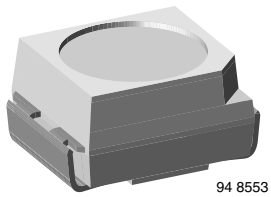
Standard SMD LED PLCC-2



DESCRIPTION

These devices have been designed to meet the increasing demand for surface mounting technology.

The package of the VLM.310. is the PLCC-2.

It consists of a lead frame which is embedded in a white thermoplast. The reflector inside this package is filled up with clear epoxy.

FEATURES

- SMD LEDs with exceptional brightness
- Luminous intensity categorized
- Compatible with automatic placement equipment
- EIA and ICE standard package
- Compatible with infrared, vapor phase and wave solder processes according to CECC 00802 and J-STD-020
- Available in 8 mm tape
- Low profile package
- Non-diffused lens: excellent for coupling to light pipes and backlighting
- Low power consumption
- Luminous intensity ratio in one packaging unit $I_{v\,max.}/I_{v\,min.} \leq 1.6$
- Preconditioning: acc. to JEDEC level 2a
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

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RoHS COMPLIANT

PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: SMD PLCC-2
- Product series: standard
- Angle of half intensity: ± 60°

APPLICATIONS

- Automotive: backlighting in dashboards, and switches
- Telecommunication: indicator and backlighting in telephone and fax
- Indicator and backlight for audio and video equipment
- Indicator and backlight in office equipment
- Flat backlight for LCDs, switches, and symbols
- General use

[illegible] AB

PART	COLOR	LUMINOUS INTENSITY (mcd)			at I_F (mA)	WAVELENGTH (nm)			FORWARD VOLTAGE (V)			at I_F (mA)	TECHNOLOGY
		MIN.	TYP.	MAX.		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
LMY3102-GS08	Yellow	7.1	-	18	10	581	-	594	-	2.1	2.8	20	GaAsP on GaP
LMY3102-GS18	Yellow	7.1	-	18	10	581	-	594	-	2.1	2.8	20	GaAsP on GaP
LMG3100-GS08	Green	4.5	16	-	10	562	-	575	-	2.2	2.8	20	GaP on GaP
LMG3100-GS18	Green	4.5	16	-	10	562	-	575	-	2.2	2.8	20	GaP on GaP
LMG3102-GS08	Green	11.2	-	18	10	562	-	575	-	2.2	2.8	20	GaP on GaP
LMG3102-GS18	Green	11.2	-	18	10	562	-	575	-	2.2	2.8	20	GaP on GaP
LMG3105-GS08	Green	7.1	-	18	10	562	-	575	-	2.2	2.8	20	GaP on GaP
LMG3105-GS18	Green	7.1	-	18	10	562	-	575	-	2.2	2.8	20	GaP on GaP
LMP3100-GS08	Pure green	1.12	4	-	10	555	-	565	-	2.1	2.8	20	GaP on GaP
LMP3100-GS18	Pure green	1.12	4	-	10	555	-	565	-	2.1	2.8	20	GaP on GaP
LMP3101-GS08	Pure green	1.8	-	4.5	10	555	-	565	-	2.1	2.8	20	GaP on GaP
LMP3101-GS18	Pure green	1.8	-	4.5	10	555	-	565	-	2.1	2.8	20	GaP on GaP
LMP3107-GS08	Pure green	2.8	-	7.1	10	555	-	565	-	2.1	2.8	20	GaP on GaP
LMP3107-GS18	Pure green	2.8	-	7.1	10	555	-	565	-	2.1	2.8	20	GaP on GaP
LMP3102-GS08	Pure green	2.8	-	5.6	10	555	-	565	-	2.1	2.8	20	GaP on GaP
LMP3102-GS18	Pure green	2.8	-	5.6	10	555	-	565	-	2.1	2.8	20	GaP on GaP

AB [illegible] 310., [illegible] 310., [illegible] 310., [illegible] 310., [illegible] 310. (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	6	V
DC forward current	$T_{amb} \leq 60$ °C	I_F	30	mA
Surge forward current	$t_p \leq 10$ µs	I_{FSM}	0.5	A
Power dissipation	$T_{amb} \leq 60$ °C	P_V	100	mW
Junction temperature		T_j	100	°C
Operating temperature range		T_{amb}	- 40 to + 100	°C
Storage temperature range		T_{stg}	- 40 to + 100	°C
Soldering temperature	t ≤ 5 s	T_{sd}	260	°C
Thermal resistance junction/ambient	Mounted on PC board (pad size > 16 mm²)	R_{thJA}	400	K/W

[illegible] CA A [illegible] C CA C A AC [illegible] C (T_{amb} = 25 °C, unless otherwise specified)
[illegible] 310., A B,

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity (1)	I_F = 10 mA	LMH3100	I_V	2.8	10	-	mcd
		LMH3101	I_V	4.5	-	11.2	mcd
		LMH3102	I_V	7.1	-	18	mcd
Dominant wavelength	I_F = 10 mA		λ_d	612	-	625	nm
Peak wavelength	I_F = 10 mA		λ_p	-	635	-	nm
Angle of half intensity	I_F = 10 mA		φ	-	± 60	-	deg
Forward voltage	I_F = 20 mA		V_F	-	2	2.8	V
Reverse voltage	I_R = 10 µA		V_R	6	15	-	V
Junction capacitance	V_R = 0 V, f = 1 MHz		C_j	-	15	-	pF

Note
(1) In one packing unit $I_{V\,max.}/I_{V\,min.} \leq 1.6$

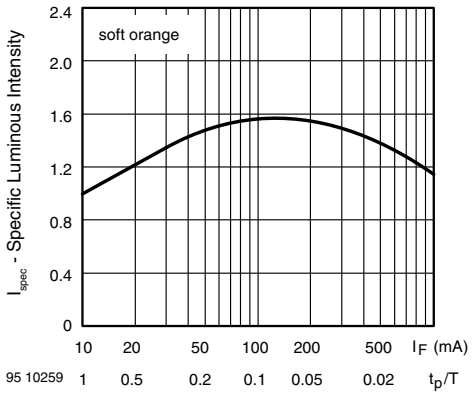


Fig. 11 - Specific Luminous Intensity vs. Forward Current/Duty Cycle

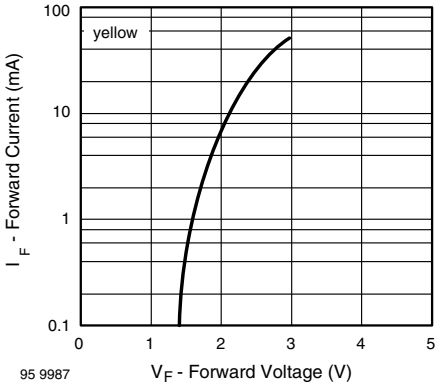


Fig. 14 - Forward Current vs. Forward Voltage

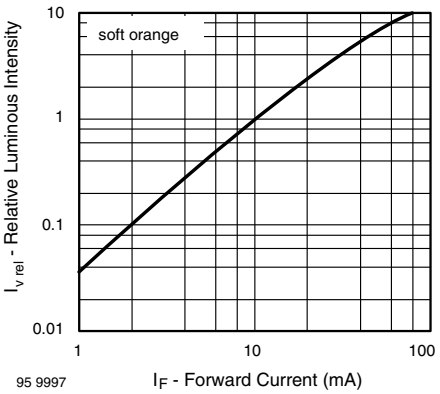


Fig. 12 - Relative Luminous Intensity vs. Forward Current

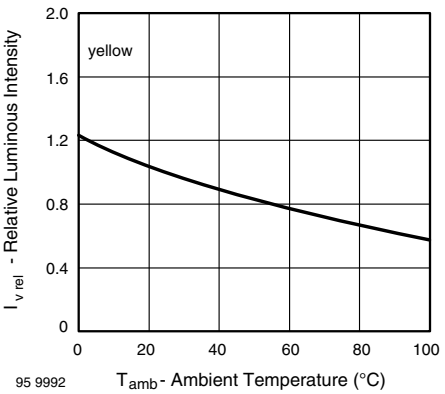


Fig. 15 - Relative Luminous Intensity vs. Ambient Temperature

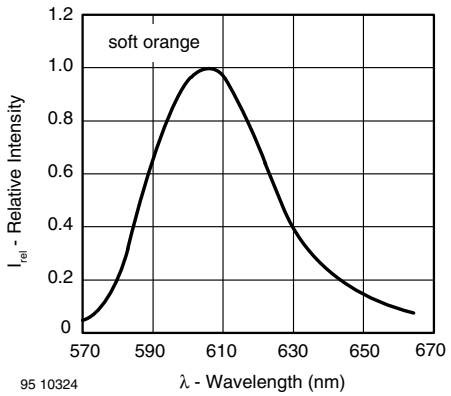


Fig. 13 - Relative Intensity vs. Wavelength

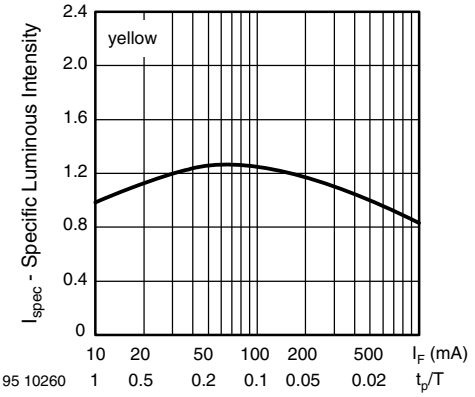


Fig. 16 - Specific Luminous Intensity vs. Forward Current/Duty Cycle

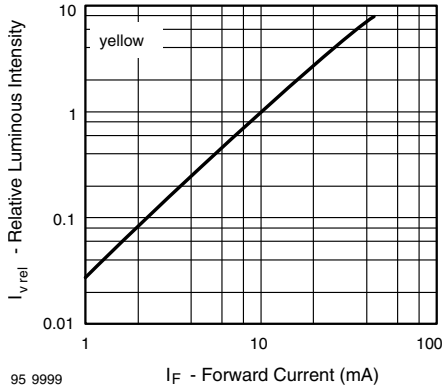


Fig. 17 - Relative Luminous Intensity vs. Forward Current

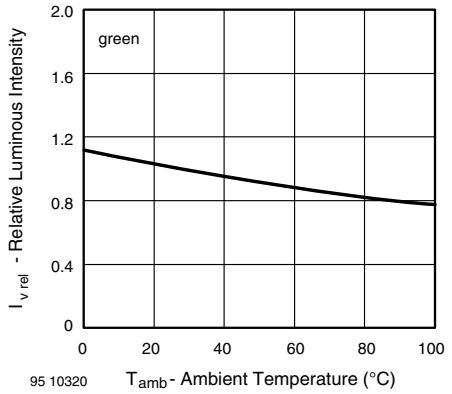


Fig. 20 - Relative Luminous Intensity vs. Ambient Temperature

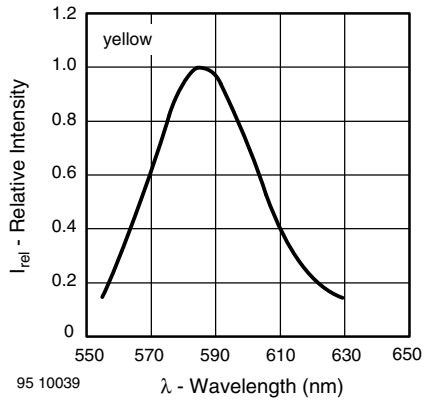


Fig. 18 - Relative Intensity vs. Wavelength

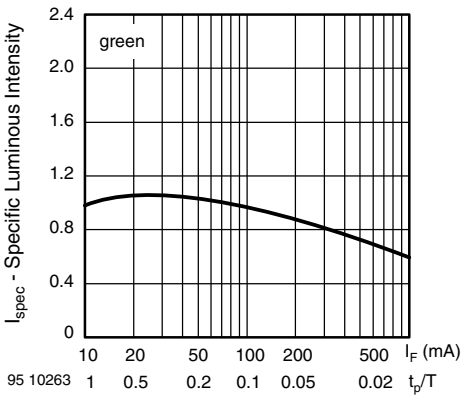


Fig. 21 - Specific Luminous Intensity vs. Forward Current

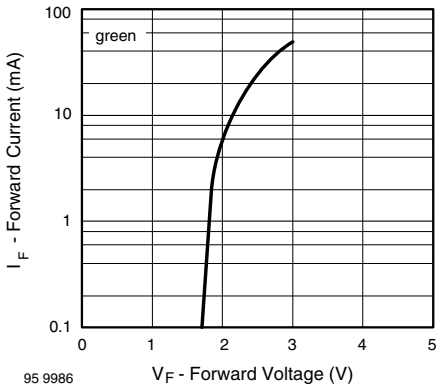


Fig. 19 - Forward Current vs. Forward Voltage

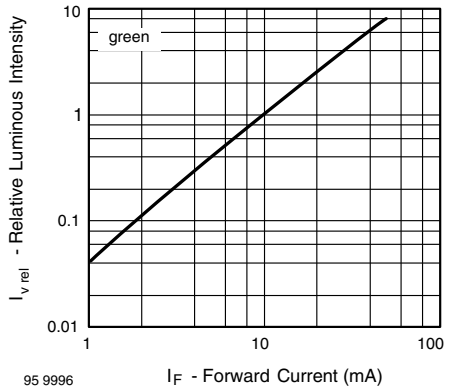
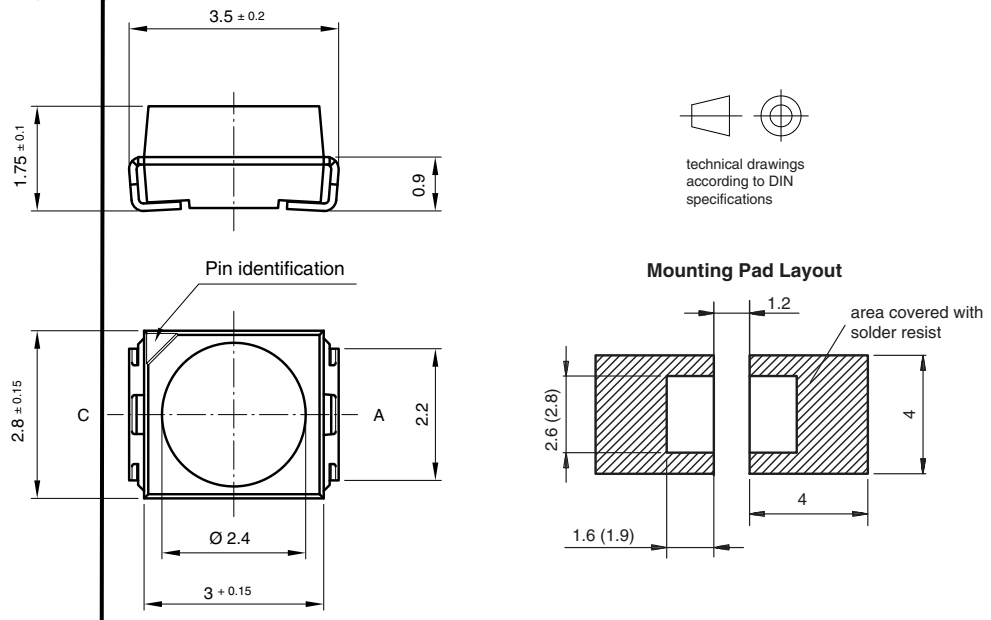


Fig. 22 - Relative Luminous Intensity vs. Forward Current

in millimeters



Drawing-No.: 6.541-5067.01-4
Issue: 5; 04.11.08
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Vishay's LEDs in SMD packages are available in an antistatic 8 mm blister tape (in accordance with DIN IEC 40 (CO) 564) for automatic component insertion. The blister tape is a plastic strip with impressed component cavities, covered by a top tape.

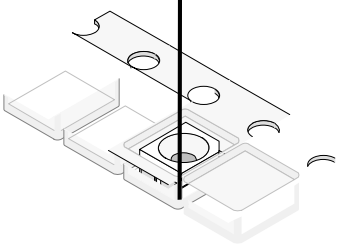

Fig. 29 - Tape Dimensions in mm for PLCC-2

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