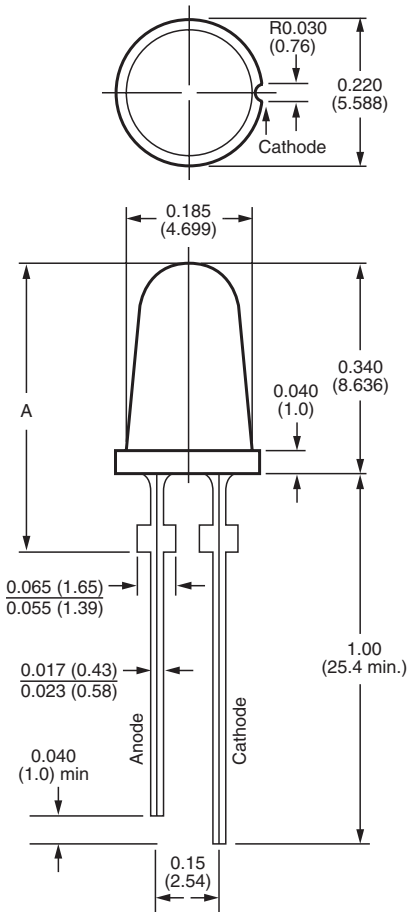
FAIRCHILD
SEMICONDUCTOR®

TAPERED PACKAGE T-1 3/4
SOLID STATE LAMPS

MV502XA — Standard Red

PACKAGE DIMENSIONS



NOTES:
1. All dimensions in inches (mm).
2. Tolerances are ±0.010" (0.25mm) unless other specified.

DESCRIPTION

The MV502X series of solid state indicators is made with gallium arsenide phosphide light emitting diodes. Encapsulation and lens is epoxy. Various lens effects are available for many indicators applications.

FEATURES

- Tapered barrel T-1 3/4
- Red light source with various lens colors and effects
- T-1 3/4 with stand-off
- Versatile mounting on PC board or panel

PHYSICAL CHARACTERISTICS

Type	A	Lens Color	Lens Effect
MV5021A	0.430 ±0.015 (10.92 ±0.381)	White Diffused	Soft
MV5022A		Transparent Red	Point
MV5023A		Red Diffused	Soft
MV5024A	0.460 ±0.015 (11.60 ±0.381)	Red Diffused	Soft
MV5025A		Red Diffused	Flooded
MV5026A		Dark Red Diffused	Flooded

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ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise specified)		
Parameter	**Rating**	**Unit**
Power dissipation at 25°C ambient	180	mW
Derate linearly from 25°C	2	mW°C
Storage and operating temperatures	–55°C to +100	°C
Lead soldering time at 260°C (See Note 1)	5	sec
Continuous forward current at 25°C	100	mA
Peak forward current (1µsec pulse, 0.3% duty cycle)	1.0	A
Reverse voltage	5.0	V

Notes

1. The leads of the device were Immersed in molten solder at 260°C to a point 1/16 inch (1.6mm) from the body of the device per MIL-S-750, with a dwell time of 5 seconds.

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)									
Part Number		**Test Conditions**	**Units**	**5021A**	**5022A**	**5023A**	**5024A**	**5025A**	**5026A**
Luminous Intensity	min.	I_F = 20 mA	mcd	0.5	0.6	0.4	0.9	0.1	0.1
	typ.	I_F = 20 mA	mcd	1.6	1.6	1.6	3.0	0.4	0.6
Peak Wavelength		I_F = 20 mA	nm	660	660	660	660	660	660
Spectral line half width		I_F = 20 mA	nm	20	20	20	20	20	20
Forward voltage V_F	typ.	I_F = 20 mA	V	1.65	1.65	1.65	1.65	1.65	1.65
	max.	I_F = 20 mA	V	2.0	2.0	2.0	2.0	2.0	2.0
Reverse current I_n	max.	V_R = 5.0V	µA	100	100	100	100	100	100
Reverse voltage V_R	min.	I_R = 100 µA	V	5.0	5.0	5.0	5.0	5.0	5.0
Capacitance	typ.	V = 0	pF	35	35	35	35	35	35
Viewing Angle		Between 50% Points	degrees	90	90	90	60	180	90
Rise time		10%-90% 50Ω system	nsec	50	50	50	50	50	50
and fall time	typ.	90%-10% 50Ω system	nsec	50	50	50	50	50	50

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TYPICAL PERFORMANCE CURVES

Fig. 1 Output vs. Temperature

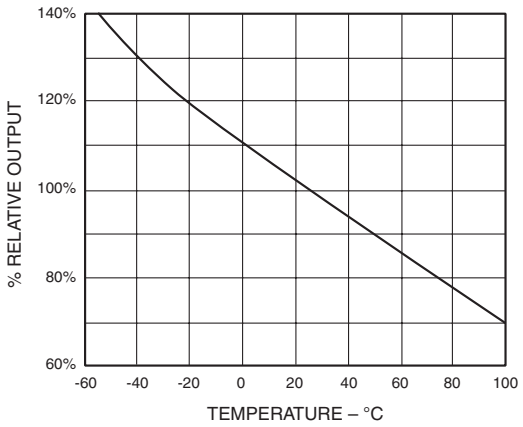


Fig. 2 Forward Current vs. Forward Voltage

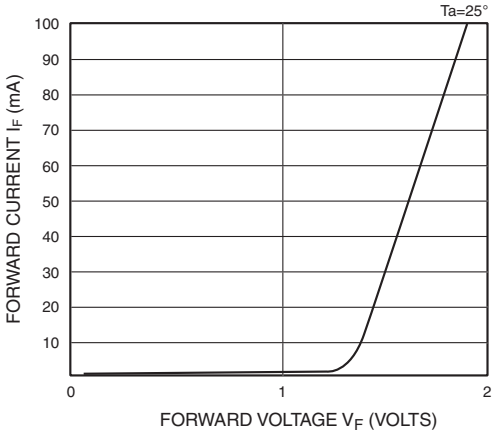


Fig. 3 Radiated Output Power vs. Peak Forward Current

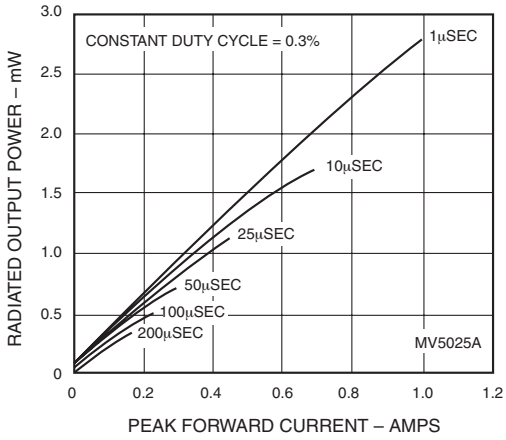


Fig. 4. Spatial Distribution

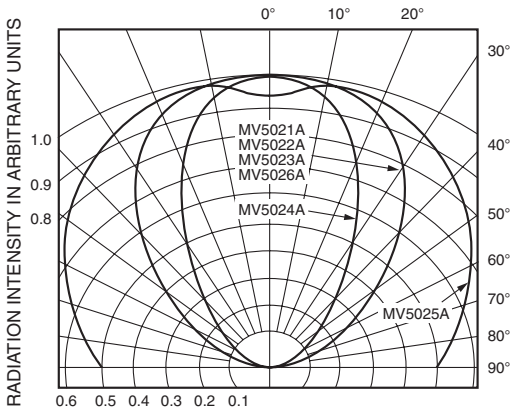
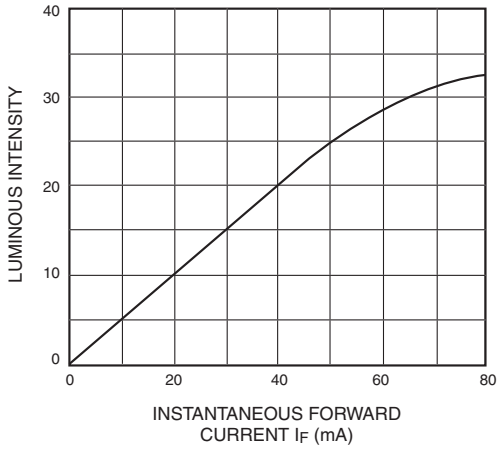


Fig. 5 Forward Intensity vs. Forward Current



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