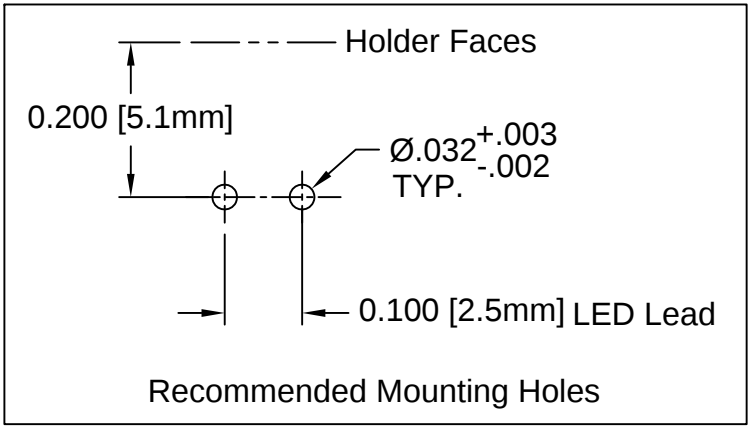
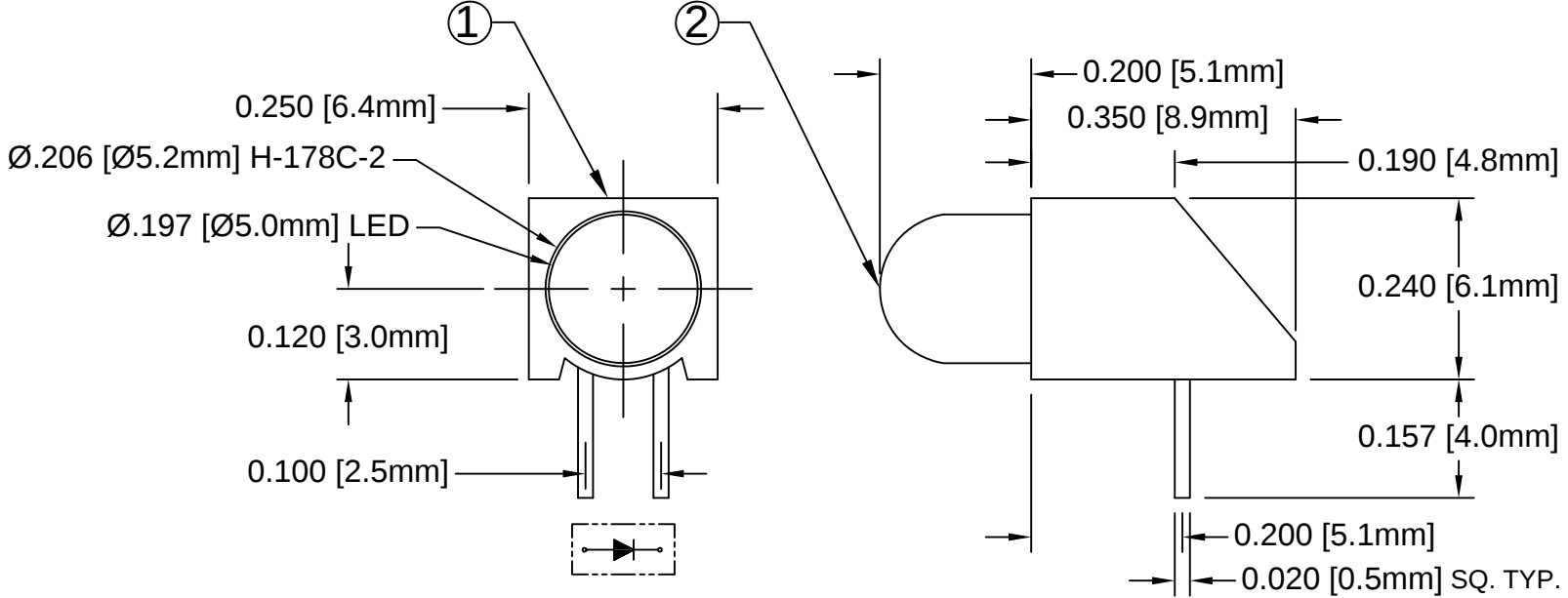


| ITEM | Q'TY | PART NUMBER | PART DESCRIPTION                      |
|------|------|-------------|---------------------------------------|
| 1    | 1    | H-178C-2    | T-1¾ (5mm) LED Holder, 90° Mount      |
| 2    | 1    | 5XX         | T-1¾ (5mm) Non-Flange LED, See Page 2 |

| REV. | DESCRIPTION                              | DATE     | APPROVED |
|------|------------------------------------------|----------|----------|
| D    | Updated LED Protrusion from .215 to .200 | 01/09/07 | M. C.    |
| E    | Corrected Typo                           | 02/13/07 | M. C.    |
| F    | Updated Specs, Page 2                    | 02/10/09 | T. Y.    |
| G    | Added 5UUYC LED                          | 03/25/10 | T. Y.    |
| H    | Engineering Update w/o Changes           | 06/20/16 | J. C.    |



# ABSOLUTE MAXIMUM RATINGS (Ta=25° C)

|                                             |                      |
|---------------------------------------------|----------------------|
| REVERSE VOLTAGE                             | 5V                   |
| REVERSE CURRENT                             | 100uA                |
| OPERATING TEMPERATURE RANGE                 | -25° C - 85° C       |
| STORAGE TEMPERATURE                         | -30° C - 100° C      |
| LEAD SOLDERING TEMPERATURE(1/16" FROM BODY) | 260° C FOR 5 SECONDS |

|                                                      |                                                                                       |                                                                                                                       |  |
|------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--|
| STANDARD TOLERANCE<br>( UNLESS OTHERWISE SPECIFIED ) |                                                                                       | <div><b>BIVAR®</b></div> <div>4 THOMAS, IRVINE, CA. 92618</div> <div>TEL: (949) 951-8808    FAX: (949) 951-3974</div> |  |
| <u>DECIMALS</u>                                      | <u>ANGULAR</u>                                                                        |                                                                                                                       |  |
| .X     ± .1                                          | X°   ± 1°                                                                             |                                                                                                                       |  |
| .XX    ± .02                                         |                                                                                       |                                                                                                                       |  |
| .XXX   ± .010                                        |                                                                                       |                                                                                                                       |  |
|                                                      |  |                                                                                                                       |  |
| DESIGNED:<br><b>T. Yin</b>                           | DATE:<br><b>03/05/04</b>                                                              | <div><b>TITLE:</b> T-1¾ (5MM)</div> <div>90° SINGLE-LEVEL LED ASSY</div>                                              |  |
|                                                      |                                                                                       |                                                                                                                       |  |
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|------|--------------|------|----------|
| REV. | DESCRIPTION  | DATE | APPROVED |
|      | SEE SHEET #1 |      |          |
|      |              |      |          |

| LED Assy. No. | Peak Wave Length<br>λp(nm) | Emitted Color | Lens Appearance | Electro-Optical Data |           |     |             | Viewing Angle<br>2 Θ ½<br>(Deg) | LED P/N |
|---------------|----------------------------|---------------|-----------------|----------------------|-----------|-----|-------------|---------------------------------|---------|
|               |                            |               |                 | If<br>(mA)           | Vf<br>(V) |     | Iv<br>(mcd) |                                 |         |
|               |                            |               |                 | TYP                  | TYP       | MAX | TYP         |                                 |         |
| STANDARD      |                            |               |                 | Data @ 20mA          |           |     |             |                                 |         |
| H178CBWD      | 430                        | BLUE          | DIFFUSED        | 20                   | 4.0       | 4.5 | 15          | 45                              | 5BWD    |
| H178CGD       | 568                        | GREEN         | DIFFUSED        | 20                   | 2.1       | 2.8 | 25          | 45                              | 5GD     |
| H178CSGD      | 568                        | GREEN         | DIFFUSED        | 20                   | 2.1       | 2.8 | 30          | 45                              | 5SGD    |
| H178CSUGC     | 570                        | GREEN         | WATER CLEAR     | 20                   | 2.1       | 2.4 | 400         | 35                              | 5SUGC   |
| H178CYD       | 590                        | YELLOW        | DIFFUSED        | 20                   | 2.0       | 2.8 | 25          | 45                              | 5YD     |
| H178CSYD      | 590                        | YELLOW        | DIFFUSED        | 20                   | 2.0       | 2.4 | 300         | 45                              | 5SYD    |
| H178CUUYC     | 590                        | YELLOW        | WATER CLEAR     | 20                   | 2.0       | 2.4 | 500         | 35                              | 5UUYC   |
| H178CAD       | 605                        | AMBER         | DIFFUSED        | 20                   | 2.0       | 2.8 | 25          | 45                              | 5AD     |
| H178CHD       | 625                        | HE RED        | DIFFUSED        | 20                   | 2.0       | 2.8 | 25          | 45                              | 5HD     |
| H178CRD       | 700                        | RED           | DIFFUSED        | 20                   | 2.1       | 2.8 | 2           | 45                              | 5RD     |
| H178CSR       | 645                        | RED           | DIFFUSED        | 20                   | 1.7       | 2.4 | 40          | 45                              | 5SRD    |
| LOW CURRENT   |                            |               |                 | Data @ 2mA           |           |     |             |                                 |         |
| H178CGDL      | 568                        | GREEN         | DIFFUSED        | 2                    | 2.1       | 2.6 | 5           | 45                              | 5GDL    |
| H178CYDL      | 590                        | YELLOW        | DIFFUSED        | 2                    | 2.0       | 2.6 | 4           | 45                              | 5YDL    |
| H178CHDL      | 625                        | HE RED        | DIFFUSED        | 2                    | 2.0       | 2.6 | 5           | 45                              | 5HDL    |
| 5 VOLT        |                            |               |                 | Data @ 5V            |           |     |             |                                 |         |
| H178CGD5V     | 568                        | GREEN         | DIFFUSED        | 10                   | -         | 5.0 | 25          | 45                              | 5GD5V   |
| H178CYD5V     | 590                        | YELLOW        | DIFFUSED        | 10                   | -         | 5.0 | 20          | 45                              | 5YD5V   |
| H178CHD5V     | 625                        | HE RED        | DIFFUSED        | 10                   | -         | 5.0 | 50          | 45                              | 5HD5V   |

|                                                                                      |                          |                                                                                                                                                                     |  |
|--------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| STANDARD TOLERANCE<br>( UNLESS OTHERWISE SPECIFIED )<br>±10% ALL VALUES      ANGULAR |                          | <br>4 THOMAS, IRVINE, CA. 92618<br>TEL.: (949) 951-8808    FAX: (949) 951-3974 |  |
| DESIGNED:<br><b>T. Yin</b>                                                           | DATE:<br><b>03/05/04</b> | <br><b>TITLE:</b> T-1¼ (5MM)<br>90° SINGLE-LEVEL LED ASSY                      |  |
|                                                                                      |                          | <b>PART NO:</b> H178CXX <b>REVISION:</b> H                                                                                                                          |  |
| CHECKED:<br><b>D. Green</b>                                                          | DATE:<br><b>03/05/04</b> | <b>CAGE CODE :</b> 32559 <b>SHEET # 2 OF 2</b><br>CAD GENERATED DOCUMENT. DO NOT MEASURE DRAWING.                                                                   |  |