

FEATURES

- STACKED METALLIZED POLYETHYLENE NAPHTHALATE (PEN) FILM
- STANDARD EIA 1206, 1210, 1913, 2416, 2820, 3022 AND 3925 SIZES
- WIDE TEMPERATURE RANGE UP TO +125°C*
- HIGH HEAT AND MOISTURE RESISTANT
- VERY STABLE TEMPERATURE, FREQUENCY AND VOLTAGE BIAS CHARACTERISTICS
- REFLOW SOLDERING ONLY
- TAPE AND REEL PACKAGING

**NSWC IS
RECOMMENDED
FOR NEW DESIGNS**



**RoHS
Compliant**

includes all homogeneous materials

*See Part Number System for Details

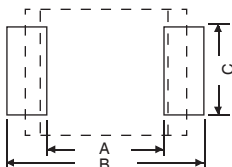
| SPECIFICATIONS | Case Sizes | | | | | | |
|---------------------------------|---|-----------------|-----------------|--------------|---------------|---------------|--------------|
| | 1206 | 1210 | 1913 | 2416 | 2820 | 3022 | 3925 |
| Capacitance Range | 0.001 ~ 0.0047μF | 0.0056 ~ 0.01μF | 0.012 ~ 0.082μF | 0.1 ~ 0.15μF | 0.18 ~ 0.33μF | 0.39 ~ 0.47μF | 0.56 ~ 1.0μF |
| Voltage Ratings | 100Vdc | | | | | | |
| Capacitance Tolerance | 0.001 ~ 0.01μF 5% (J) only, 0.012 ~ 0.15μF 5% (J) or 10% (K), 0.18 ~ 1.0μF 10% (K) only | | | | | | |
| Temperature Range | -55°C ~ +105°C (0.001μF ~ 0.01μF) -55°C ~ +125°C (0.012μF ~ 1.0μF with derating above +85°C) | | | | | | |
| Dissipation factor (20°C) | 1.0% max. @ 1KHz | | | | | | |
| Insulation resistance (20°C) | 3 Gigohms or 1000Ω/F whichever is lower | | | | | | |
| Dielectric Withstanding Voltage | 150% of Rated Voltage 60 Seconds | | | | | | |

ENVIRONMENTAL CHARACTERISTICS

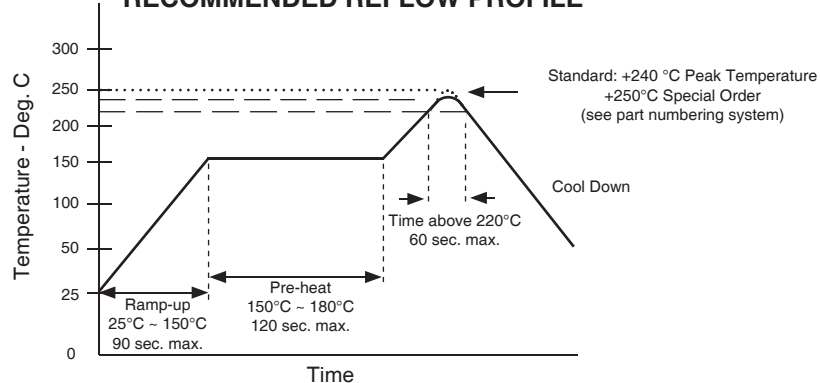
| | | | |
|--|---|--|---------------------------|
| Life Test At +105°C 1,000 Hours at 125% of Rated Voltage (125°C for 0.012μF ~ 1.0μF) | Capacitance Change | Within +1%/-6% of Initial Value | |
| | Dissipation Factor | 1.1% Maximum | |
| | Insulation Resistance | 1 Gigohm Minimum or 300Ω/F whichever is lower | |
| Resistance to Soldering Heat: +240°C Peak | Capacitance Change | Within ±5% for 0.012 ~ 1.0μF or ±3% for 0.001 ~ 0.01μF of initial value | |
| | Dissipation Factor | 1.1% Max. for 0.012 ~ 1.0μF or 0.66% Max. for 0.001 ~ 0.01μF | |
| | Insulation Resistance | 1 Gigohm Minimum or 300Ω/F whichever is lower | |
| Humidity Load Life (90% ~ 95% RH) (1) 1,000 Hours, +40°C 500 Hours for 0.012μF ~ 1.0μF (2) 500 Hours, +60°C for 0.001 ~ 0.01μF | Capacitance Change | (1) +8%/-5% | (2) ±10% of Initial Value |
| | Dissipation Factor | (1) 1.5% Max. | (2) 2.0% Max. |
| | Insulation Resistance | (1) 100 Megohm Min. or 30Ω/F (2) 10 Megohm Min. or 3Ω/F whichever is lower | |
| Solderability with 25% Wt Rosin-Methanol Flux | 90% Minimum Coverage After 2.5 Second Dip Into 245°C Solder Pot | | |

RECOMMENDED LAND PATTERN (mm)

| EIA Size | A | B | C |
|----------|-----|------|-----|
| 1206 | 1.8 | 3.6 | 1.4 |
| 1210 | 1.8 | 3.6 | 2.3 |
| 1913 | 2.6 | 6.6 | 3.0 |
| 2416 | 3.8 | 7.8 | 3.8 |
| 2820 | 4.5 | 9.0 | 4.6 |
| 3022 | 5.1 | 9.7 | 5.0 |
| 3925 | 7.2 | 11.9 | 5.7 |



RECOMMENDED REFLOW PROFILE



PART NUMBER SYSTEM

NSWC 823 J 100 TR D4 N E

- RoHS Compliant
- Optional High Temp. Reflow (+250°C)*
- Size Code
- Tape & Reel
- Voltage
- Tolerance Code: J = ±5%
- Capacitance in pF, 1st two digits are significant, 3rd digit is no. of zeros
- Series

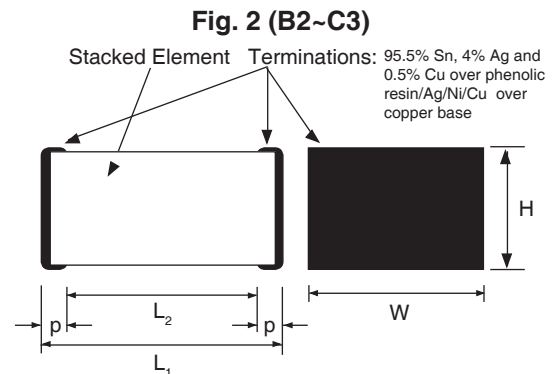
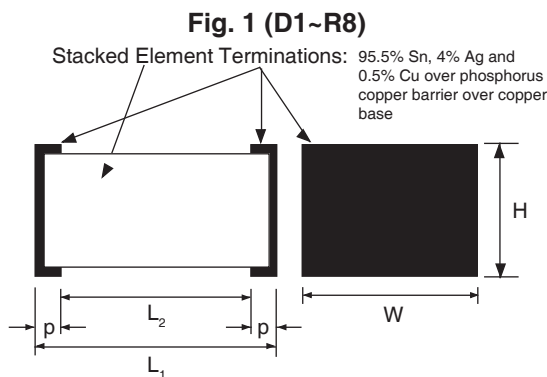
*Special packaging and handling required.



100V STANDARD PRODUCTS AND CASE SIZES

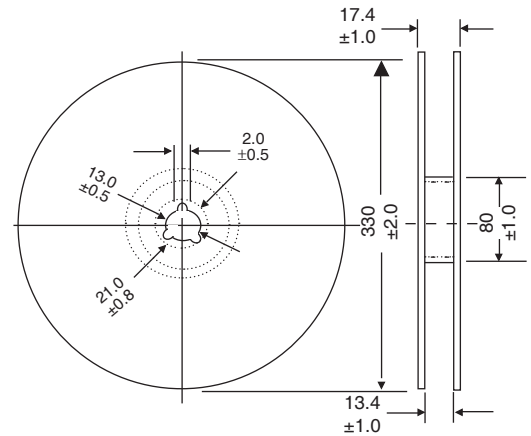
| Part Number | Cap. Value | Cap. Code | Size Code | Length L ±0.2 | Width W | Height H ±0.2 | p | EIA | | | |
|------------------|------------|-----------|-----------|---------------|-----------|---------------|------------------------|-----------|------|------------------------|------|
| NSWC102J100TRB2F | 0.001 | 102 | B2 | 3.2 ± 0.2 | 1.6 ± 0.2 | 1.1 ± 0.3 | 0.65 ± 0.3 (Fig. 1) | 1206 | | | |
| NSWC122J100TRB2F | 0.0012 | 122 | B2 | | | | | | | | |
| NSWC152J100TRB2F | 0.0015 | 152 | B2 | | | | | | | | |
| NSWC182J100TRB2F | 0.0018 | 182 | B2 | | | | | | | | |
| NSWC222J100TRB2F | 0.0022 | 222 | B2 | | | 1.5 ± 0.3 | | | | | |
| NSWC272J100TRB2F | 0.0027 | 272 | B2 | | | | | | | | |
| NSWC332J100TRB3F | 0.0033 | 332 | B3 | | | | | | | | |
| NSWC392J100TRB3F | 0.0039 | 392 | B3 | | | | | | | | |
| NSWC472J100TRB3F | 0.0047 | 472 | B3 | 3.2 ± 0.2 | 2.5 ± 0.2 | 1.5 | 1210 | | | | |
| NSWC562J100TRC2F | 0.0056 | 562 | C2 | | | | | | | | |
| NSWC682J100TRC2F | 0.0068 | 682 | C2 | | | | | | | | |
| NSWC822J100TRC3F | 0.0082 | 822 | C3 | | | 2.1 | | | | | |
| NSWC103J100TRC3F | 0.010 | 103 | C3 | | | | | | | | |
| NSWC123*100TRD1F | 0.012 | 123 | D1 | | | 4.8 ± 0.2 | | 3.3 ± 0.3 | 1.4 | 0.35 ± 0.2 (Fig. 2) | 1913 |
| NSWC153*100TRD1F | 0.015 | 153 | D1 | | | | | | | | |
| NSWC183*100TRD1F | 0.018 | 183 | D1 | | | | | | | | |
| NSWC223*100TRD1F | 0.022 | 223 | D1 | | | | | | | | |
| NSWC273*100TRD1F | 0.027 | 273 | D1 | 2.0 | | | | | | | |
| NSWC333*100TRD1F | 0.033 | 333 | D1 | | | | | | | | |
| NSWC393*100TRD1F | 0.039 | 393 | D1 | | | | | | | | |
| NSWC473*100TRD2F | 0.047 | 473 | D2 | | | | | | | | |
| NSWC563*100TRD2F | 0.056 | 563 | D2 | 2.4 | | | | | | | |
| NSWC683*100TRD3F | 0.068 | 683 | D3 | | | | | | | | |
| NSWC823*100TRD4F | 0.082 | 823 | D4 | 2.8 | | | | | | | |
| NSWC104*100TRE1F | 0.1 | 104 | E1 | | | | | | | | |
| NSWC124*100TRE3F | 0.12 | 124 | E3 | 6.0 ± 0.2 | 4.1 ± 0.3 | | 1.8 | | 2416 | | |
| NSWC154*100TRE4F | 0.15 | 154 | E4 | | | | | | | | |
| NSWC184K100TRG1F | 0.18 | 184 | G1 | | | | 2.0 | | | | |
| NSWC224K100TRG2F | 0.22 | 224 | G2 | | | | | | | | |
| NSWC274K100TRG3F | 0.27 | 274 | G3 | 7.1 ± 0.2 | 5.0 ± 0.4 | 2.4 | 2820 | | | | |
| NSWC334K100TRG5F | 0.33 | 334 | G5 | | | | | | | | |
| NSWC394K100TRQ1F | 0.39 | 394 | Q1 | 7.7 ± 0.2 | 5.5 ± 0.4 | 2.9 | | | | | |
| NSWC474K100TRQ2F | 0.47 | 474 | Q2 | | | | | | | | |
| NSWC564K100TRR1F | 0.56 | 564 | R1 | 9.8 ± 0.2 | 6.3 ± 0.4 | 3.4 | 3022 | | | | |
| NSWC684K100TRR3F | 0.68 | 684 | R3 | | | | | | | | |
| NSWC824K100TRR6F | 0.82 | 824 | R6 | | | 3.0 | | | | | |
| NSWC105K100TRR8F | 1.0 | 105 | R8 | | | | | | | | |
| | | | | | | 3.6 | | 4.3 | 5.1 | 3925 | |
| | | | | | | | | | | | |

*These values available in J (±5%) or K (±10%) tolerance.



TAPE DIMENSIONS (mm)

| Case Code | A±0.1 | B±0.1 | C±0.2 | t | W±0.3 | F | P±0.1 | D+0.2/-0 | Qty/Reel |
|-----------|-------|-------|-------|-----------------|-------|--------------|-------|----------|----------|
| B2 | 1.9 | 3.5 | 1.5 | 0.25 | 8.0 | 3.5 | 4.0 | 1.0 | 3,000 |
| B3 | | | 1.9 | | | | | | 2,000 |
| C2 | 1.9 | | 2,000 | | | | | | |
| C3 | 2.8 | | 2.5 | | | | | | 2,000 |
| D1 | 3.8 | 5.1 | 2.0 | 0.3 ±0.05 | 12.0 | 5.5 ±0.05 | 8.0 | 1.5 | 3,000 |
| D2 | | | 2.6 | | | | | | 3,000 |
| D3, D4 | | | 3.4 | | | | | | 2,000 |
| E1, E2 | 4.6 | 6.3 | 2.7 | | | | | | 3,000 |
| E3, E4 | | | 3.5 | 2,000 | | | | | |
| G1 ~ G5 | 5.5 | 7.4 | 4.7 | | | | | | 1,500 |
| Q1, Q2 | 6.91 | 8.43 | 5.685 | 0.343 ±0.013 | 16.0 | 7.5 ±0.1 | 12.0 | 1.5 | 1,000 |
| R1 ~ R8 | 8.94 | 10.54 | 5.795 | | | | | | 1,000 |



EMBOSSED PLASTIC CARRIER

