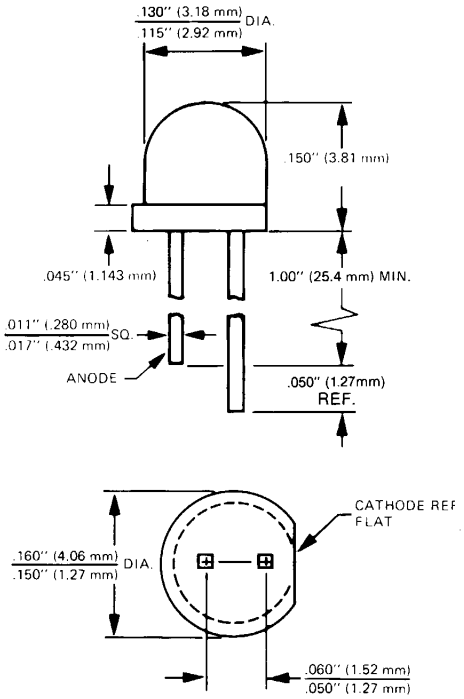
QT OPTOELECTRONICS

LOW PROFILE T-1 SOLID STATE LAMPS

STANDARD RED MV5077C HIGH EFFICIENCY GREEN MV5477C
YELLOW MV5377C HIGH EFFICIENCY RED MV5777C

PACKAGE DIMENSIONS



NOTE: TOLERANCE ± .010" UNLESS SPECIFIED

C1132A

DESCRIPTION

These solid state indicators offer a low profile T-1 package. The High Efficiency Red, Green and Yellow devices are made with a gallium arsenide phosphide on gallium phosphide. All are encapsulated in epoxy packages. Their small size (approximately T-1 size), good viewing angle, and small square leads contribute to their versatility as all purpose indicators.

FEATURES

- Square leads (will fit into .020-inch (.508 mm) diameter holes)
- Compact size
- Very wide viewing angle
- Long life, rugged
- Mount on approximately 3/16-inch (4.72 mm) centers
- Tinted diffused

PHYSICAL CHARACTERISTICS

TYPE	SOURCE COLOR	LENS COLOR	LENS EFFECT	PACKAGE STYLE
MV5077C	Standard Red	Red Diffused	Wide Beam	Low Profile
MV5377C	Yellow	Yellow Diffused	Wide Beam	Low Profile
MV5477C	High Efficiency Green	Green Diffused	Wide Beam	Low Profile
MV5777C	Red	Red Diffused	Wide Beam	Low Profile

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

PARAMETER		SYMBOL	TEST COND.	UNITS	MV5077C	MV5377C	MV5477C	MV5777C
Forward voltage	typ.	V_F	I_F=20 mA	V	1.6	2.1	2.2	2.0
	max.		I_F=20 mA	V	2.0	3.0	3.0	3.0
Luminous Intensity	min.	I_V	I_F=20 mA	mcd	0.3	1.0	1.0	1.0
	typ.		I_F=20 mA	mcd	1.75	7.0	7.0	7.0
Peak wavelength		λp	I_F=20 mA	nm	660	585	565	635
Spectral line half width			I_F=20 mA	nm	20	35	35	45
Capacitance	typ.	C	V=0	pF	23	45	20	45
Reverse voltage	min.	V_R	I_R=100 μA	V	5	5	5	5
	typ.		I_R=100 μA	V	15	25	25	25
Viewing angle (total)	(Fig. 3)	2θ½		degrees	180	180	180	180

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

Power dissipation	105 mW
Derate linearly from 25°C	−1.14 mW/°C
Storage and operating temperature	−55°C to +100°C
Continuous forward current (MV5377C=20 mA)	35 mA
Peak forward current (μsec pulse 0.3% duty cycle) (MV5477C=90 mA) (MV5377C=60 mA)	1.0 A
Reverse voltage	5.0 V
Lead soldering time at 260°C (See Note 1)	5 sec.

TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES

(25°C Free Air Temperature Unless Otherwise Specified)

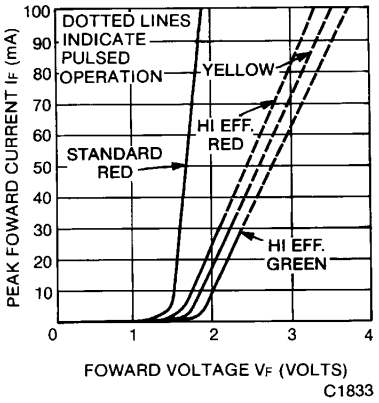

Fig. 1. Forward Current vs. Forward Voltage

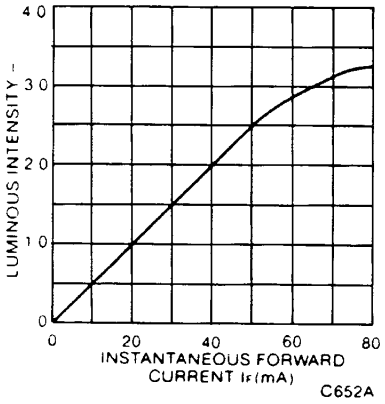

Fig. 2. Luminous Intensity vs. Forward Current

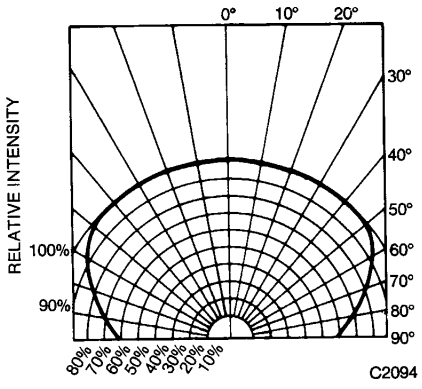

Fig. 3. Spatial Distribution

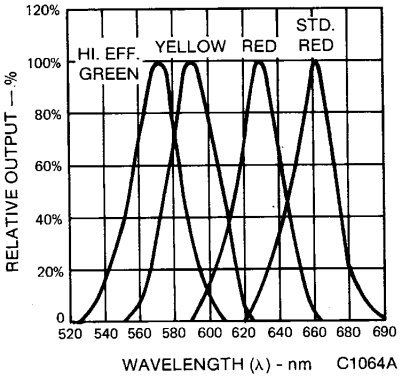

Fig. 4. Spectral Distribution

NOTES

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