

# MIL-SPEC LED Indicator

## ML 1640 Series

### FEATURES

- Design meets DESC Drwg. 85122
- Environmentally Sealed
- Optional EMI Protection Screen
- Colors: Red, Yellow & Green
- Panel Mount

Developed for use as a function indicator, this solid state lamp with plain or filtered type lens, designed for sunlight viewing, is designed to meet the requirements of DESC Drwg. 85122. It is panel mountable with solderable leads and includes hardware. Available with anti-reflection lens coating.

### ENVIRONMENTAL SPECIFICATIONS

Units meet 100% screening, group A and group B testing, in compliance with DESC 85122, and MIL-STD-750.

### MECHANICAL SPECIFICATIONS

**Bezel:** aluminum, black anodized

**Case:** aluminum, chromate.

**Mounting:** Front panel by 5/16-32" nut and lockwasher.

**Seal:** Environmentally sealed with front panel PTFE ring seal.

### ELECTRO-OPTICAL CHARACTERISTIC SPECIFICATIONS Absolute Maximum Ratings

Color	Red	Yellow	Green
Forward Voltage (VDC) typical $I_f=20$ mA	2.2	2.2	2.3
Peak Forward Current (mA)	90	60	90
DC Forward Current (mA)	30	20	30
Reverse Voltage (VDC) @ $I_r = 100$ $\mu$ A	5	5	5
Power Dissipation (mW)	135 <sup>1</sup>	85 <sup>2</sup>	135 <sup>1</sup>
Luminous Intensity (mcd) typical	See chart	See chart	See chart
Dominant Wave Length (nm) typical	626	585	569
Operating Temperature (°C)	-55 to +100	-55 to +100	-20 to +100
Storage Temperature (°C)	-55 to +100	-55 to +100	-55 to +100
Lead Soldering Temperature	260°C for 5 seconds		

<sup>1</sup>Derate at 1.8 mW/°C above +25°C Ambient

<sup>2</sup>Derate at 1.6 mW/°C above +50°C Ambient

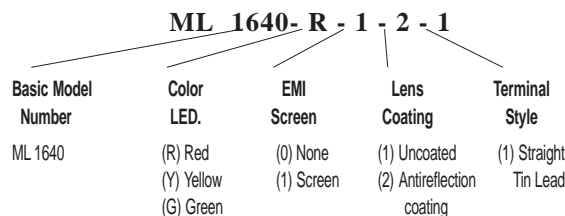
Electrodyan. Model No.	DESC 85122 Dash No.	Type of Lens	Anti-reflect. Coating	EMI Screen	Outline Figure	DESC 85122 Dash No.	Min. Luminous Intensity @ Forward Current
ML1641-X011	R01, Y01, G01	Plano Convex	No	No	1	R01, R02, R11	15 mcd @ 10 mA
ML1644-X011	R02, Y02, G02	Plano Convex	No	No	2	Y01, Y02, Y11	12 mcd @ 10 mA
ML1644-X111	R11, Y11, G11	Plano Convex	No	Yes	2a	G01, G02, G11	12 mcd @ 20 mA
ML1642-X011	R03, Y03, G03	Flat 30° View. Angle	No	No	3	R03, R05, R07, R09	10 mcd @ 20 mA
ML1645-X011	R05, Y05, G05	Flat 30° View. Angle	No	No	4	Y03, Y05, Y07, Y09	5 mcd @ 15 mA
ML1645-X021	R07, Y07, G07	Flat 30° View. Angle	Yes	No	4	G03, G05, G07, G09	10 mcd @ 20 mA
ML1645-X121	R09, Y09, G09	Flat 30° View. Angle	Yes	Yes	4a	R04, R06, R08, R10	1.0 mcd @ 20 mA
ML1643-X011	R04, Y04, G04	Flat 100° View. Angle	No	No	3	Y04, Y06, Y08, Y10	0.5 mcd @ 15 mA
ML1646-X011	R06, Y06, G06	Flat 100° View. Angle	No	No	4	G04, G06, G08, G10	1.0 mcd @ 20 mA
ML1646-X021	R08, Y08, G08	Flat 100° View. Angle	Yes	No	4		
ML1646-X121	R10, Y10, G10	Flat 100° View. Angle	Yes	Yes	4a		

\*Substitute color X in Model No., i.e.: R=RED Y=YELLOW G=GREEN

### ORDERING INFORMATION

When ordering, show model number first, then LED color, EMI screen, coated lens, and the type of lead desired. If this is a special part, the factory assigned modification number will be added at the end of the ordering number.

Example: Basic model with red a LED, with a screen and type of lead would be model ML 1640 - R-1-2-1.





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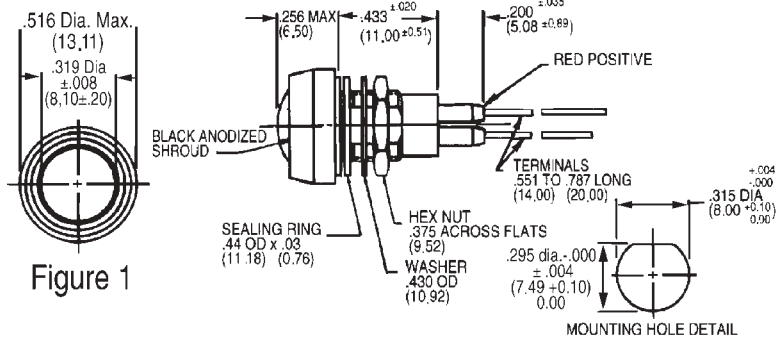


Figure 1



ML 1640 Series

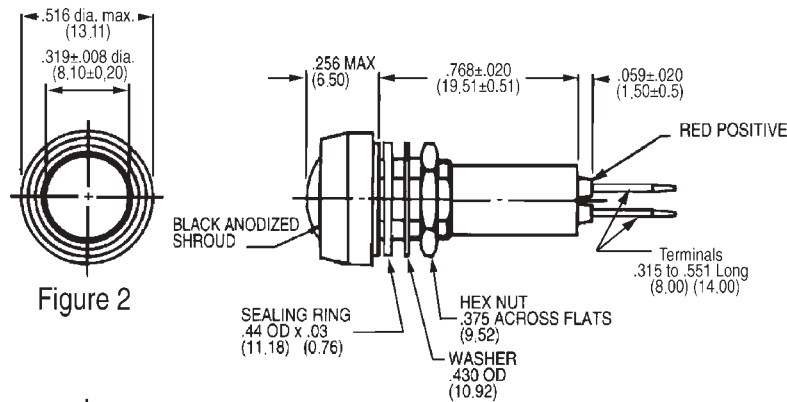
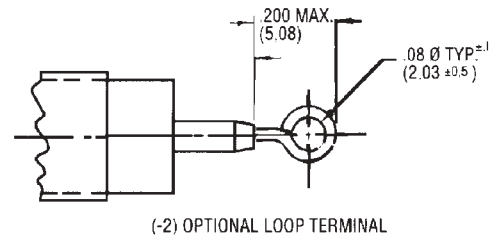


Figure 2



(-2) OPTIONAL LOOP TERMINAL



WITH EMI SCREEN  
Figure 2a

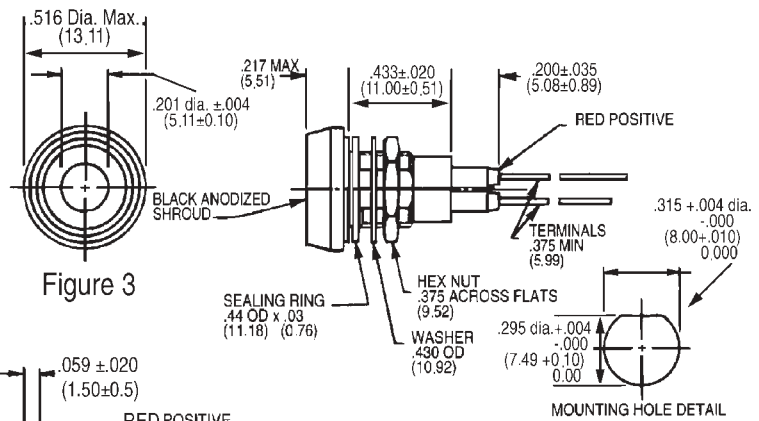


Figure 3

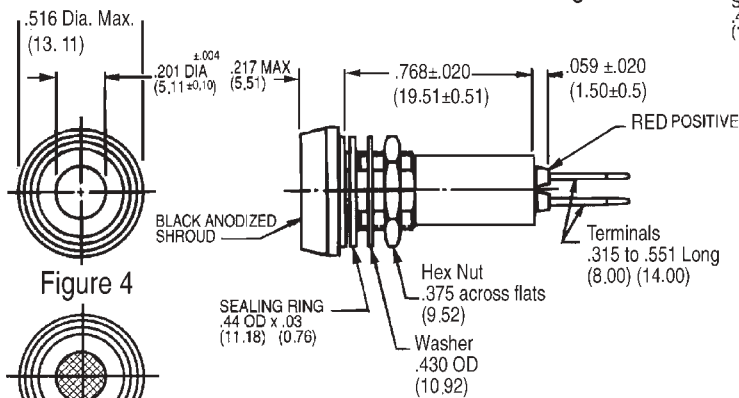
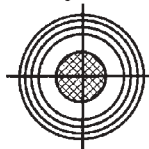
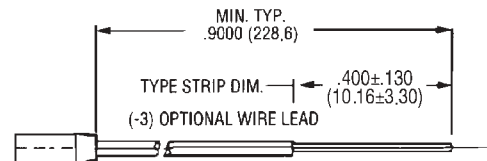


Figure 4



WITH EMI SCREEN  
Figure 4a



(-3) OPTIONAL WIRE LEAD

**NOTE:**

Dimensions in ( ) are mm. Tolerances: Decimals: ± .010 (0,25) Fractions: ± 1/64 Mounting Torque: 5-7 in. lbs.

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