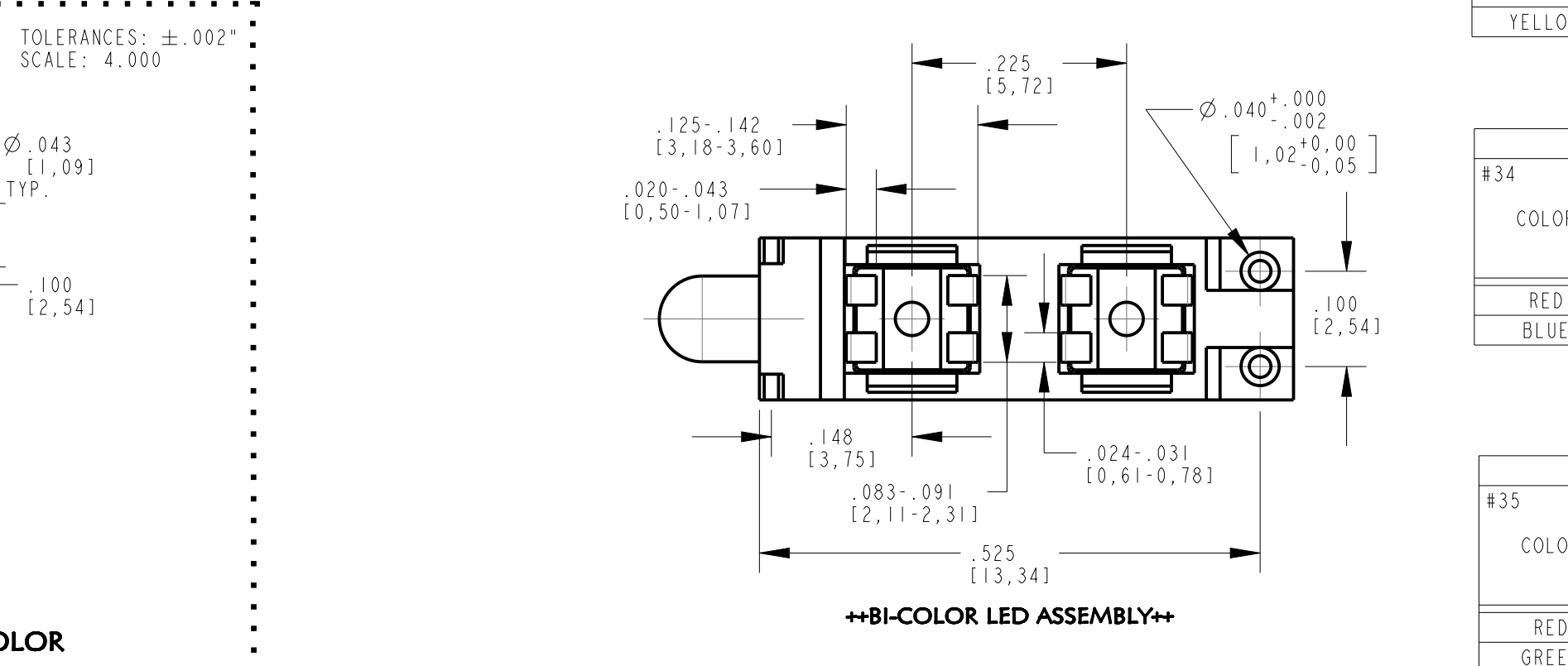
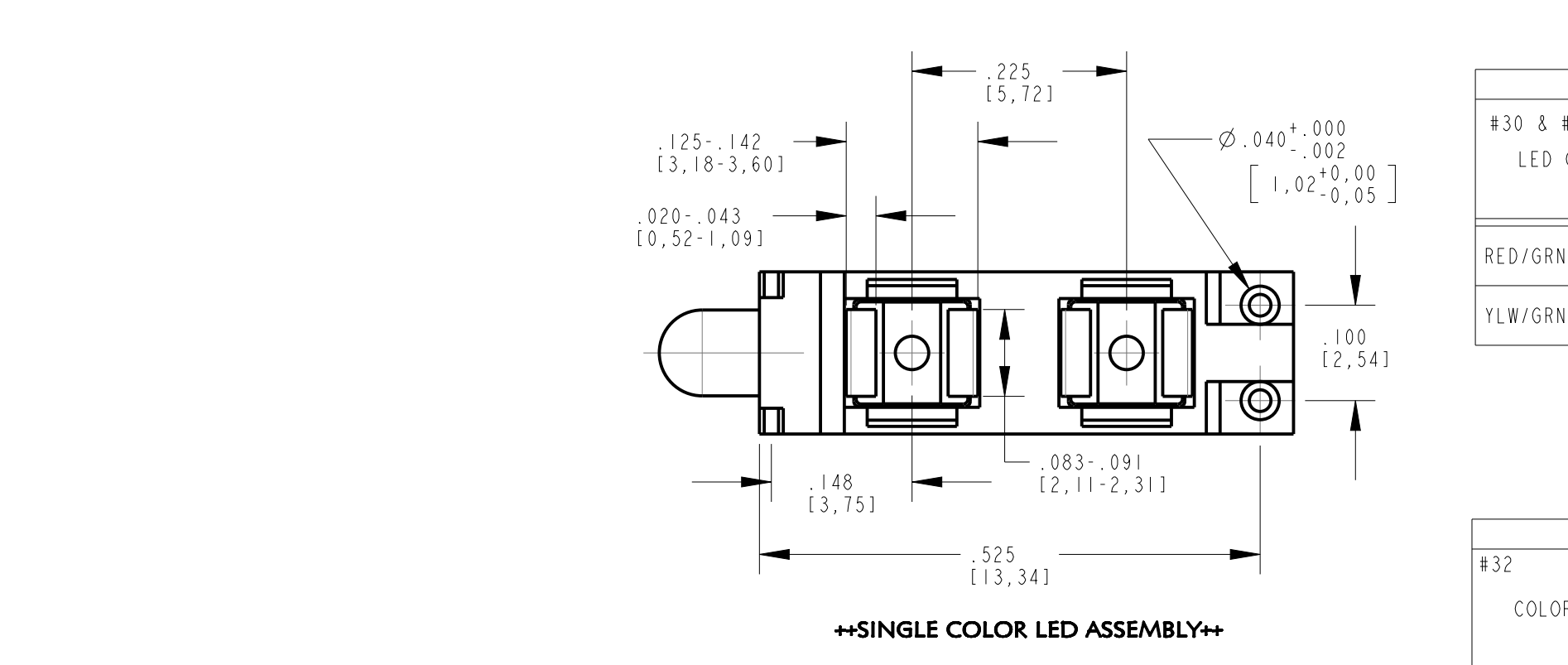
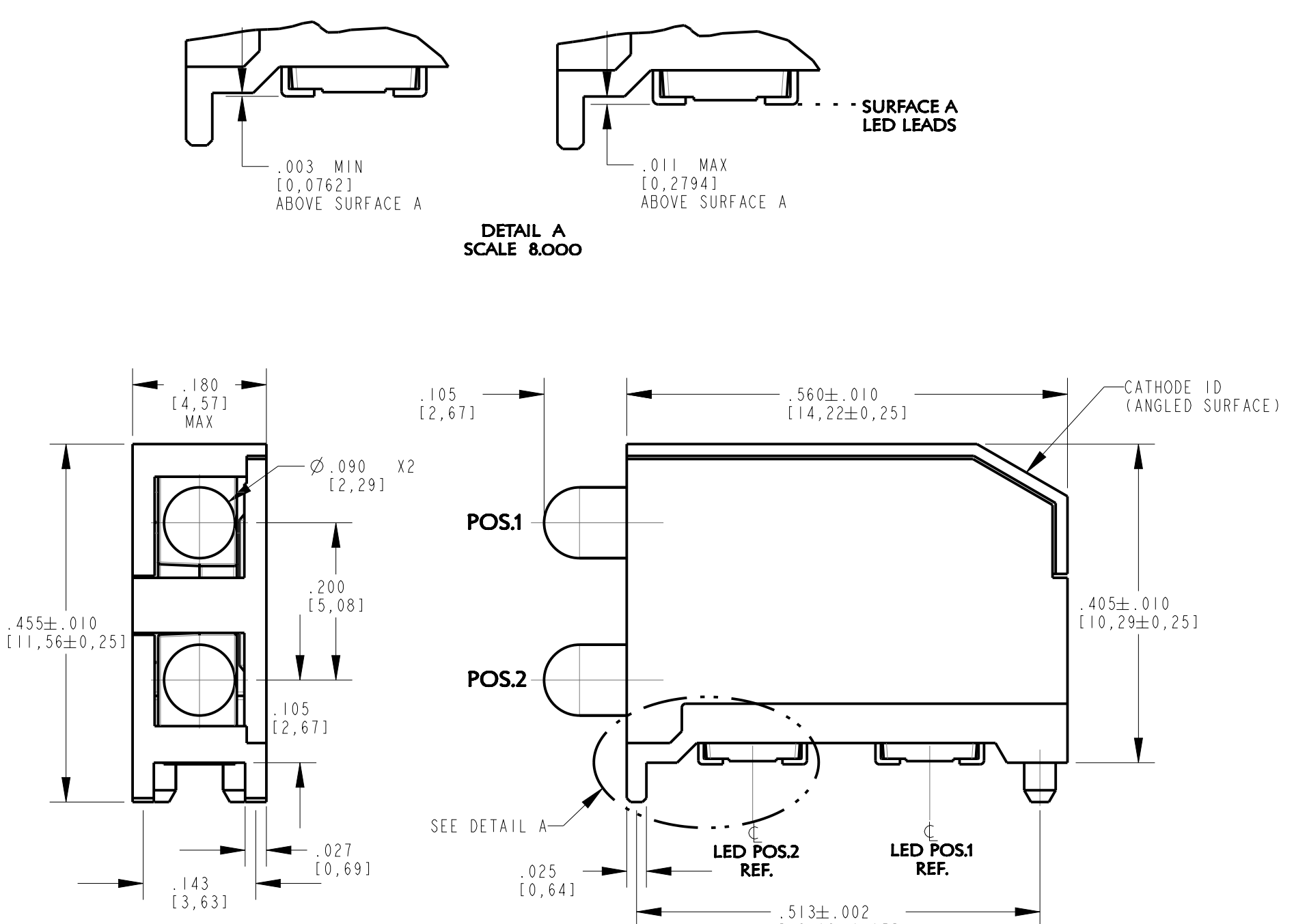


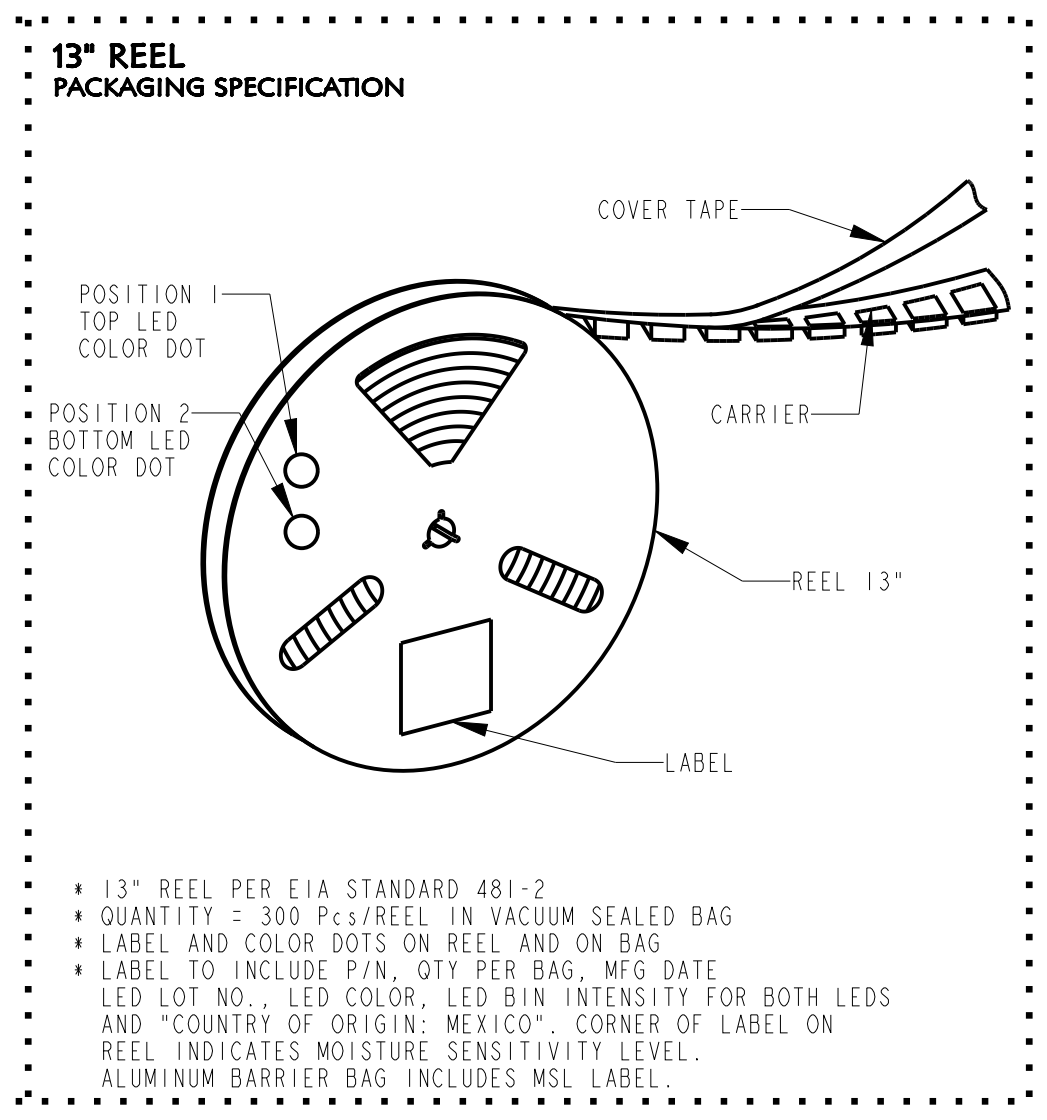
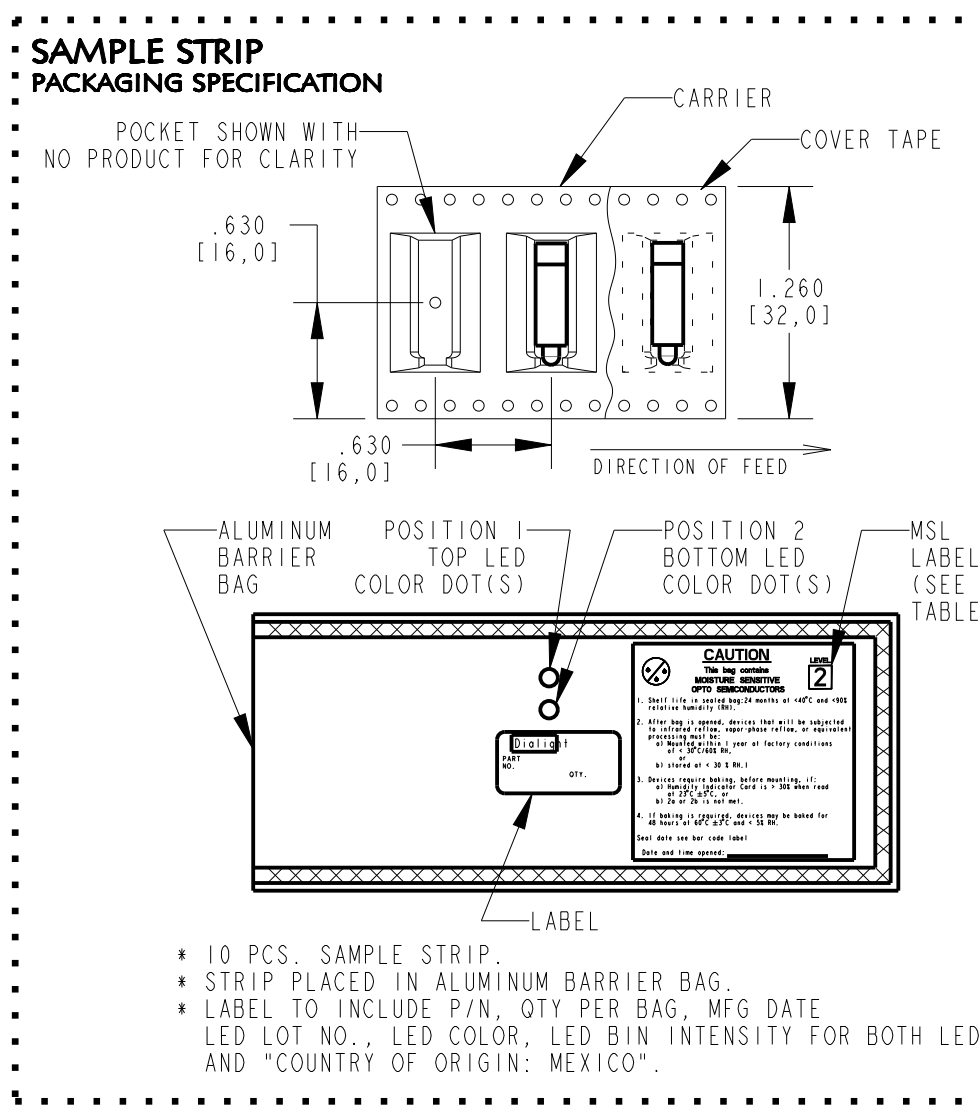
| DIALIGHT PART NUMBER | PACKAGING | POSITION 1 | POSITION 2 | MSL |
|----------------------|--------------|--------------------|------------------|-----|
| 592-2020-302F | SAMPLE STRIP | RED (HI.EFF) | RED (HI.EFF) | 2 |
| 592-2020-313F | 13" REEL | RED (HI.EFF) | RED (HI.EFF) | 2 |
| 592-2023-302F | SAMPLE STRIP | RED (HI.EFF) | GREEN | 2 |
| 592-2023-313F | 13" REEL | RED (HI.EFF) | GREEN | 2 |
| 592-2121-302F | SAMPLE STRIP | RED (AlGaAs) | RED (AlGaAs) | 2 |
| 592-2121-313F | 13" REEL | RED (AlGaAs) | RED (AlGaAs) | 2 |
| 592-2124-302F | SAMPLE STRIP | RED (AlGaAs) | YELLOW | 2 |
| 592-2124-313F | 13" REEL | RED (AlGaAs) | YELLOW | 2 |
| 592-2126-302F | SAMPLE STRIP | RED (AlGaAs) | BLUE (InGaN) | 2 |
| 592-2126-313F | 13" REEL | RED (AlGaAs) | BLUE (InGaN) | 2 |
| 592-2222-302F | SAMPLE STRIP | GREEN (HI.INT) | GREEN (HI.INT) | 2 |
| 592-2222-313F | 13" REEL | GREEN (HI.INT) | GREEN (HI.INT) | 2 |
| 592-2320-302F | SAMPLE STRIP | GREEN (HI.EFF) | RED (HI.EFF) | 2 |
| 592-2320-313F | 13" REEL | GREEN (HI.EFF) | RED (HI.EFF) | 2 |
| 592-2323-302F | SAMPLE STRIP | GREEN | GREEN | 2 |
| 592-2323-313F | 13" REEL | GREEN | GREEN | 2 |
| 592-2324-302F | SAMPLE STRIP | GREEN | YELLOW | 2 |
| 592-2324-313F | 13" REEL | GREEN | YELLOW | 2 |
| 592-2326-302F | SAMPLE STRIP | GREEN | BLUE (InGaN) | 2 |
| 592-2326-313F | 13" REEL | GREEN | BLUE (InGaN) | 2 |
| 592-2420-302F | SAMPLE STRIP | YELLOW | RED (HI.EFF) | 2 |
| 592-2420-313F | 13" REEL | YELLOW | RED (HI.EFF) | 2 |
| 592-2422-302F | SAMPLE STRIP | YELLOW | GREEN (HI.INT) | 2 |
| 592-2422-313F | 13" REEL | YELLOW | GREEN (HI.INT) | 2 |
| 592-2423-302F | SAMPLE STRIP | YELLOW | GREEN | 2 |
| 592-2423-313F | 13" REEL | YELLOW | GREEN | 2 |
| 592-2424-302F | SAMPLE STRIP | YELLOW | YELLOW | 2 |
| 592-2424-313F | 13" REEL | YELLOW | YELLOW | 2 |
| 592-2436-302F | SAMPLE STRIP | YELLOW | ORANGE/GREEN | 2 |
| 592-2436-313F | 13" REEL | YELLOW | ORANGE/GREEN | 2 |
| 592-2525-302F | SAMPLE STRIP | ORANGE | ORANGE | 2 |
| 592-2525-313F | 13" REEL | ORANGE | ORANGE | 2 |
| 592-2626-302F | SAMPLE STRIP | BLUE (InGaN) | BLUE (InGaN) | 2 |
| 592-2626-313F | 13" REEL | BLUE (InGaN) | BLUE (InGaN) | 2 |
| 592-2627-302F | SAMPLE STRIP | BLUE (InGaN) | YELLOW | 2 |
| 592-2627-313F | 13" REEL | BLUE (InGaN) | YELLOW | 2 |
| 592-2628-302F | SAMPLE STRIP | BLUE (InGaN) | WHITE | 2 |
| 592-2628-313F | 13" REEL | BLUE (InGaN) | WHITE | 2 |
| 592-2631-302F | SAMPLE STRIP | BLUE (InGaN) | YELLOW/GREEN | 2 |
| 592-2631-313F | 13" REEL | BLUE (InGaN) | YELLOW/GREEN | 2 |
| 592-2727-302F | SAMPLE STRIP | YELLOW (AlInGaP) | YELLOW (AlInGaP) | 2 |
| 592-2727-313F | 13" REEL | YELLOW (AlInGaP) | YELLOW (AlInGaP) | 2 |
| 592-2729-302F | SAMPLE STRIP | YELLOW (AlInGaP) | GREEN (InGaN) | 2a |
| 592-2729-313F | 13" REEL | YELLOW (AlInGaP) | GREEN (InGaN) | 2a |
| 592-2826-302F | SAMPLE STRIP | WHITE | BLUE (InGaN) | 2 |
| 592-2826-313F | 13" REEL | WHITE | BLUE (InGaN) | 2 |
| 592-2828-302F | SAMPLE STRIP | WHITE | WHITE | 2 |
| 592-2828-313F | 13" REEL | WHITE | WHITE | 2 |
| 592-2926-302F | SAMPLE STRIP | TRUE GREEN (InGaN) | BLUE (InGaN) | 2a |
| 592-2926-313F | 13" REEL | TRUE GREEN (InGaN) | BLUE (InGaN) | 2a |
| 592-2927-302F | SAMPLE STRIP | GREEN (InGaN) | YELLOW (AlInGaP) | 2a |
| 592-2927-313F | 13" REEL | GREEN (InGaN) | YELLOW (AlInGaP) | 2a |
| 592-3024-302F | SAMPLE STRIP | RED/GREEN | YELLOW | 2 |
| 592-3024-313F | 13" REEL | RED/GREEN | YELLOW | 2 |
| 592-3030-302F | SAMPLE STRIP | RED/GREEN | RED/GREEN | 2 |
| 592-3030-313F | 13" REEL | RED/GREEN | RED/GREEN | 2 |
| 592-3031-302F | SAMPLE STRIP | RED/GREEN | YELLOW/GREEN | 2 |
| 592-3031-313F | 13" REEL | RED/GREEN | YELLOW/GREEN | 2 |
| 592-3034-302F | SAMPLE STRIP | RED/GREEN | RED/BLUE | 2a |
| 592-3034-313F | 13" REEL | RED/GREEN | RED/BLUE | 2a |
| 592-3126-302F | SAMPLE STRIP | YELLOW/GREEN | BLUE (InGaN) | 2 |
| 592-3126-313F | 13" REEL | YELLOW/GREEN | BLUE (InGaN) | 2 |
| 592-3131-302F | SAMPLE STRIP | YELLOW/GREEN | YELLOW/GREEN | 2 |
| 592-3131-313F | 13" REEL | YELLOW/GREEN | YELLOW/GREEN | 2 |
| 592-3232-302F | SAMPLE STRIP | RED/YELLOW | RED/YELLOW | 2 |
| 592-3232-313F | 13" REEL | RED/YELLOW | RED/YELLOW | 2 |
| 592-3236-302F | SAMPLE STRIP | RED/YELLOW | ORANGE/GREEN | 2 |
| 592-3236-313F | 13" REEL | RED/YELLOW | ORANGE/GREEN | 2 |
| 592-3535-302F | SAMPLE STRIP | RED/GRN/BLUE | RED/GRN/BLUE | 2a |
| 592-3535-313F | 13" REEL | RED/GRN/BLUE | RED/GRN/BLUE | 2a |



| COLOR | LUMINOUS INTENSITY (mcd) | TEST CURRENT (mA) | DOMINANT WAVELENGTH (nm) | PEAK WAVELENGTH (nm) | FORWARD VOLTAGE (V) | REVERSE CURRENT (µA) | | | | |
|-------|--------------------------|-------------------|--------------------------|---|---------------------|----------------------|------|-----|---------------------------|---------------------------|
| 20 | RED [HI.EFF] | 3 | 622 | 628 | 634 | 635 | 2.0 | 2.5 | 10 @ V _R =12 V | |
| 21 | RED [AlGaAs] | 9 | — | 645 | — | 660 | 1.75 | 2.5 | 10 @ V _R =12 V | |
| 22 | GREEN [HI.INT] | 6 | 564 | 570 | 576 | 572 | 2.0 | 2.5 | 10 @ V _R =12 V | |
| 23 | GREEN | 4 | 564 | 570 | 576 | 572 | 2.0 | 2.5 | 10 @ V _R =12 V | |
| 24 | YELLOW | 2 | 580 | 587 | 595 | 586 | 2.0 | 2.5 | 10 @ V _R =5 V | |
| 25 | ORANGE | 2 | 600 | 606 | 609 | 610 | 2.0 | 2.5 | 10 @ V _R =5 V | |
| 26 | BLUE [InGaN] | 6 | 462 | 465 | 468 | 428 | 3.5 | 4.1 | 10 @ V _R =12 V | |
| 27 | YELLOW [AlInGaP] | 60 | 20 | 580 | 587 | 595 | 591 | 2.0 | 2.4 | 10 @ V _R =12 V |
| 28 | WHITE | 34 | 10 | X: .285; Y: .259; Z: .367; Y: .259; Z: .367 | — | — | 3.1 | 3.7 | 10 @ V _R =5 V | |
| 29 | GREEN [InGaN] | 56 | 20 | — | 525 | — | 523 | 3.7 | 4.3 | 10 @ V _R =12 V |

RECOMMENDED PAD LAYOUT - SINGLE COLOR

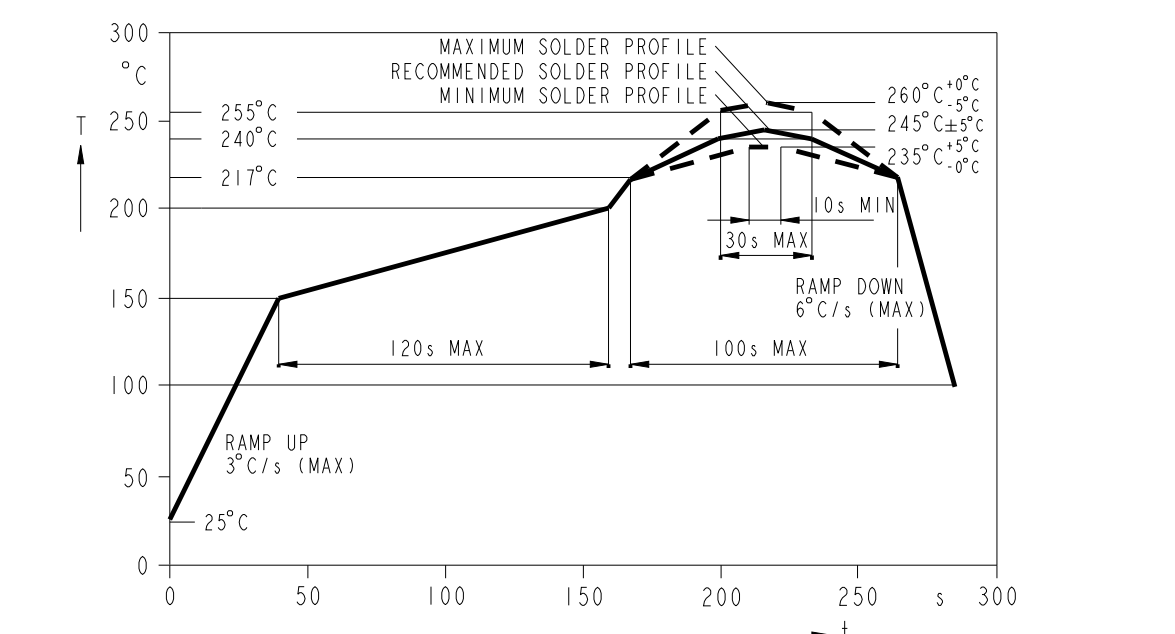
RECOMMENDED PAD LAYOUT - MULTI-COLOR



- 10 PCS. SAMPLE STRIP
- STRIP PLACED IN ALUMINUM BARRIER BAG
- LABEL TO INCLUDE P/N, QTY PER BAG, MFG DATE, LED LOT NO., LED COLOR, LED BIN INTENSITY FOR BOTH LEADS AND 'COUNTRY OF ORIGIN: MEXICO'.

- 13" REEL PER EIA STANDARD 481-2
- QUANTITY = 300 Pcs/REEL IN VACUUM SEALED BAG
- LABEL AND COLOR DOTS ON REEL AND ON BAG
- LABEL TO INCLUDE P/N, QTY PER BAG, MFG DATE, LED LOT NO., LED COLOR, LED BIN INTENSITY FOR BOTH LEADS AND 'COUNTRY OF ORIGIN: MEXICO'. CORNER OF LABEL ON REEL INDICATES MOISTURE SENSITIVITY LEVEL.
- ALUMINUM BARRIER BAG INCLUDES MSL LABEL

| REV | ECN NO | REVISIONS | DRN | CKD | APP | DATE |
|-----|--------|--|-----|-----|-----|----------|
| A | — | NEW RELEASE | JTD | KLJ | NO | 12-14-11 |
| B | — | CORRECT LED POSITION | JTD | KLJ | NO | 11-10-12 |
| C | — | NOTE 8 ADDED | WFB | JTD | NO | 6-11-12 |
| D | — | ADDED P/N'S 592-3024-302F, 313F | MMB | WFB | JTD | 5-28-13 |
| E | — | CHANGED MSL VALUE OF P/N 5923535302/313 TO 2a | VP | WFB | NO | 6-9-15 |
| F | — | UPDATED DOCUMENT TO SHOW DIRECTION OF CBI IN A TAPE | VP | JTD | NO | 4-8-16 |
| G | — | ADDED P/N'S 592-2729-302F, 313F. ALSO UPDATED LED SPECS FOR R/G AND Y/G BI-COLOR LED'S | BP | — | NO | 8-11-17 |



RECOMMENDED ROHS COMPLIANT REFLOW PROFILE

| #30 & #31 | LED COLOR | OPERATING CHARACTERISTICS AT 25°C AMBIENT | | | | | |
|-----------|-----------|---|---|---------------------|-----|----------------------|----|
| | | LUMINOUS INTENSITY (mcd) | | FORWARD VOLTAGE (V) | | REVERSE CURRENT (µA) | |
| RED | — | 1.1 | — | 1.8 | 2.2 | 0.01 | 10 |
| GREEN | — | 5 | — | 1.8 | 2.2 | 0.01 | 10 |
| YELLOW | — | 14 | — | 1.8 | 2.2 | 0.01 | 10 |
| GREEN | — | 5 | — | 1.8 | 2.2 | 0.01 | 10 |

| ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT RED/GRN & YLW/GRN BI-COLOR LED | | | RED/GRN | YLW/GRN | UNITS |
|---|---|---|-------------|---------|-------|
| CONTINUOUS FORWARD CURRENT | — | — | 15 | — | mA |
| REVERSE VOLTAGE | — | — | 12 | — | V |
| SURGE CURRENT | — | — | 100 | — | mA |
| PEAK SOLDERING TEMPERATURE | — | — | 245 | — | °C |
| OPERATING TEMPERATURE | — | — | -40 TO +100 | — | °C |
| STORAGE TEMPERATURE | — | — | -40 TO +100 | — | °C |

| #32 | COLOR | OPERATING CHARACTERISTICS AT 25°C AMBIENT - RED/YELLOW BI-COLOR LED | | | | | | | |
|--------|-------|---|----|--------------------------|-----|----------------------|-----|-----|-----|
| | | LUMINOUS INTENSITY (mcd) | | DOMINANT WAVELENGTH (nm) | | PEAK WAVELENGTH (nm) | | | |
| RED | — | 21 | 20 | 627 | 633 | 639 | 645 | 2.0 | 2.3 |
| YELLOW | — | 34 | 20 | 580 | 587 | 595 | 591 | 2.0 | 2.4 |

| ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT - RED/YELLOW BI-COLOR LED | | | RED | YELLOW | UNITS |
|--|---|---|-------------|--------|-------|
| POWER DISSIPATION | — | — | 80 | 80 | mW |
| PEAK FORWARD CURRENT (1/10 DUTY CYCLE, 10µs PULSE WIDTH) | — | — | 1000 | 200 | mA |
| CONTINUOUS FORWARD CURRENT | — | — | 30 | 30 | mA |
| LINEAR DERATING FROM 75°C | — | — | 0.60 | 0.60 | mA/°C |
| LEAD REFLOW SOLDERING TEMPERATURE (FOR 5 SEC.) | — | — | 260 | — | °C |
| OPERATING TEMPERATURE | — | — | -40 TO +100 | — | °C |
| STORAGE TEMPERATURE | — | — | -40 TO +100 | — | °C |

| #34 | COLOR | OPERATING CHARACTERISTICS AT 25°C AMBIENT - RED/BLUE BI-COLOR LED | | | | | | | |
|------|-------|---|----|--------------------------|-----|----------------------|---|-----|-----|
| | | LUMINOUS INTENSITY (mcd) | | DOMINANT WAVELENGTH (nm) | | PEAK WAVELENGTH (nm) | | | |
| RED | — | 21 | 10 | 620 | 625 | 630 | — | 1.9 | 2.2 |
| BLUE | — | 24 | 10 | 465 | 467 | 470 | — | 3.0 | 3.2 |

| ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT - RED/BLUE BI-COLOR LED | | | RED | BLUE | UNITS |
|--|---|---|-------------|------|-------|
| POWER DISSIPATION | — | — | 100 | — | mW |
| PEAK FORWARD CURRENT (1/10 DUTY CYCLE, 10µs PULSE WIDTH) | — | — | 100 | — | mA |
| CONTINUOUS FORWARD CURRENT | — | — | 30 | — | mA |
| LINEAR DERATING FROM 80°C | — | — | 1.0 | — | mA/°C |
| LEAD REFLOW SOLDERING TEMPERATURE (FOR 5 SEC.) | — | — | 260 | — | °C |
| OPERATING TEMPERATURE | — | — | -40 TO +100 | — | °C |
| STORAGE TEMPERATURE | — | — | -40 TO +100 | — | °C |

| #35 | COLOR | OPERATING CHARACTERISTICS AT 25°C AMBIENT - RED/GRN/BLUE TRI-COLOR LED | | | | | | |
|-------|-------|--|----|--------------------------|---|----------------------|-----|-----|
| | | LUMINOUS INTENSITY (mcd) | | DOMINANT WAVELENGTH (nm) | | PEAK WAVELENGTH (nm) | | |
| RED | — | 31 | 20 | 626 | — | 635 | 1.9 | 2.4 |
| GREEN | — | 84 | 20 | 525 | — | 523 | 3.4 | 4.1 |
| BLUE | — | 16 | 20 | 470 | — | 468 | 3.4 | 4.1 |

| ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT - RED/GRN/BLUE TRI-COLOR LED | | | RED | GREEN | BLUE | UNITS |
|---|---|---|-------------|-------|-------|-------|
| POWER DISSIPATION | — | — | 72 | 120 | 120 | mW |
| CONTINUOUS FORWARD CURRENT | — | — | 30 | 20 | 20 | mA |
| LINEAR DERATING FROM 80°C (+BLUE & GREEN FROM 70°C) 1 CHIP ON | — | — | 1.00 | *0.50 | *0.50 | mA/°C |
| LINEAR DERATING FROM 65°C (+BLUE & GREEN FROM 50°C) 3 CHIPS ON | — | — | 0.75 | *0.30 | *0.30 | mA/°C |
| LEAD REFLOW SOLDERING TEMPERATURE (FOR 5 SEC.) | — | — | 260 | — | — | °C |
| OPERATING TEMPERATURE | — | — | -55 TO +100 | — | — | °C |
| STORAGE TEMPERATURE | — | — | -55 TO +100 | — | — | °C |

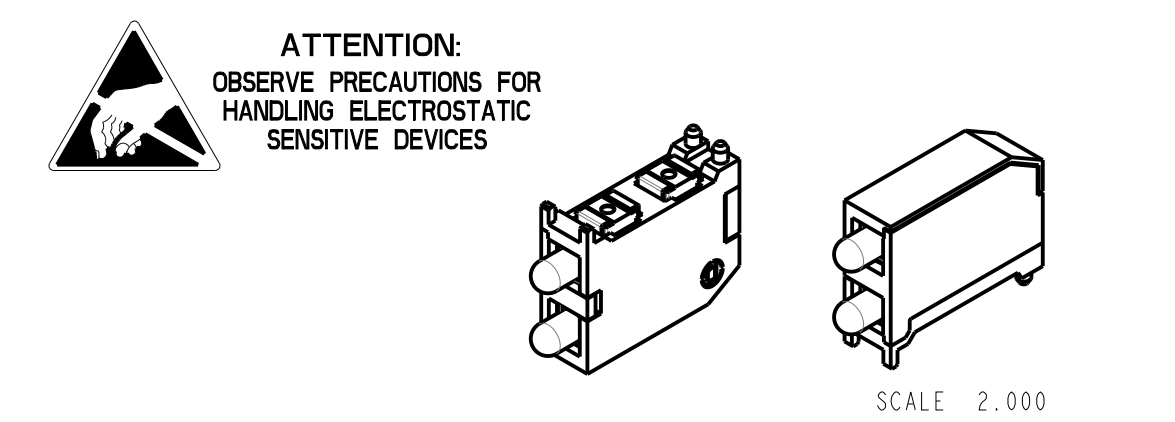
| #36 | COLOR | OPERATING CHARACTERISTICS AT 25°C AMBIENT - ORANGE/GREEN BI-COLOR LED | | | | | | | |
|--------|-------|---|----|--------------------------|-----|----------------------|-----|-----|-----|
| | | LUMINOUS INTENSITY (mcd) | | DOMINANT WAVELENGTH (nm) | | PEAK WAVELENGTH (nm) | | | |
| ORANGE | — | 3 | 10 | 600 | 606 | 612 | 610 | 2.0 | 2.5 |
| GREEN | — | 4 | 10 | 564 | 570 | 576 | 572 | 2.0 | 2.5 |

| ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT - ORANGE/GREEN BI-COLOR LED | | | ORANGE | GREEN | UNITS |
|--|---|---|-------------|-------|-------|
| POWER DISSIPATION | — | — | 95 | 95 | mW |
| PEAK FORWARD CURRENT (1/200 DUTY CYCLE, 10µs PULSE WIDTH) | — | — | 500 | 500 | mA |
| CONTINUOUS FORWARD CURRENT | — | — | 30 | 30 | mA |
| LINEAR DERATING FROM 55°C | — | — | 0.66 | 0.66 | mA/°C |
| LEAD REFLOW SOLDERING TEMPERATURE (FOR 5 SEC.) | — | — | 260 | — | °C |
| OPERATING TEMPERATURE | — | — | -40 TO +100 | — | °C |
| STORAGE TEMPERATURE | — | — | -40 TO +100 | — | °C |

| ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT - SINGLE COLOR LEDs | | | | | | | | | | |
|--|--------------|--------------|-------|----------------|--------|------------------|--------|------------------|------------------|------------------|
| | RED [HI.EFF] | RED [AlGaAs] | GREEN | GREEN [HI.INT] | YELLOW | YELLOW [AlInGaP] | ORANGE | WHITE | BLUE [InGaN] | GREEN [InGaN] |
| POWER DISSIPATION | 95 | 90 | 95 | 95 | 95 | 80 | 95 | 80 | 100 | 114 |
| PEAK FORWARD CURRENT (1/200 DUTY CYCLE, 10µs PULSE WIDTH) | 500 | 500 | 500 | 500 | 500 | 200 | 500 | 200 | 200 | 200 |
| CONTINUOUS FORWARD CURRENT | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 20 | 20 | 30 |
| LINEAR DERATING FROM 60°C, UNLESS OTHERWISE NOTED | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 1.0 (FROM 85°C) | 0.75 | 0.60 (FROM 75°C) | 0.44 (FROM 55°C) | 0.42 (FROM 40°C) |
| REVERSE VOLTAGE | 12 | 5 | 12 | 12 | 5 | 12 | 5 | 5 | 5 | 5 |
| LEAD REFLOW SOLDERING TEMPERATURE (FOR 5 SEC.) | — | — | — | — | — | 260 | — | — | — | — |
| OPERATING TEMPERATURE | — | — | — | — | — | -40 TO +100 | — | — | — | — |
| STORAGE TEMPERATURE | — | — | — | — | — | -40 TO +100 | — | — | — | — |

- NOTES:
- DIALIGHT PART NUMBERS: 592-XXXX-XXXX.
 - ...-302F SUFFIX MEANS PARTS ARE SUPPLIED ON A 10 PCS. SAMPLE STRIP
 - ...-313F SUFFIX MEANS PARTS ARE SUPPLIED ON A 13 INCH REEL, 300 Pcs/REEL
 - FRONT AND REAR TERMINALS (OF EACH LED) OF THE ASSEMBLY TO BE WITHIN .005" COPLANARITY.
 - STORAGE CONDITIONS FOR TAPED PRODUCT: RE-TAPING MAY BE NECESSARY FOR PRODUCT STORED MORE THAN TWELVE MONTHS.
 - PIN NUMBERS ARE FOR REFERENCE ONLY, DESIGNATION NON-EXISTENT ON PART.
 - MOISTURE SENSITIVITY LEVEL LABEL WILL BE PLACED ON BAG. CHECK CHART FOR PROPER LEVEL.
 - THIS ASSEMBLY CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE DEVICES (ESDS). MAINTAIN ALL PRECAUTIONARY MEASURES DURING ASSEMBLY, HANDLING, AND STORAGE IN ACCORDANCE WITH IPC-A-610.
 - FLAMMABILITY RATING HOUSING: UL-94-V0 SILICONE LENS AND LED: UL-94HB

RoHS COMPLIANT 592-XXXX-XXXX
 Part Numbers with the "F" suffix ending are RoHS Compliant.
 For example: 592-2020-302F
 Packaging is marked with "RoHS Compliant" label or equivalent markings. These parts can be used with RoHS reflow profile. Parts can be wave soldered, dip soldered or hand soldered using typical lead-free soldering process with max 260°C temp. for 5 sec.



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