

CLEAR LENS T-100 SOLID STATE LAMPS

96 DE 9387560 0001176 2



CHICAGO MINIATURE BRAND

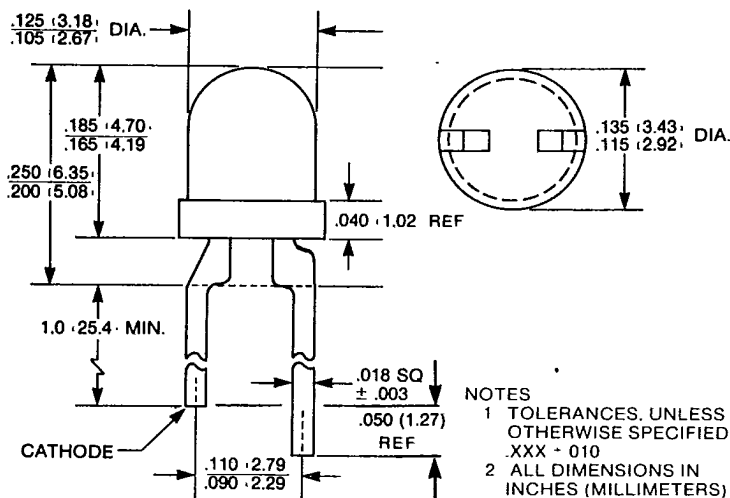
9387560 V C H INC

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D T-41-21

YELLOW CMD5362X TINTED, HLMP-1440, CMD5360 PALE TINT
HIGH EFFICIENCY GREEN CMD5462X TINTED, HLMP-1540, CMD5460 PALE TINT
HIGH EFFICIENCY RED CMD5762X TINTED, HLMP-1340, CMD5760 PALE TINT

PACKAGE DIMENSIONS



NOTES
 1 TOLERANCES, UNLESS OTHERWISE SPECIFIED .XXX ± 010
 2 ALL DIMENSIONS IN INCHES (MILLIMETERS)

C1533G

DESCRIPTION

These solid state indicators offer a variety of color selection. The High Efficiency Red and Yellow devices are made with gallium arsenide phosphide on gallium phosphide. All are encapsulated in epoxy packages and have clear lenses. Their small size, wide viewing angle, and small square leads contribute to their versatility as all-purpose indicators. All types are tinted to aid identification.

FEATURES

- Standard and Ultrabright devices
- Clear tinted lenses
- 100 mil lead spacing
- High efficiency GaP
- Versatile mounting on PC board or panel
- Long life—solid state reliability
- Low power requirements
- Compact, rugged, lightweight
- T-1 diameter
- Replacement for the HLMP-1X20/1 Series
- Excellent for switch backlighting

PHYSICAL CHARACTERISTICS

TYPE	SOURCE COLOR	LENS EFFECT	LUMINOUS INTENSITY at 25° C (mcd)		TEST CONDITION	
			MIN.	TYP.		
Ultrabright	HLMP-1440	Yellow	Pale Tint	24.0	60.0	I _F = 20 mA
	CMD5360 (HLMP-1420)	Yellow	Pale Tint	6.0	12.0	
	CMD53621	Yellow	Tinted	3.0	4.0	
	CMD53622	Yellow	Tinted	6.0	8.0	
Ultrabright	HLMP-1540	High Efficiency Green	Pale Tint	24.0	60.0	I _F = 20 mA
	CMD5460 (HLMP-1520)	High Efficiency Green	Pale Tint	6.0	12.0	
	CMD54624 (HLMP-1521)	High Efficiency Green	Tinted	6.0	12.0	
Ultrabright	HLMP-1340	High Efficiency Red	Pale Tint	24.0	60.0	I _F = 20 mA
	CMD5760 (HLMP-1320)	High Efficiency Red	Pale Tint	6.0	12.0	
	CMD57620	High Efficiency Red	Tinted	1.5	2.0	I _F = 10 mA
	CMD57621	High Efficiency Red	Tinted	3.0	4.0	
	CMD57622 (HLMP-1321)	High Efficiency Red	Tinted	6.0	12.0	

HLMP-1X40 CMD5X62X CMD5X60

ABSOLUTE MAXIMUM RATINGS (T_A = 25° C Unless Otherwise Specified)

Power dissipation	120 mW
Derate linearly from 50°	0.4 mA/° C
Storage and operating temperature	-55° C to +100° C
Lead soldering time at 260° C (1/16 inch from body)	5 sec.
Continuous forward current	30 mA
Peak forward current (1 μsec pulse, 0.3% duty cycle)	90 mA
Reverse voltage	5.0 V

ELECTRO-OPTICAL CHARACTERISTICS (25° C Free Air Temperature Unless Otherwise Specified)

PARAMETER	TEST CONDITIONS	UNITS	CMD5362X CMD5360	CMD5462X CMD5460	CMD5762X CMD5760	HLMP-1340	HLMP-1440	HLMP-1540
Forward voltage (V _F)								
typ.	I _F = 10 mA	V	2.1	2.1*	2.0	2.2*	2.2*	2.2*
max.			3.0	3.0*	3.0	3.0*	3.0*	3.0*
Peak wavelength		nm	585	565	635	635	585	565
Spectral line half width		nm	35	40	45	45	35	40
Capacitance								
typ.	f = 1 MHz, V = 0	pF	45	20	45	45	45	20
Reverse voltage (V _R)								
min.	I _R = 100 μA	V	5.0	5.0	5.0	5.0	5.0	5.0
Viewing angle (total)								
typ.	See Fig. 3	degrees	45	45	45	24	24	24

*I_F = 20 mA

TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES (25° C Free Air Temperature Unless Otherwise Specified)

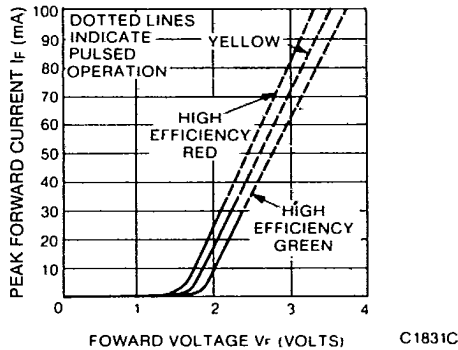


Fig. 1. Forward Current vs. Forward Voltage

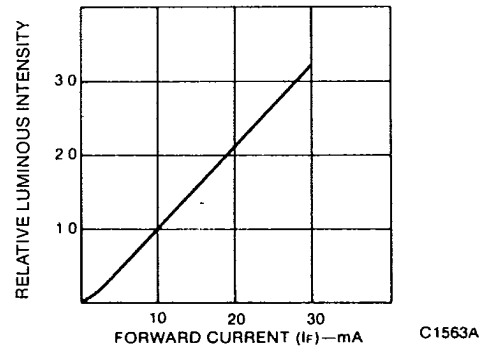


Fig. 2. Relative Luminous Intensity vs. Forward Current

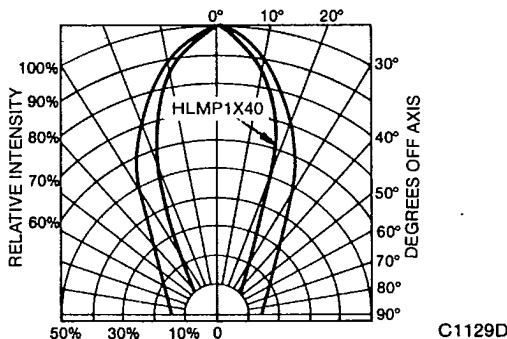


Fig. 3. Spatial Distribution

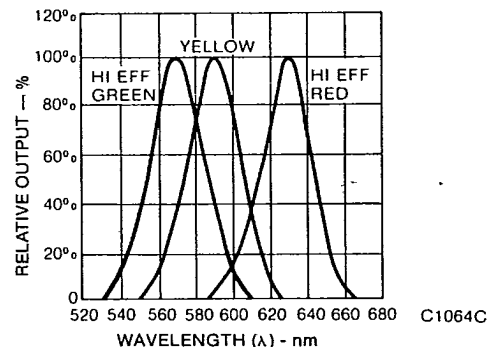


Fig. 4. Spectral Distribution