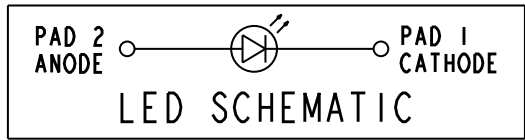
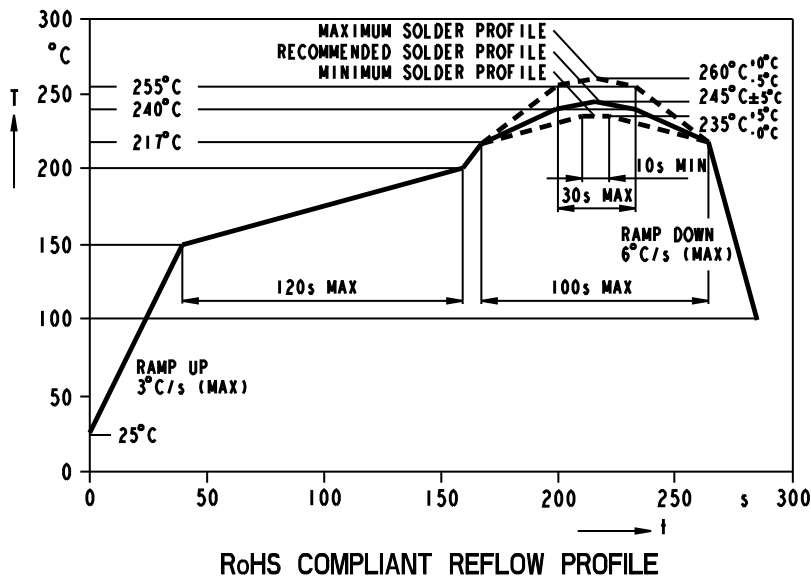
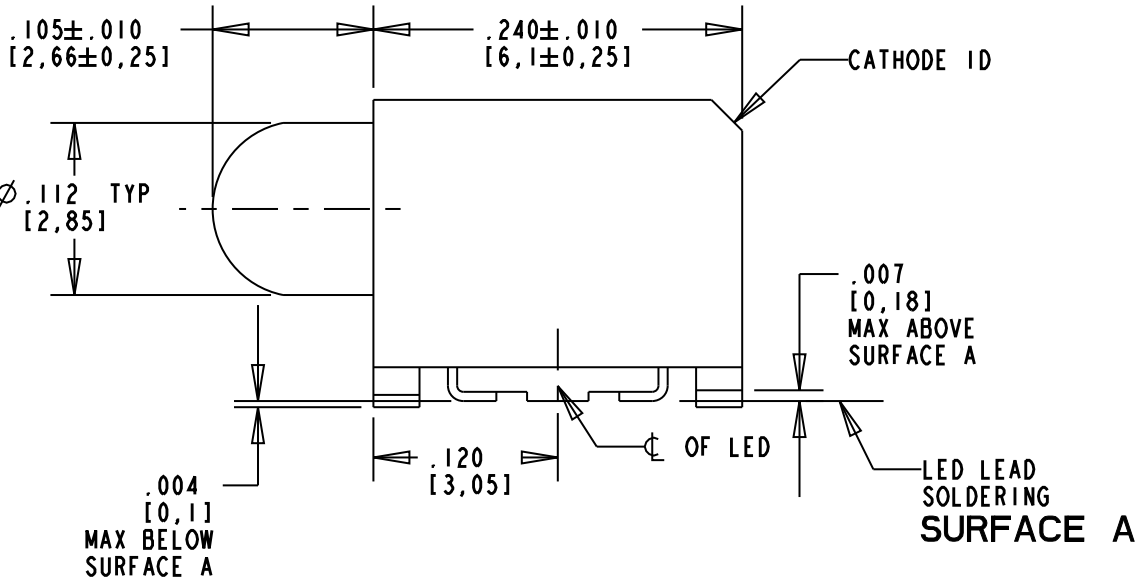
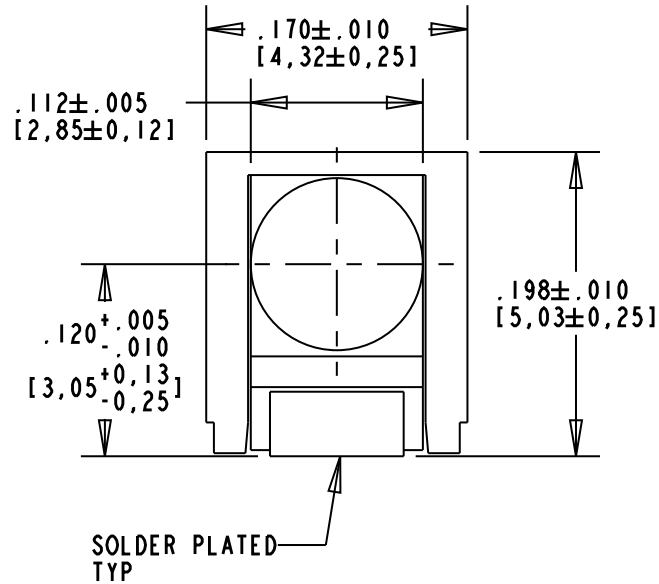


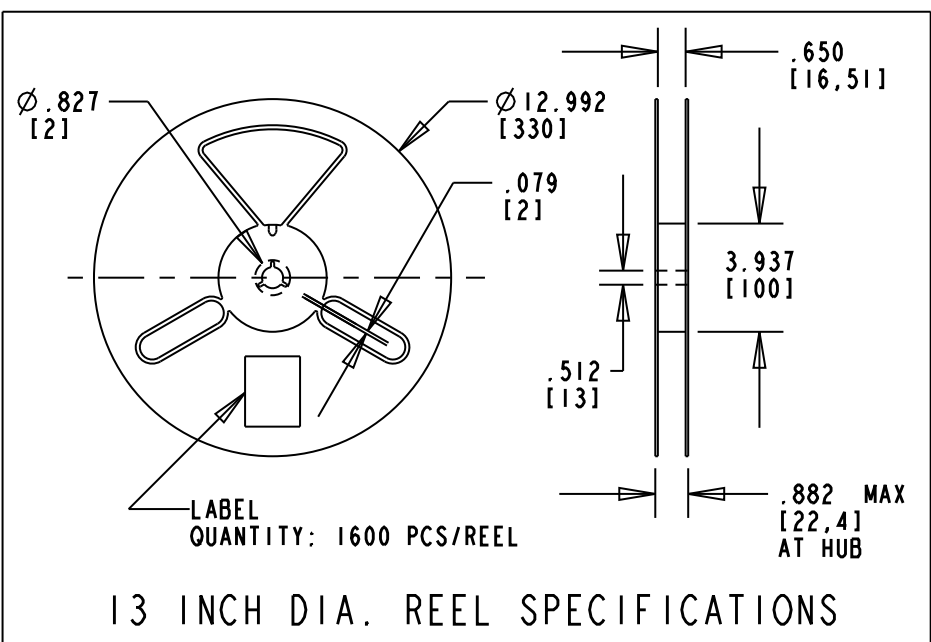
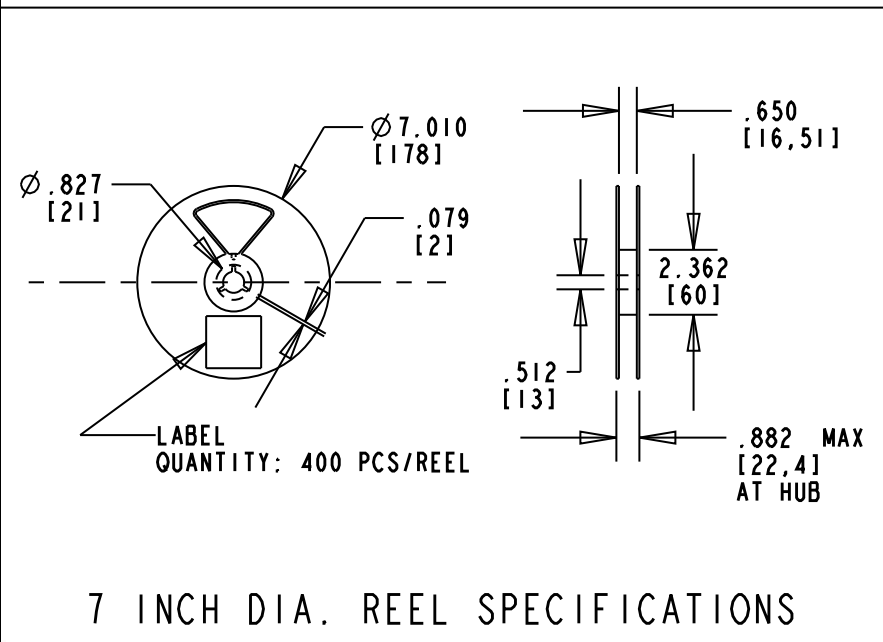
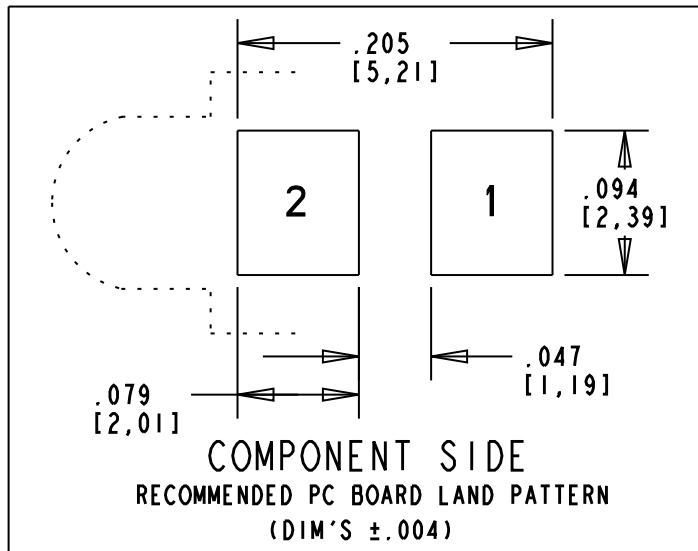
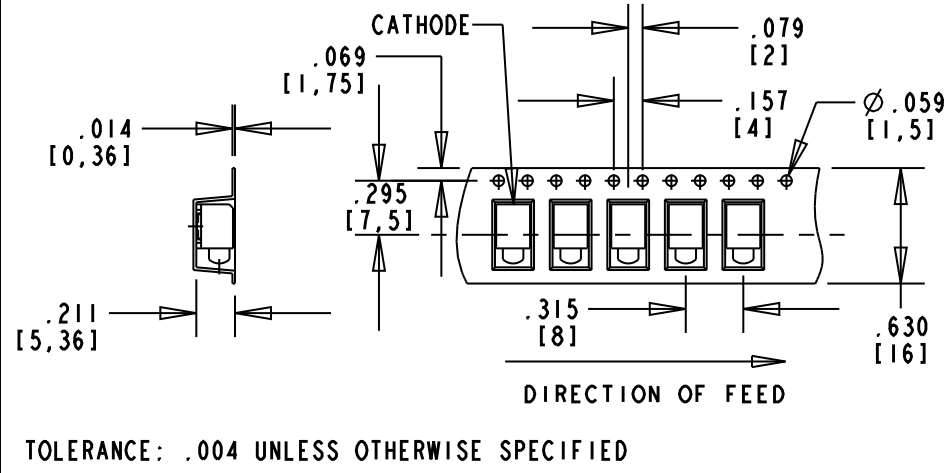
| DIALIGHT<br>PART NUMBER | LED COLOR              |
|-------------------------|------------------------|
| 591-2001-002F           | HI. EFFICIENCY<br>RED  |
| 591-2001-007F           |                        |
| 591-2001-013F           |                        |
| 591-2101-002F           | AlGaAs RED             |
| 591-2101-007F           |                        |
| 591-2101-013F           |                        |
| 591-2201-002F           | HI. INTENSITY<br>GREEN |
| 591-2201-007F           |                        |
| 591-2201-013F           |                        |
| 591-2301-002F           | GREEN                  |
| 591-2301-007F           |                        |
| 591-2301-013F           |                        |
| 591-2401-002F           | YELLOW                 |
| 591-2401-007F           |                        |
| 591-2401-013F           |                        |
| 591-2501-002F           | GaAsP ORANGE           |
| 591-2501-013F           |                        |
| 591-2601-002F           | InGaN BLUE             |
| 591-2601-007F           |                        |
| 591-2601-013F           |                        |
| 591-2701-002F           | AlInGaP YELLOW         |
| 591-2701-007F           |                        |
| 591-2701-013F           |                        |
| 591-2801-002F           | InGaN WHITE            |
| 591-2801-007F           |                        |
| 591-2801-013F           |                        |
| 591-2901-002F           | InGaN GREEN            |
| 591-2901-007F           |                        |
| 591-2901-013F           |                        |

### RoHS Compliant 591-2X01-0XXF

Part Numbers with the "F" suffix ending are RoHS Compliant.  
For Example: 591-2701-007F  
Packaging is marked with "RoHS Compliant" label or equivalent markings.  
Parts can be reflow soldered per RoHS reflow profile, wave soldered, dip soldered, or hand soldered using typical lead-free soldering process with max 260°C temp. for 5 sec.



### TAPING SPECIFICATION



| REV | ECN NO | REVISIONS                                                                          | DRN | CKD  | APP  | DATE    |
|-----|--------|------------------------------------------------------------------------------------|-----|------|------|---------|
| A   | —      | NEW RELEASE                                                                        | TWC | N.O. | MES  | 2-3-06  |
| B   | —      | UPDATED LED SPECS (ADDED MIN AND MAX INTENSITY); UPDATED NOTES; ADDED METRIC DIMS. | KLJ | ALV  | N.O. | 5-8-09  |
| C   | —      | ADDED MIN AND MAX DOMINANT WAVELENGTHS FOR AlGaAs RED.                             | KLJ | JLC  | N.O. | 6-5-09  |
| D   | —      | ADDED P/Ns 591-2801-002F, -007F, -013F                                             | AJF | KLJ  | CJC  | 9-4-09  |
| E   | —      | ADDED P/Ns 591-2501-002F, -013F                                                    | AJF | KLJ  | NO   | 9-14-09 |

| LED COLOR           | OPERATING CHARACTERISTICS AT 25°C AMBIENT |                          |     |      |                                |                     |      |                      |                                            |     |     |                      |                     |
|---------------------|-------------------------------------------|--------------------------|-----|------|--------------------------------|---------------------|------|----------------------|--------------------------------------------|-----|-----|----------------------|---------------------|
|                     | LUMINOUS INTENSITY TEST CONDITION         | LUMINOUS INTENSITY (mcd) |     |      | FORWARD VOLTAGE TEST CONDITION | FORWARD VOLTAGE (V) |      | REVERSE CURRENT (μA) | DOMINANT WAVELENGTH (nm)                   |     |     | PEAK WAVELENGTH (nm) | VIEWING ANGLE (DEG) |
|                     |                                           | MIN                      | TYP | MAX  |                                | TYP                 | MAX  |                      | MAX                                        | MIN | TYP |                      |                     |
| HI. EFFICIENCY RED  | IF = 10mA                                 | 2.8                      | 4.5 | 7.0  | IF = 10mA                      | 2.0                 | 2.5  | 10                   | 622                                        | 628 | 634 | 635                  | 40                  |
| AlGaAs RED          | IF = 10mA                                 | 11                       | 18  | 28   | IF = 10mA                      | 1.75                | 2.5  | 10                   | 633                                        | 645 | 655 | 660                  | 40                  |
| HI. INTENSITY GREEN | IF = 10mA                                 | 7                        | 12  | 18   | IF = 10mA                      | 2.0                 | 2.5  | 10                   | 564                                        | 570 | 576 | 572                  | 40                  |
| GREEN               | IF = 10mA                                 | 3.5                      | 4.8 | 7.0  | IF = 10mA                      | 2.0                 | 2.5  | 10                   | 564                                        | 570 | 576 | 572                  | 40                  |
| YELLOW              | IF = 10mA                                 | 3.5                      | 5.7 | 9.0  | IF = 10mA                      | 2.0                 | 2.5  | 10                   | 580                                        | 587 | 595 | 586                  | 40                  |
| GaAsP ORANGE        | IF = 10mA                                 | 2.3                      | 9.2 | 16.0 | IF = 10mA                      | 2.0                 | 2.5  | 10                   | 600                                        | 606 | 609 | 610                  | 40                  |
| InGaN BLUE          | IF = 10mA                                 | 4.5                      | 6.0 | 11.2 | IF = 10mA                      | 3.5                 | 4.3  | 10                   | 462                                        | 465 | 468 | 428                  | 40                  |
| AlInGaP YELLOW      | IF = 20mA                                 | 35                       | 50  | 70   | IF = 20mA                      | 2.0                 | 2.4  | 10                   | 580                                        | 587 | 595 | 591                  | 40                  |
| InGaN WHITE         | IF = 10mA                                 | 90                       | 135 | 180  | IF = 10mA                      | 3.1                 | 3.7  | 10                   | *X: .285; .33; .367<br>*Y: .259; .33; .401 |     |     | —                    | 40                  |
| InGaN GREEN         | IF = 20mA                                 | 90                       | 160 | 280  | IF = 20mA                      | 3.4                 | 4.05 | 10                   | 515                                        | 525 | 535 | 523                  | 40                  |

\*COLOR COORDINATES

| LED COLOR           | ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT |                        |                                            |                      |                     |                       |                     |
|---------------------|------------------------------------------|------------------------|--------------------------------------------|----------------------|---------------------|-----------------------|---------------------|
|                     | POWER DISSIPATION (mW)                   | CONT. FWD CURRENT (mA) | PEAK FORWARD CURRENT (mA) (t≤10ms, D=.005) | LINEAR DERATION      | REVERSE VOLTAGE (V) | OPERATING TEMPERATURE | STORAGE TEMPERATURE |
| HI. EFFICIENCY RED  | 95                                       | 30                     | 500                                        | 0.75 mA/°C FROM 60°C | 12                  | -40°C /+100°C         | -40°C /+100°C       |
| AlGaAs RED          | 90                                       | 30                     | 500                                        | 0.75 mA/°C FROM 60°C | 12                  | -40°C /+100°C         | -40°C /+100°C       |
| HI. INTENSITY GREEN | 95                                       | 30                     | 500                                        | 0.75 mA/°C FROM 60°C | 12                  | -40°C /+100°C         | -40°C /+100°C       |
| GREEN               | 95                                       | 30                     | 500                                        | 0.75 mA/°C FROM 60°C | 12                  | -40°C /+100°C         | -40°C /+100°C       |
| YELLOW              | 95                                       | 30                     | 500                                        | 0.75 mA/°C FROM 60°C | 12                  | -40°C /+100°C         | -40°C /+100°C       |
| GaAsP ORANGE        | 95                                       | 30                     | 500                                        | 0.75 mA/°C FROM 60°C | 5                   | -40°C /+100°C         | -40°C /+100°C       |
| InGaN BLUE          | 90                                       | 20                     | 200                                        | 0.44 mA/°C FROM 55°C | 5                   | -40°C /+100°C         | -40°C /+100°C       |
| AlInGaP YELLOW      | 80                                       | 30                     | 200                                        | 1.0 mA/°C FROM 85°C  | 12                  | -40°C /+100°C         | -40°C /+100°C       |
| InGaN WHITE         | 80                                       | 20                     | 200                                        | 0.6 mA/°C FROM 75°C  | 5                   | -40°C /+100°C         | -40°C /+100°C       |
| InGaN GREEN         | 114                                      | 20                     | 100 (t≤1ms, D=0.1)                         | 0.5 mA/°C FROM 50°C  | 5                   | -55°C /+100°C         | -55°C /+100°C       |

### NOTES :

- PAD NUMBERS ARE FOR REFERENCE ONLY, DESIGNATION NON-EXISTENT ON PART.
- STORAGE CONDITIONS FOR TAPED PRODUCT: RE-TAPING MAY BE NECESSARY FOR PRODUCTS STORED MORE THAN TWELVE MONTHS.
- ORDER QUANTITY IS LED ASSEMBLIES, NOT REELS.
- ...-002F SUFFIX MEANS PARTS ARE PACKED ON A 20 pc SAMPLE STRIP  
...-007F SUFFIX MEANS PARTS ARE PACKED ON A 7 INCH REEL , 400 pcs/REEL  
...-013F SUFFIX MEANS PARTS ARE PACKED ON A 13 INCH REEL , 1600 pcs/REEL
- LENS MOVEMENT IN RELATIONSHIP TO THE HOUSING IS .009" T.I.R. VERTICALLY AND .007" T.I.R. HORIZONTALLY.
- FRONT AND REAR TERMINALS OF THE ASSEMBLY TO BE WITHIN .005 COPLANARITY.
- DIALIGHT PART NUMBERS = 591-2X01-002F, 591-2X01-007F, 591-2X01-013F
- MOISTURE SENSITIVITY LEVEL: "2a" FOR P/N'S 591-2901-0XXF  
"2" FOR ALL OTHER P/N'S
- THIS ASSEMBLY CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE DEVICES (ESDS). MAINTAIN ALL PRECAUTIONARY MEASURES DURING ASSEMBLY, HANDLING AND STORAGE IN ACCORDANCE WITH IPC-A-610.



ATTENTION:  
OBSERVE PRECAUTIONS FOR  
HANDLING ELECTROSTATIC  
SENSITIVE DEVICES

|                                                                                                                                                                                                                               |                                      |               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|
| THIS DRAWING AND THE CONTENTS HEREIN ARE CONFIDENTIAL AND THE SOLE PROPERTY OF DIALIGHT. REPRODUCTION OF THIS DRAWING OR CONSTRUCTION OF ANY PARTS WITHIN THIS DRAWING ARE FORBIDDEN WITHOUT THE WRITTEN CONSENT OF DIALIGHT. |                                      |               |
| SCALE: 8.000                                                                                                                                                                                                                  | DRAWING NUMBER                       | REV           |
| ALL DIM'S IN: INCHES (MM)                                                                                                                                                                                                     | C-17354                              | E             |
| TOLERANCES: UNLESS OTHERWISE SPECIFIED                                                                                                                                                                                        | TITLE SURFACE MOUNT CBI - ROUND LENS |               |
| FRACTIONS: ±1/64                                                                                                                                                                                                              | RoHS COMPLIANT                       |               |
| DECIMALS (.XX): ±.02                                                                                                                                                                                                          | MATERIAL                             |               |
| DECIMALS (.XXX): ±.015                                                                                                                                                                                                        |                                      |               |
| ANGLES: ±3°                                                                                                                                                                                                                   |                                      |               |
| FINISH:                                                                                                                                                                                                                       |                                      |               |
| FSCM                                                                                                                                                                                                                          | 83330                                |               |
| SHEET                                                                                                                                                                                                                         | I OF I                               | FAMILY TABLE: |