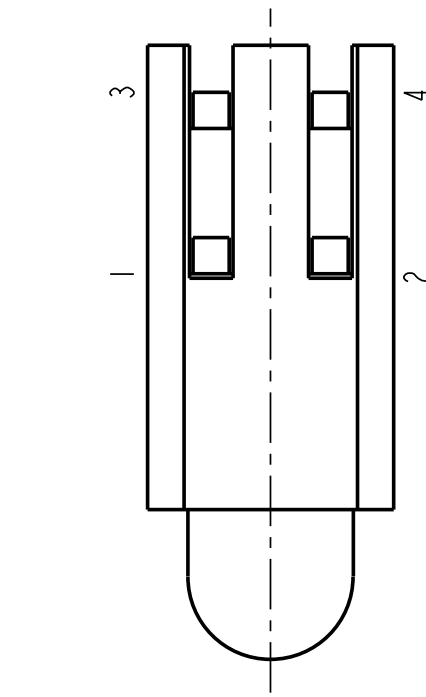
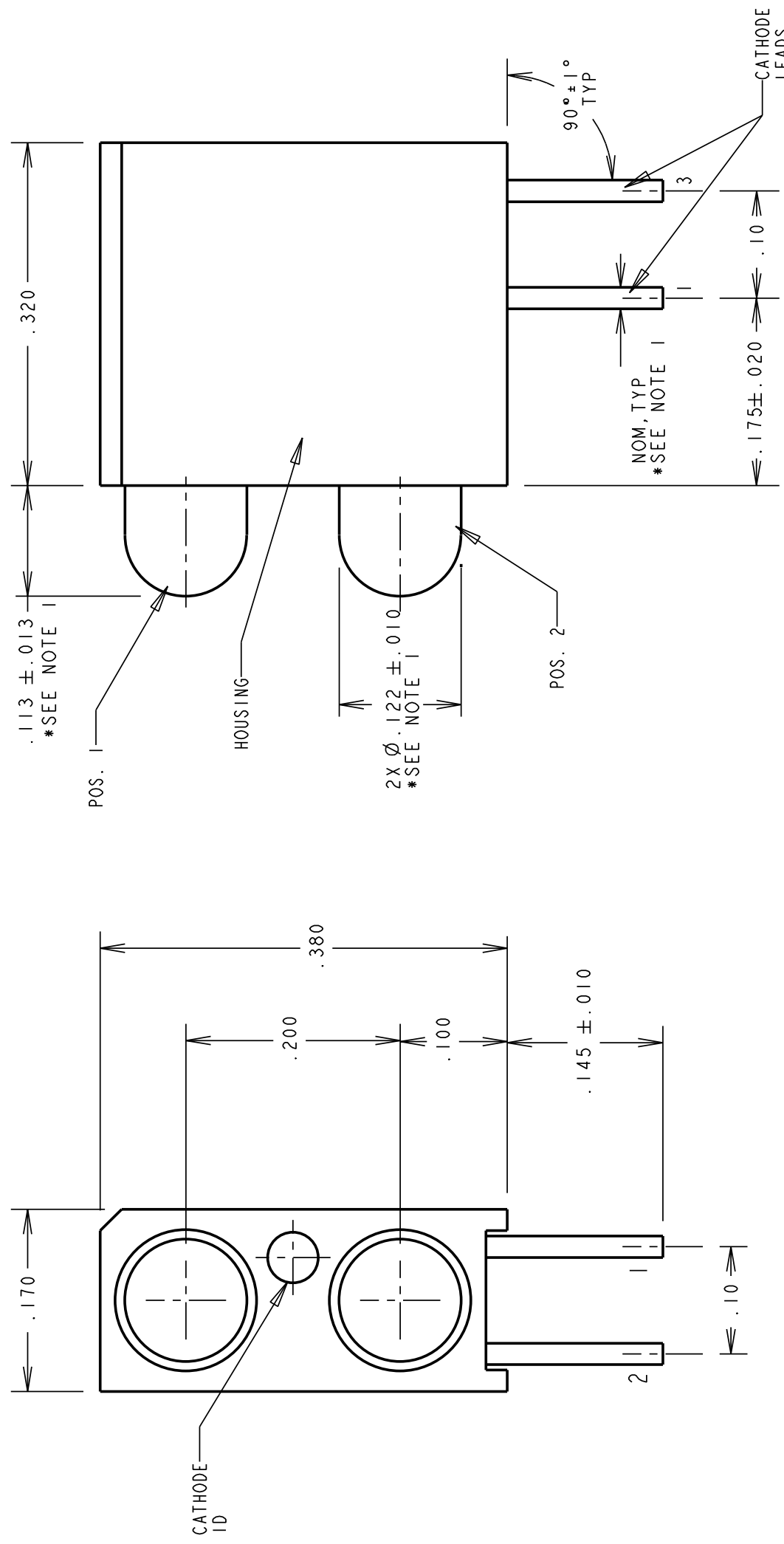


| REV | ECN NO | REVISIONS   | DRN | CKD  | APP  | DATE     |
|-----|--------|---|-----|------|------|----------|
| A   |        | NEW RELEASE   | TWC | MES  | N.O. | 8-5-05   |
| B   |        | ADDED P/N 553-0181F                                     | SM  | N.O. | MES  | 11-13-06 |
| C   |        | CHANGED IN SIDE VIEW POS 3 TO POS 2                     | SM  | N.O. | MES  | 11-17-06 |
| D   |        | ADDED P/N 553-0199F & NOTE 4                            | SM  | N.O. | MES  | 5-1-07   |
| E   |        | OPERATING CHARACTERISTICS TABLE CORRECTED FOR WHITE LED | SM  |      |      |          |



**RoHS Compliant 553-0xxx F Thru hole Bi-level CBI**

Part Numbers with the "F" suffix ending are RoHS Compliant.  
 Example: 553-0101F, 553-0333F  
 The bag packaging is marked with "RoHS Compliant" label for equivalent markings.  
 Parts can be wave soldered, dip soldered or hand soldered using typical lead-free soldering process with max 260°C temp. for 5 sec.

| SCALE                                 | DRAWING SCALE              | DRAWING NUMBER              | REV |
|---------------------------------------|----------------------------|-----------------------------|-----|
| ALL DIM'S IN INCHES (UM)              |                            | C-17277                     | E   |
| TOLERANCES UNLESS OTHERWISE SPECIFIED |                            |                             |     |
| FRACTIONS: ±1/64                      | TITLE 3mm LED BI-LEVEL CBI |                             |     |
| DECIMALS (.XX): ±.02                  | MATERIAL RoHS COMPLIANT    |                             |     |
| DECIMALS (.XXX): ±.015                |                            |                             |     |
| DECIMALS (.XXXX): ±.0005              |                            |                             |     |
| ANGLES: ±1°                           |                            |                             |     |
| FINISH:                               |                            |                             |     |
| FSCM                                  | 83330                      | SHEET 1 OF 1 FAMILY TABLES: |     |

| ASSY. NO.<br>(CAT. NO.) | LED COLOR  |            | NOTES |
|-------------------------|------------|------------|-------|
|                         | POSITION 1 | POSITION 2 |       |
| 553-0101F               | RED        | RED        |       |
| 553-0102F               | GREEN      | GREEN      |       |
| 553-0103F               | YELLOW     | YELLOW     |       |
| 553-0107F               | ORANGE     | ORANGE     |       |
| 553-0108F               | BLUE       | BLUE       | **    |
| 553-0110F               | BLANK      | BLANK      |       |
| 553-0111F               | RED        | RED        |       |
| 553-0112F               | RED        | RED        |       |
| 553-0113F               | RED        | YELLOW     |       |
| 553-0118F               | RED        | BLUE       | **    |
| 553-0120F               | GREEN      | BLANK      |       |
| 553-0121F               | GREEN      | RED        |       |
| 553-0122F               | GREEN      | GREEN      |       |
| 553-0123F               | GREEN      | YELLOW     |       |
| 553-0128F               | GREEN      | BLUE       | **    |
| 553-0130F               | YELLOW     | BLANK      |       |
| 553-0131F               | YELLOW     | RED        |       |
| 553-0132F               | YELLOW     | GREEN      |       |
| 553-0133F               | YELLOW     | YELLOW     |       |
| 553-0181F               | BLUE       | RED        |       |
| 553-0182F               | BLUE       | GREEN      | **    |
| 553-0188F               | BLUE       | WHITE      | **    |
| 553-0199F               | WHITE      | WHITE      | **    |
| 553-0201F               | BLANK      | RED        |       |
| 553-0202F               | BLANK      | GREEN      |       |
| 553-0203F               | BLANK      | YELLOW     |       |
| 553-0210F               | RED        | BLANK      | *     |
| 553-0211F               | RED        | RED        | *     |
| 553-0212F               | RED        | GREEN      | *     |
| 553-0213F               | RED        | YELLOW     | *     |
| 553-0220F               | GREEN      | BLANK      | *     |
| 553-0221F               | GREEN      | RED        | *     |
| 553-0222F               | GREEN      | GREEN      | *     |
| 553-0223F               | GREEN      | YELLOW     | *     |
| 553-0230F               | BLANK      | BLANK      | *     |
| 553-0231F               | YELLOW     | RED        | *     |
| 553-0232F               | YELLOW     | GREEN      | *     |
| 553-0233F               | YELLOW     | YELLOW     | *     |
| 553-0301F               | BLANK      | RED        | *     |
| 553-0302F               | GREEN      | RED        | *     |
| 553-0303F               | BLANK      | YELLOW     | *     |
| 553-0310F               | RED        | BLANK      | *     |
| 553-0311F               | RED        | RED        | *     |
| 553-0312F               | RED        | GREEN      | *     |
| 553-0313F               | RED        | YELLOW     | *     |
| 553-0320F               | GREEN      | BLANK      | *     |
| 553-0321F               | GREEN      | RED        | *     |
| 553-0322F               | GREEN      | GREEN      | *     |
| 553-0323F               | GREEN      | YELLOW     | *     |
| 553-0330F               | RED        | RED        | *     |
| 553-0331F               | YELLOW     | RED        | *     |
| 553-0332F               | YELLOW     | GREEN      | *     |
| 553-0333F               | YELLOW     | YELLOW     | *     |

| OPERATING CHARACTERISTICS AT T <sub>a</sub> = 25°C |                    |     |      |     |       |                      |
|--|--------------------|-----|------|-----|-------|----------------------|
| SYMBOL   | PARAMETER          | MIN | TYP  | MAX | UNITS | TEST COND.           |
| V <sub>F</sub>                                     | FORWARD VOLTAGE    | 3.6 | 4.0  | V   |       | I <sub>F</sub> =20mA |
| I <sub>R</sub>                                     | REVERSE CURRENT    | 10  |      | uA  |       | V <sub>R</sub> =5V   |
| I <sub>V</sub>                                     | LUMINOUS INTENSITY | 520 | 1500 | mcd |       | I <sub>F</sub> =20mA |

| LIMITS (WHITE LED)<br>(CHROMATICITY COORDINATES) |       |       |       |       |    |    |
|--|-------|-------|-------|-------|----|----|
| BIN  | X     | Y     | Z     | u'    | v' | w' |
| 1  | 0.330 | 0.330 | 0.356 | 0.361 |    |    |
|  | 0.360 | 0.318 | 0.351 | 0.385 |    |    |
| 2  | 0.287 | 0.296 | 0.330 | 0.330 |    |    |
|  | 0.295 | 0.276 | 0.318 | 0.339 |    |    |
| 3  | 0.264 | 0.280 | 0.296 | 0.283 |    |    |
|  | 0.267 | 0.248 | 0.276 | 0.305 |    |    |
| 4  | 0.283 | 0.287 | 0.330 | 0.330 |    |    |
|  | 0.305 | 0.295 | 0.339 | 0.360 |    |    |

| OPERATING CHARACTERISTICS AT T <sub>a</sub> = 25°C |                    |        |     |      |     |       |                        |
|--|--------------------|--------|-----|------|-----|-------|------------------------|
| SYMBOL   | PARAMETER          | COLOR  | MIN | TYP  | MAX | UNITS | TEST COND.             |
| V <sub>F</sub>                                     | FORWARD VOLTAGE    | RED    | 2.0 | 3.0  |     | V     | I <sub>F</sub> = 10 mA |
|  |                    | YELLOW | 2.1 | 3.0  |     |       |                        |
|  |                    | GREEN  | 2.1 | 3.0  |     |       |                        |
| V <sub>R</sub>                                     | REVERSE VOLTAGE    | ALL    | 3.5 | 4.2  |     | V     | I <sub>F</sub> = 10 mA |
|  |                    | RED    | 650 |      |     |       |                        |
|  |                    | YELLOW | 585 |      |     |       |                        |
| λ <sub>PK</sub>                                    | PEAK WAVELENGTH    | GREEN  | 563 |      |     | nm    | MEASURED AT PEAK       |
|  |                    | BLUE   | 428 |      |     |       |                        |
|  |                    | RED    | 3.6 | 10.0 |     |       |                        |
| I <sub>V</sub>                                     | LUMINOUS INTENSITY | YELLOW | 2.2 | 6.3  |     | mcd   | I <sub>F</sub> = 10 mA |
|  |                    | GREEN  | 5.6 | 16.0 |     |       |                        |
|  |                    | BLUE   | 6.3 | 20   |     |       |                        |

| 2 ma LOW CURRENT LED, OPERATING CHARACTERISTICS AT T <sub>a</sub> = 25°C |                    |        |     |     |     |       |                        |
|--|--------------------|--------|-----|-----|-----|-------|------------------------|
| SYMBOL   | PARAMETER          | COLOR  | MIN | TYP | MAX | UNITS | TEST COND.             |
| V <sub>F</sub>   | FORWARD VOLTAGE    | RED    | 1.7 | 2.2 |     | V     | I <sub>F</sub> = 2 mA  |
|  |                    | YELLOW | 1.8 | 2.7 |     |       |                        |
|  |                    | GREEN  | 1.9 | 2.2 |     |       |                        |
| V <sub>R</sub>   | REVERSE VOLTAGE    | ALL    | 5   |     |     | V     | I <sub>F</sub> = 50 μA |
|  |                    | RED    | 635 |     |     |       |                        |
|  |                    | YELLOW | 583 |     |     |       |                        |
| λ <sub>PK</sub>  | PEAK WAVELENGTH    | GREEN  | 565 |     |     | nm    | MEASURED AT PEAK       |
|  |                    | RED    | 1.0 | 1.6 |     |       |                        |
|  |                    | YELLOW | 1.0 | 1.6 |     |       |                        |
| I <sub>V</sub>   | LUMINOUS INTENSITY | YELLOW | 1.0 | 1.6 |     | mcd   | I <sub>F</sub> = 2 mA  |
|  |                    | GREEN  | 1.0 | 1.6 |     |       |                        |
|  |                    | RED    | 5.6 | 19  |     |       |                        |

| 5 V, INTEGRAL RESISTOR LED, OPERATING CHARACTERISTICS AT T <sub>a</sub> = 25°C |                    |        |     |      |     |       |                         |
|--|--------------------|--------|-----|------|-----|-------|-------------------------|
| SYMBOL   | PARAMETER          | COLOR  | MIN | TYP  | MAX | UNITS | TEST COND.              |
| I <sub>F</sub>   | FORWARD CURRENT    | RED    | 10  | 20   |     | mA    | V <sub>F</sub> = 5 V    |
|  |                    | YELLOW | 10  | 20   |     |       |                         |
|  |                    | GREEN  | 10  | 20   |     |       |                         |
| V <sub>R</sub>   | REVERSE VOLTAGE    | ALL    | 5   |      |     | V     | I <sub>F</sub> = 100 μA |
|  |                    | RED    | 635 |      |     |       |                         |
|  |                    | YELLOW | 585 |      |     |       |                         |
| λ <sub>PK</sub>  | PEAK WAVELENGTH    | GREEN  | 565 |      |     | nm    | MEASURED AT PEAK        |
|  |                    | RED    | 8.7 | 29   |     |       |                         |
|  |                    | YELLOW | 3.7 | 12.6 |     |       |                         |
| I <sub>V</sub>   | LUMINOUS INTENSITY | YELLOW | 5.6 | 19   |     | mcd   | V <sub>F</sub> = 5 V    |
|  |                    | GREEN  | 5.6 | 19   |     |       |                         |
|  |                    | RED    | 5.6 | 19   |     |       |                         |