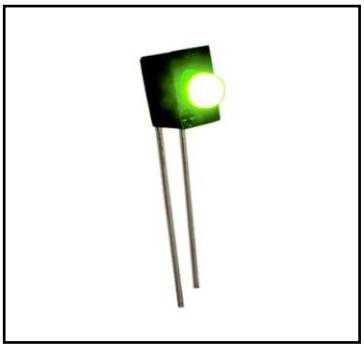
PCB MOUNTING LEDs - Ø 3mm



103 SERIES

PACK QUANTITY = 250 PIECES

FEATURES

- **Material conforms to UL94 V-O flammability ratings**
- **Low current versions available**
- **Reverse polarity options available**
- **Customised lead lengths available**
- **Product illustrated 103-305-04**
- **Typically available ex stock**

SPECIFICATIONS

Ordering Information & Typical Technical Characteristics (Ta = 25°C)

Mean Time Between Failure up to = 100,000 Hours. Luminous intensity figures refer to the unmodified discrete LED.

PART NUMBER	COLOUR	LENS	VOLTAGE DC Vopr	CURRENT DC Iopr	LUMINOUS INTENSITY Iv@20mA	WAVE LENGTH λp	OPERATING TEMP Topr	STORAGE TEMP Tstg	RoHS 2002/95/EC
STANDARD INTENSITY									
103-305-04	Red	Colour Diffused	2.0*	20	40	627	-40 ~ +85^	-40 ~ +85	Yes
103-311-04	Yellow	Colour Diffused	2.1*	20	30	590	-40 ~ +85^	-40 ~ +85	Yes
103-314-04	Green	Colour Diffused	2.2*	20	40	565	-40 ~ +85^	-40 ~ +85	Yes
103-330-04	Red/Green	White Diffused	2.0/2.2*	20	20/16	627/565	-40 ~ +85^	-40 ~ +85	Yes
103-381-20	Red	Colour Diffused	5	13	20@13mA	627	-40 ~ +70	-40 ~ +85	Yes
103-382-20	Yellow	Colour Diffused	5	13	15@13mA	590	-40 ~ +70	-40 ~ +85	Yes
103-383-20	Green	Colour Diffused	5	11.5	20@11.5mA	565	-40 ~ +70	-40 ~ +85	Yes
UNITS			**Vdc**	**mA**	**mcd**	**nm**	**^{0}C**	**^{0}C**	

* = Voltage DC for 20mA product is Vf@20mA, not Vopr

^ = Products must be derated according to the derating information. Each derating graph refers to specific LEDs. Refer to page 3.

How to Order:

website: www.marl.co.uk • email: sales@marl.co.uk •

• Telephone +44 (0)1229 582430 • Fax: +44 (0)1229 585155

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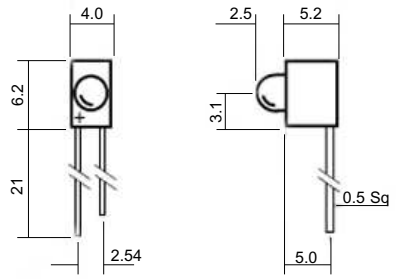
SAMPLES AVAILABLE

103 Series



Dimensions in mm (Typical)
Not to scale

Housing Material

Polycarbonate

This material offers UL94 V-0 flame retardancy* and a high impact strength. This material has a melt point of 290-340°C and is suitable for use in the majority of automatic soldering processes.

*Material test thickness 1.6mm

LEDs

LED Polarity

Anode identification is shown in the dimensional diagram. The long lead of a non-cropped unit can also be used to help identify the anode. For the 2 pin Bi-colour units the standard colour configuration is red anode to the '+' sign.

Reverse Polarity

This is offered on all PCB units, with the exception of the 125 series, if requested to help overcome the problem of systems with reverse polarity connections. Multiple units can also be supplied in reverse polarity but not with mixed polarities. The 2 pin and 3 pin Bi-colours can be supplied in reverse colour configuration.

Lead Cropping

Should lead cropping be required Marl offer two standard lengths, either by request or by adding one of the following codes to the end of the part number:-

-24 = 3mm -26 = 5mm (E.g 103-305-04-26)
Other non-standard lead lengths are available on request.

Bi-colour

2 Pin Operation

To acheive the second colour for a 2 pin Bi-colour unit the supply must be reversed, standard colour configuration for these units is red anode to the '+' sign.

Electro-static Discharge (ESD)

Build up of electrostatic discharge occurs in many situations involving people moving and handling products. The range of possible situations is very diverse but voltage levels as high as several thousand volts can and do arise in many individual situations. When an operator charged up to these levels handles a 'static sensitive device', there is a very probable likelihood that the device will be irreversibly damaged. It is essential that precautions are taken at all stages during manufacture and assembly of these products. Although LEDs were never considered to be static sensitive devices, changes in manufacturing technology and materials used to produce higher intensityproducts over a large range of the wavelength spectrum have changed this. Marl has an approved system of ESD control from goods in, through production and into final packing and despatch. We recommend all users of LED based products follow the guidelines of BS 100015.

Note: All luminous intensity figures refer to the unmodified discrete LED.

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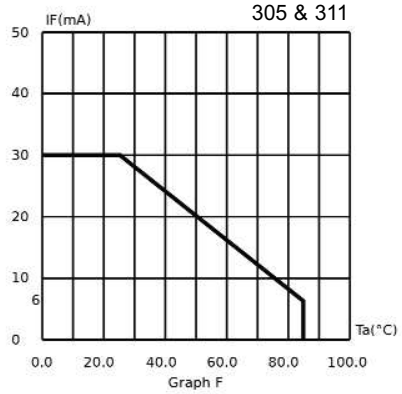
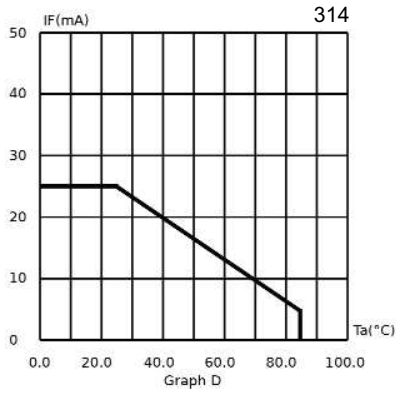
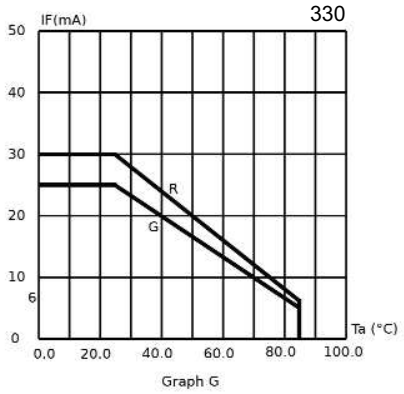
103 Series







ALSO AVAILABLE

Part numbers also available in the 103 Series:

PART NO.	COLOUR (Vdc) Vopr	VOLTAGE DC
103-000-01-54	Blue	2mA
103-000-04-54	Blue	20mA
103-305-01	Red	2mA
103-305-04-05	Red	20mA
103-305-04-24	Red	20mA
103-305-13	Red	20mA RP
103-311-01	Yellow	2mA
103-311-04-05	Yellow	20mA
103-311-04-24	Yellow	20mA
103-311-13	Yellow	20mA RP
103-314-01	Green	2mA
103-314-04-05	Green	20mA
103-314-04-24	Green	20mA
103-314-04-26	Green	20mA
103-314-13	Green	20mA RP
103-326-04	Blue	20mA
103-330-01	Red/Green Bi-colour	2mA
103-330-04-05	Red/Green Bi-colour	20mA
103-330-04-24	Red/Green Bi-colour	20mA
103-330-13	Red/Green Bi-colour	20mA RP
103-331-04	Red/Yellow Bi-colour	20mA
103-332-04	Green/Yellow Bi-colour	20mA
103-332-04-25	Green/Yellow Bi-colour	20mA
103-336-04	Blue	20mA
103-337-04	Blue/Green Bi-colour	20mA
103-382-30	Yellow	5/6 Vdc RP
UNITS		

The products listed above illustrate all of the options available to order. These products may have custom modifications that alter their operation beyond the generic information contained within this datasheet. Please contact sales for further information.

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