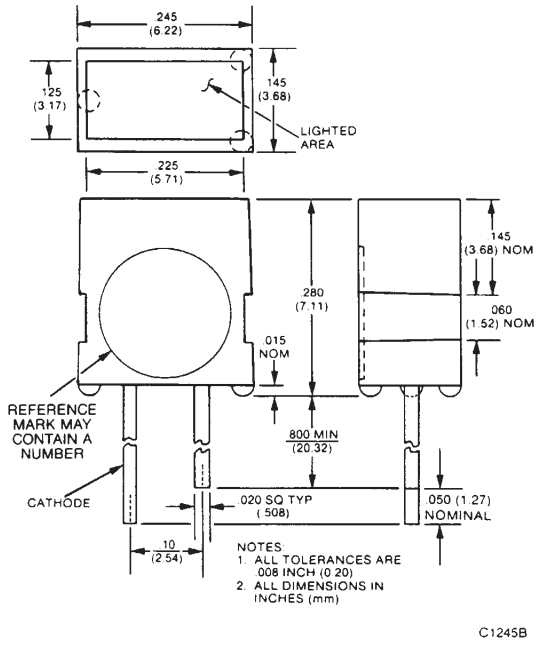
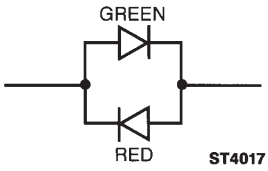
FAIRCHILD
SEMICONDUCTOR™

RECTANGULAR SOLID STATE LAMPS

YELLOW MV53124A
HIGH EFFICIENCY GREEN MV54124A
HIGH EFFICIENCY RED MV57124A
HIGH EFFICIENCY GREEN/AlGaAs RED MV49124A

PACKAGE DIMENSIONS





ST4017

FOR MV49124A

DESCRIPTION

The MV5X124A Series of rectangular high performance LED lamps with reflector cap has been engineered for much improved light uniformity which is especially important in direct view and legend backlighting. Includes a Green/Red version—MV49124A. The Green chip is the same as is used in MV54124A, while the Red chip is AlGaAs at 660 nm to achieve a bright Dark Red color in the non-tinted diffused epoxy.

FEATURES

- Uniform illumination
- Increased typical brightness
- Tighter mechanical tolerances for base of design
- Stackable in X or Y direction without crosstalk
- .220″ × .125″ lighted area for direct view or legend backlighting
- Use Black MP65 two piece grommet for panel mounting
- Superior quality

APPLICATIONS

- Legend backlighting
- Panel indicator
- High quality bargraphs

PHYSICAL CHARACTERISTICS

TYPE	SOURCE COLOR	LENS EFFECT
MV53124A	Yellow	Yellow Diffused
MV53124A	High Eff. Green	Green Diffused
MV57124A	High Eff. Red	Red Diffused
MV49124A	High Eff. Green/AlGaAs Red	White Diffused

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

PARAMETER		SYMBOL	MV 53124A	MV 54124A	MV 57124A	MV 49124A	UNITS	TEST COND.	NOTES
Luminous Intensity	min.	I_V	1.0	1.0	1.0	1.0	mcd	I_F=20 mA	
	typ.		6.0	6.0	6.0	6.0	mcd	I_F=20 mA	
Forward voltage	typ.	V_F	2.0	2.2	2.0	2.2	V	I_F=20 mA	
	max.		3.0	3.0	3.0	3.0	V	I_F=20 mA	
Peak wavelength		λp	585	562	635	562/660	nm	I_F=20 mA	
Spectral line half width			45	30	45	30/45	nm	I_F=20 mA	
Reverse voltage	min.	V_{BR}	5	5	5		V	I_R=100 μA	
Reverse current	max.	I_R	100	100	100		μA	V_R=5.0 V	
Capacitance		C	45	20	45	20/30	pF	V=0, f=1 MHz	
Viewing angle (total)		2θ½	100	100	100	100	degrees		

ABSOLUTE MAXIMUM RATINGS (25°C Unless Otherwise Specified)

PARAMETER	ALL DEVICES	UNITS	NOTES
Power dissipation	120	mW	1
Continuous forward current	30	mA	
Peak forward current (1 μs, 0.3% DF)	90	mA	
Lead soldering time at 260° C	5	seconds	2
Operating and storage temperatures	−55°C to +100°C		

NOTES

1. *Derate linearity from 25°C at 1.6 mW/°C.*
2. *From a point minimum 1/16 inch (1.6 mm) from the bottom of the lamp.*

TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES

(25°C Temperature Unless Otherwise Specified)

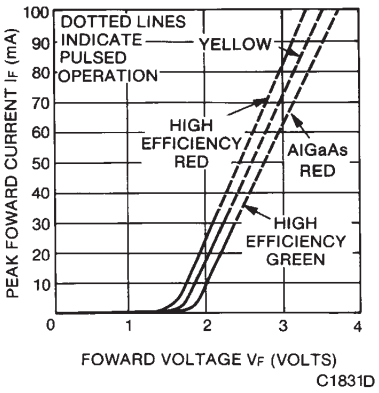

Fig. 1. Forward Current vs. Forward Voltage

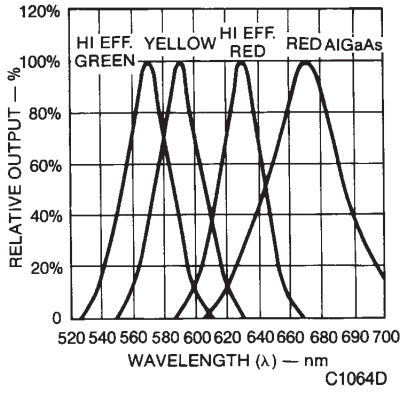

Fig. 2. Spectral Distribution

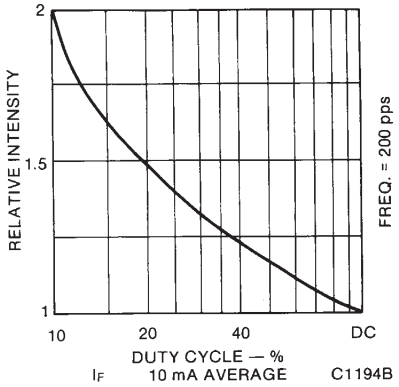

Fig. 3. Luminous Intensity vs. Duty Cycle

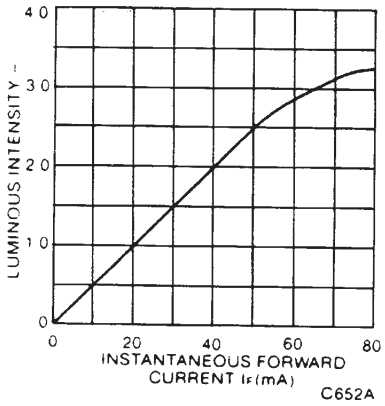

Fig. 4. Luminous Intensity vs. Forward Current

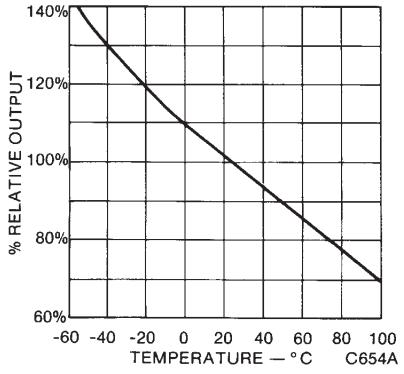

Fig. 5. Output vs. Temperature

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