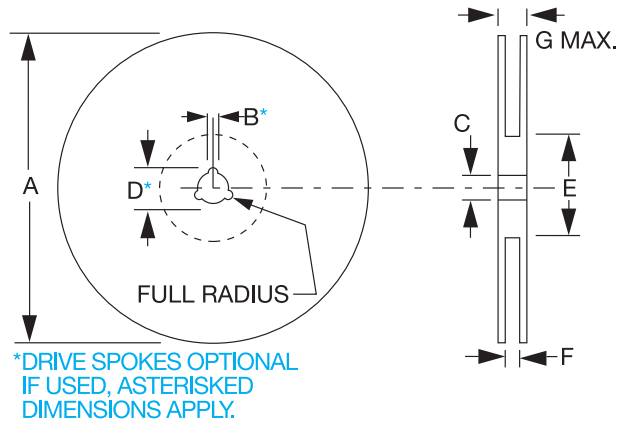
REEL

DIMENSIONS: millimeters (inches)

| A ⁽¹⁾ | B | C | D | E | F | G |
|--------------------------|--------------------------|---------------------------|---------------------------|-------------------------|----------------------------|---------------------------|
| 180±1.0 (7.087±0.039) | 1.5 min. (0.059 min.) | 13±0.2 (0.512 ± 0.008) | 20.2 min. (0.795 min.) | 50 min. (1.969 min.) | 9.6±1.5 (0.370 ± 0.050) | 14.4 max. (0.567 max.) |

Metric dimensions will govern.
Inch measurements rounded and for reference only.

(1) 330mm (13 inch) reels are available.

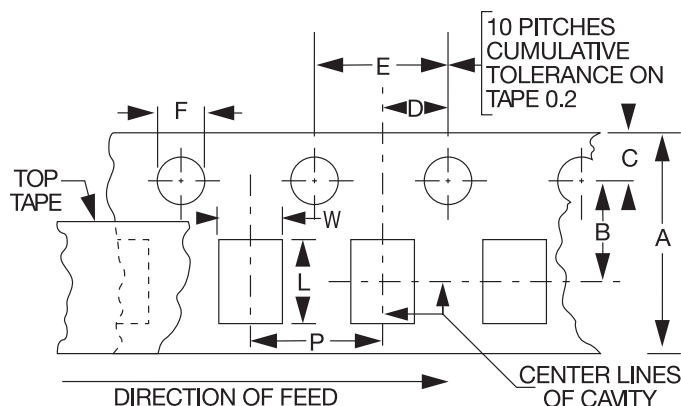


CARRIER

DIMENSIONS: millimeters (inches)

| A | B | C | D | E | F |
|------------------------------|-------------------------------|-----------------------------|-------------------------------|------------------------------|-------------------------------------------------------------------------------------|
| 8.0 ± 0.3 (0.315 ± 0.012) | 3.5 ± 0.05 (0.138 ± 0.002) | 1.75±0.1 (0.069 ± 0.004) | 2.0 ± 0.05 (0.079 ± 0.002) | 4.0 ± 0.1 (0.157 ± 0.004) | 1.5 ^{+0.1} _{-0.0} (0.059 ^{+0.004} _{-0.000}) |

The nominal dimensions of the component compartment (W,L) are derived from the component size.



P = 4mm for 0603, 0805, 1210
P = 2mm for C005, 0201 and 0402

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Mouser Electronics

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