Distributed by:

JAMECO® ELECTRONICS

www.Jameco.com ✦ 1-800-831-4242

The content and copyrights of the attached material are the property of its owner.

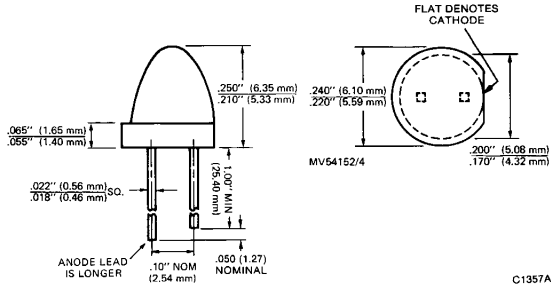
Jameco Part Number 1870260

FAIRCHILD
SEMICONDUCTOR™

BULLET PROFILE T-1¾
SOLID STATE LAMPS

STANDARD RED MV50152/4
YELLOW MV53152/4
HIGH EFFICIENCY GREEN MV54152/4
HIGH EFFICIENCY RED MV57152/4

PACKAGE DIMENSIONS



NOTES:
1. ALL DIMENSIONS ARE IN INCHES (mm)
2. TOLERANCES ARE .010 INCH UNLESS SPECIFIED
3. AN EPOXY MENISCUS MAY EXTEND ABOUT .040" (1 mm) DOWN THE LEADS

DESCRIPTION

These solid state indicators offer a variety of lens effects and color availability in a short barrel T-1¾ package. The High Efficiency Red, High Efficiency Green and Yellow devices are made with gallium phosphide.

FEATURES

- High intensity light source with two lens effects
- Red, High Efficiency Red, High Efficiency Red, High Efficiency Green and Yellow colors available
- Versatile mounting on PC board or panel
- Long life—solid state reliability
- Low power requirements
- Compact, rugged, lightweight
- High efficiency
- MV5X154 diffused, MV5X152 non-diffused
- Short T-1¾ size

PHYSICAL CHARACTERISTICS

TYPE	SOURCE COLOR	LENS COLOR	LENS EFFECT
MV50152	Standard Red	Red Clear	Point Source
MV50154	Standard red	Red Lightly Diffused	Soft Point Source
MV53152	Yellow	Amber Clear	Point Source
MV53154	Yellow	Amber Lightly Diffused	Soft Point Source
MV54152	High Efficiency Green	Green Clear	Point Source
MV54154	High Efficiency Green	Green Lightly Diffused	Soft Point Source
MV57152	High Efficiency Red	Orange Clear	Point Source
MV57154	High Efficiency Red	Orange Lightly Diffused	Soft Point Source

FAIRCHILD
SEMICONDUCTOR™

BULLET PROFILE T-1¾
SOLID STATE LAMPS

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

PARAMETER		SYMBOL	TEST COND.	UNITS	50152	50154	53152	53154	54152	54154	57152	57154
Forward voltage	typ.	V_F	I_F=10 mA	V	1.6	1.6	2.1	2.1	2.2	2.2	2.0	2.0
	max.		I_F=10 mA		2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0
Luminous Intensity	min.	I_V	I_F=10 mA	mcd	0.6	0.4	3.0	1.5	2.5	2.0	4.0	2.0
	typ.		I_F=10 mA	mcd	2.0	1.5	10.	8.0	15.0	12.0	10.0	8.0
Peak wavelength		λp	I_F=10 mA	nm	660	660	585	585	565	565	630	630
Spectral line half width			I_F=10 mA	nm	20	20	35	35	35	35	45	45
Capacitance	typ.	C	V=0	pF	30	30	45	45	20	20	45	45
Reverse voltage	min.	V_{BR}	I_R=100 μA	V	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Reverse current	max.	I_R	V_R=5.0 V	μA	100	100	100	100	100	100	100	100
Viewing angle (total) (See Fig. 2)		2θ½		degrees	45	50	45	50	45	50	45	50

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

Power dissipation (MV5015X)	180 mW
Power dissipation (MV5315X=85 mW)	105 mW
Derate linearly from 25°C (MV5015X)	2.0 mW/°C
Derate linealy from 25°C	1.14 mW/°C
Storage and operating temperatures	−55°C to +100°C
Lead soldering time at 260°C (See Note 2)	5 sec.
Continuous forward current (MV5015X)	100 mA
Continuous forward current (MV5315X=20 mA)	35 mA
Peak forward current (1μsec pulse, 0.3% duty cycle) (MV5415X=90 mA) (MV5315X=60 mA)	1.0 A
Reverse voltage	5.0 V

NOTES

1. *The axis of spatial distribution are typically within a 10° cone with reference to the central axis of the device.*
2. *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-Sd-750, with a dwell time of 5 seconds.*

TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES

(25°C Free Air Temperature Unless Otherwise Specified)

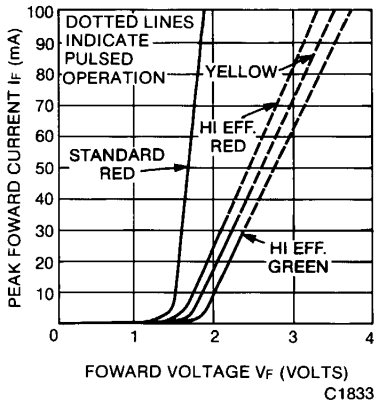


Fig. 1. Forward Current vs. Forward Voltage

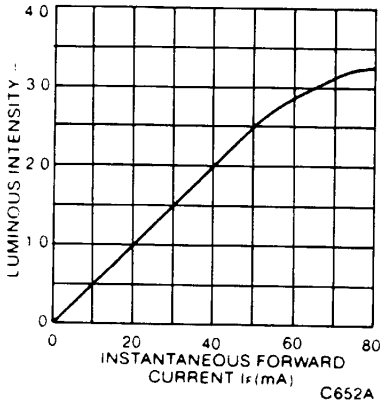


Fig. 2. Luminous Intensity vs. Forward Current

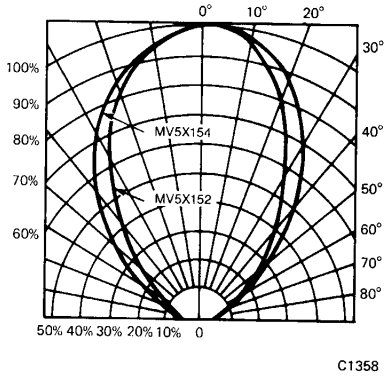


Fig. 3. Spatial Distribution (Note 1)

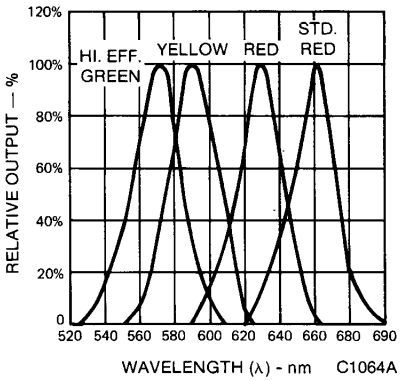


Fig. 4. Spectral Distribution

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

© 2000 Fairchild Semiconductor Corporation

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.