

LED INDICATOR MIL-SPEC



LED INDICATORS

ML1640 Series

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 drawing 85122. It is panel mountable with solderable leads and includes hardware. Available with anti-reflection lens coating.

ML1640



FEATURES

- Design meets DESC drawing 85122
- Environmentally sealed
- Optional EMI protection screen
- Colors: red, yellow & green
- Panel mount

MECHANICAL SPECIFICATIONS

- Bezel:** Aluminum, black anodized
- Case:** Aluminum, clear chromate
- Mounting:** Front panel by 5/16"-32 nut and lockwasher
- Seal:** Environmentally sealed with front panel PTFE ring seal

ENVIRONMENTAL SPECIFICATIONS

Units meet 100% screening in compliance with DESC 85122 and MIL-STD-750.

ELECTRO-OPTICAL CHARACTERISTIC SPECIFICATIONS

Absolute Maximum Ratings @Temp = 25°C			
Color	Red	Yellow	Green
Forward Voltage (VDC) Typical $I_F @ 20\text{ mA}$	1.9	2.1	2.2
Peak Forward Current (mA)	90	60	90
DC Forward Current (mA)	30	20	30
Reverse Voltage (VDC) @ $I_R = 100\ \mu\text{A}$	5	5	5
Power Dissipation (mW)	135 ①	85 ②	135 ①
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		

Notes: ① Derate at 1.8 mW/°C above +25°C Ambient
② Derate at 1.6 mW/°C above +50°C Ambient

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

Notes: ③ Substitute color X in Model No., i.e.: R=RED Y=YELLOW G=GREEN
④ Add 1A to end of DESC P/N's

DESC 85122 Dash No. ④	Min. Luminous Intensity @ Forward Current
R01, R02, R11	15 mcd @ 10 mA
Y01, Y02, Y11	12 mcd @ 10 mA
G01, G02, G11	12 mcd @ 20 mA
R03, R05, R07, R09	10 mcd @ 20 mA
Y03, Y05, Y07, Y09	5 mcd @ 15 mA
G03, G05, G07, G09	10 mcd @ 20 mA
R04, R06, R08, R10	1.0 mcd @ 15 mA
Y04, Y06, Y08, Y10	0.5 mcd @ 15 mA
G04, G06, G08, G10	1.0 mcd @ 20 mA

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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, a factory assigned modification number will be added at the end of the ordering number. Consult the factory for special configurations.

Example: Basic model with red LED, EMI screen, uncoated lens, and straight lead would be model ML1644-R111.

ML1644 - R 1 1 1

Basic Model Number	LED Color	EMI Screen	Lens Coating	Terminal Style
ML1640	R Red	0 None	1 Uncoated	1 Straight Tin Lead
	Y Yellow	1 Screen	2 Anti-reflection Coating	2 Loop Terminals
	G Green			

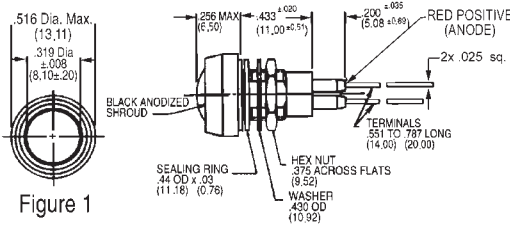


Figure 1

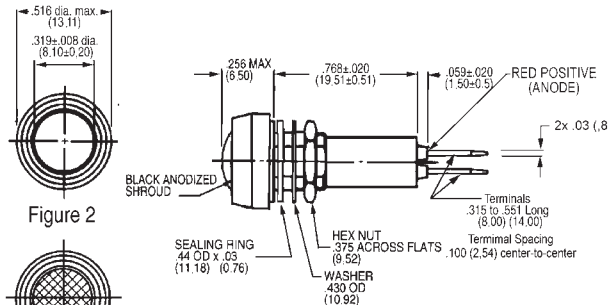
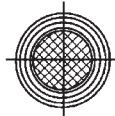


Figure 2



WITH EMI SCREEN

Figure 2a

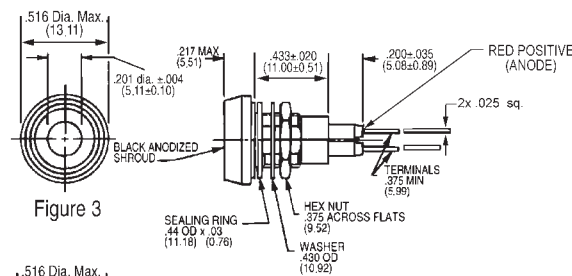


Figure 3

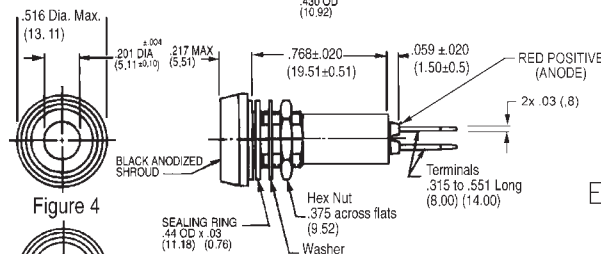
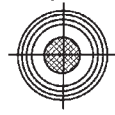
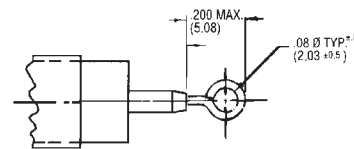


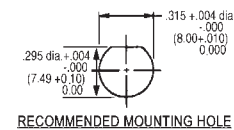
Figure 4



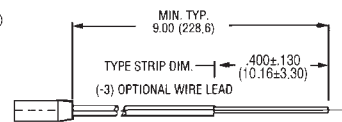
WITH EMI SCREEN
Figure 4a



(-2) OPTIONAL LOOP TERMINAL



RECOMMENDED MOUNTING HOLE



Schematic

ML1640 Series

NOTE: Dimensions in () are mm. Tolerances: Decimals: ± .010 (0.25)
Fractions: ± 1/64 Mounting Torque: 5-7 in. lbs.

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