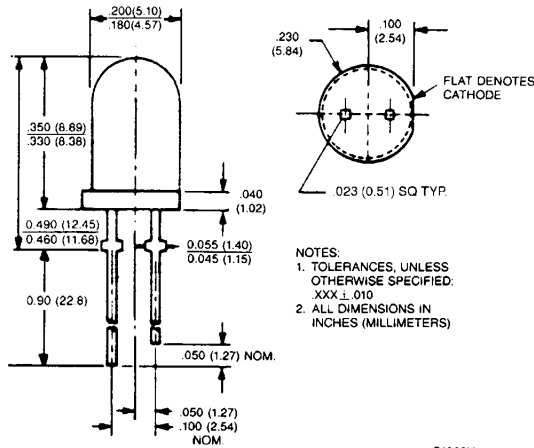




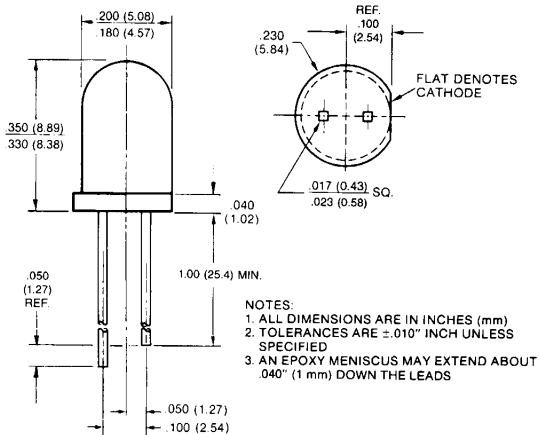
**ULTRABRIGHT T-1³/₄
SOLID STATE LAMPS**

**ULTRABRIGHT HLMP-3X50A SERIES
MV3X50A SERIES**

PACKAGE DIMENSIONS



HLMP-3X50A



MV3X50A

DESCRIPTION

The Ultrabright HLMP-3X50A Series are direct, pin-for-pin replacements for the Hewlett-Packard devices with the same part numbers.

HLMP-3X50A in High Efficiency Red, Yellow and High Efficiency Green are very narrow viewing angle Clear lamps in a standard T-1³/₄ package.

By using more efficient LED chips, these lamps are superior in Luminous Intensity compared to other lamps.

Lamps have Pale Tinted package to aid identification.

FEATURES

- Minimum 80 mcd
- All three colors
- Pale Tint avoids mix problems
- Sturdy leads with or without stand-off on T-1³/₄
- Excellent for small area backlighting
- High Efficiency Red
HLMP-3750A
MV3750A
- High Efficiency Green
HLMP-3950A
MV3450A
- Yellow
HLMP-3850A
MV3350A



ULTRABRIGHT T-1³/₄ SOLID STATE LAMPS

ELECTRO-OPTICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ Unless Otherwise Specified)							
PARAMETER		SYMBOL	MV3750A HLMP-3750A	MV3350A HLMP-3850A	MV3450A HLMP-3950A	UNITS	TEST CONDITIONS
Luminous Intensity	min.	I_v	80	80	80	mcd	$I_f=20\text{ mA}$
	typ.		150	150	150	mcd	$I_f=20\text{ mA}$
Forward voltage	max.	V_f	3.0	3.0	3.0	V	$I_f=20\text{ mA}$
	typ.		2.2	2.2	2.2	V	$I_f=20\text{ mA}$
Peak wavelength	typ.	λ_p	635	585	565	nm	$I_f=10\text{ mA}$
Capacitance	typ.	C	45	45	20	pF	$V_f=0, f=1\text{ MHz}$
Reverse breakdown voltage	min.	BV_R	5	5	5	V	$I_R=100\ \mu\text{A}$
Total viewing angle between half Luminous Intensity points	typ.	$2\theta_{1/2}$	24	24	24	degrees	

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ Unless Otherwise Specified)					
PARAMETER	HI. EFF. RED	YELLOW	HI. EFF. GREEN	UNITS	NOTES
Power dissipation	135	85	135	mW	1
Peak forward current	90	60	90	mA	
Average forward current	25	20	25	mA	
Continuous DC forward current	30	20	30	mA	2
Lead soldering time at 260°C	5	5	5	seconds	3
Operating and storage temperature	-55 to $+100^\circ\text{C}$				

NOTES
1. For High Efficiency Red and High Efficiency Green, derate power linearly from 25°C at $1.8\text{ mW}/^\circ\text{C}$. For Yellow derate power linearly from 50°C at $1.6\text{ mW}/^\circ\text{C}$.
2. For High Efficiency Red and High Efficiency Green derate linearly from 50°C at $0.5\text{ mA}/^\circ\text{C}$. For Yellow derate linearly from 50°C at $0.2\text{ mA}/^\circ\text{C}$.
3. To a point of minimum $1/16$ inch (1.6 mm) from the bottom of the lamp.

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

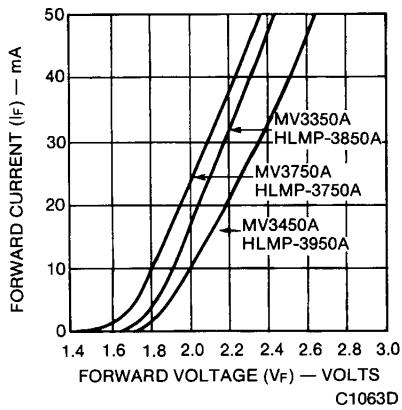


Fig. 1. Forward Voltage/
Forward Current

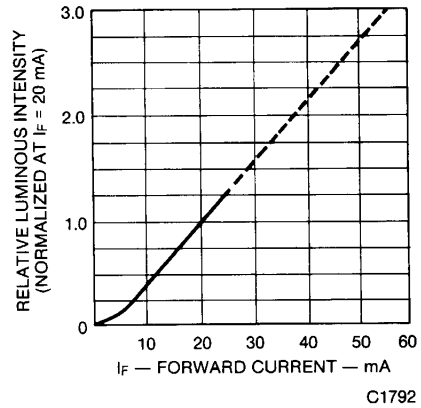


Fig. 2. Relative Luminous Intensity vs.
DC Forward Current

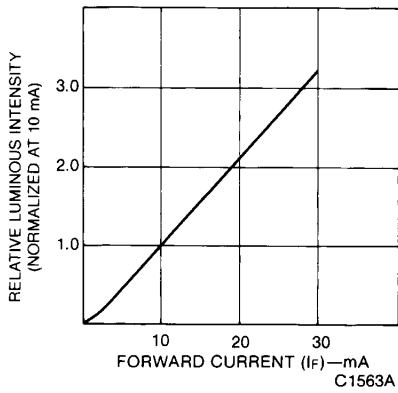


Fig. 3. Spatial Distribution

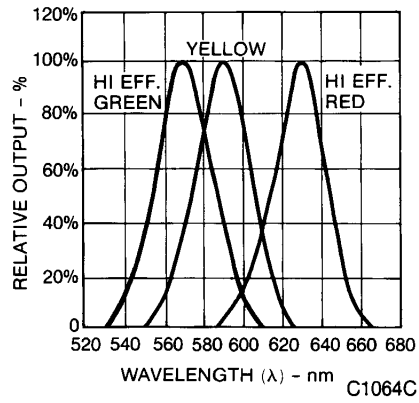


Fig. 4. Spectral Distribution