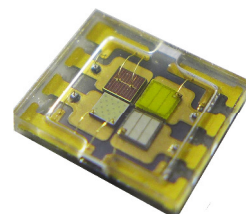


CERRO 5060 series LED

Advanced Datasheet



Description

The Plessey CERRO series is a family of multi-colour, high efficacy LED's in high power packages. Two standard versions are available in RGBW and RGBA configurations. The CERRO 5060 series is packaged in a glass window 5060 package with low thermal resistance to ensure high optical output, cool running and optimum reliability. The LED die are unconnected to allow maximum flexibility in the application. The CERRO series LED's are supplied in quantities of 400 per reel.

Features

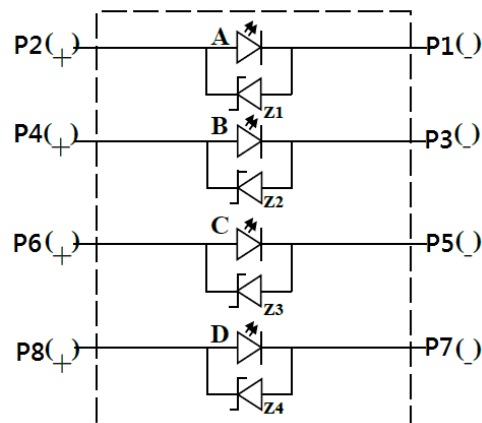
- RGBW & RGBA variants
- 700mA operating current
- Industry standard 5060 footprint
- High optical output
- High reliability ceramic packaging
- 140deg domed silicone lens
- Integrated ESD protection

Applications

- Stage Lighting
- Entertainment Lighting
- Commercial Lighting
- Signage
- Displays

	colour	CCT / λ_{DOM}		Iv @ 700mA	V _F (V)	
		min	max	min	min	max
PLM5060AA	Red	620nm	635nm	45 lm	2.0	3.0
	Green	520nm	535nm	95 lm	2.8	4.0
	Blue	450nm	460nm	600mW	2.8	4.0
-A	Amber	585nm	595nm	45 lm	2.0	3.0
-W	White	6000K	7000K	140 lm	2.8	4.0

Pin Configuration



Chip	RGBA	RGBW
A	Red	Red
B	Green	Green
C	Blue	Blue
D	Amber	White

Package Outline Dimensions

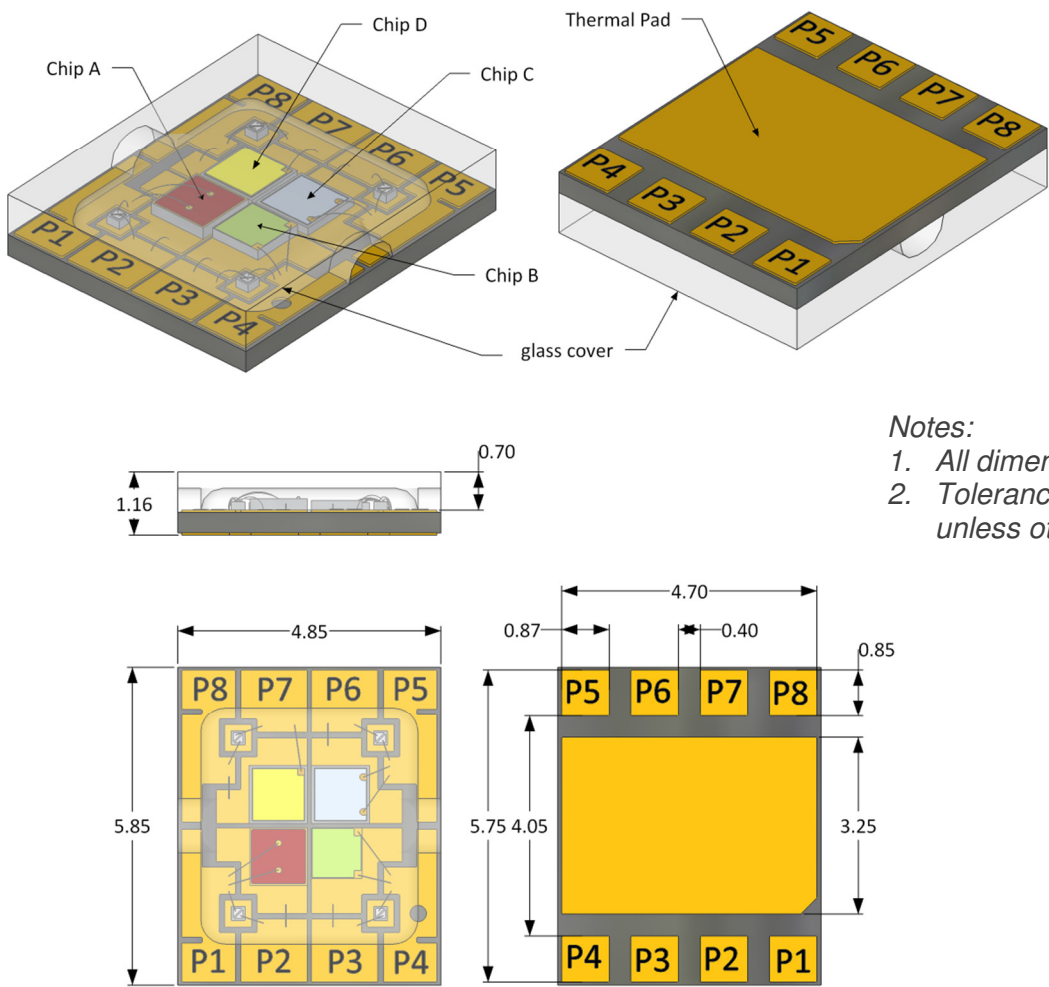


Fig.1 Mechanical drawings of the 5060 package

Absolute Maximum Ratings

$T_{amb} = +25^{\circ}\text{C}$ unless otherwise stated

Parameter	Symbol	Min	Max	Unit
DC Forward Current	I_F	-	700	mA
Reverse Voltage ^[1]	V_R	-	5	V
ESD Withstand Voltage ^[2]		-	2000	V
Storage Temperature	T_{stg}	-40	110	$^{\circ}\text{C}$
Junction Temperature	T_J	-40	125	$^{\circ}\text{C}$

^[1] Plessey LED's are not designed to be driven in reverse bias

^[2] JESD-22A-114-B Human Body Model (HBM)

Relative Spectral Emission (Typical)

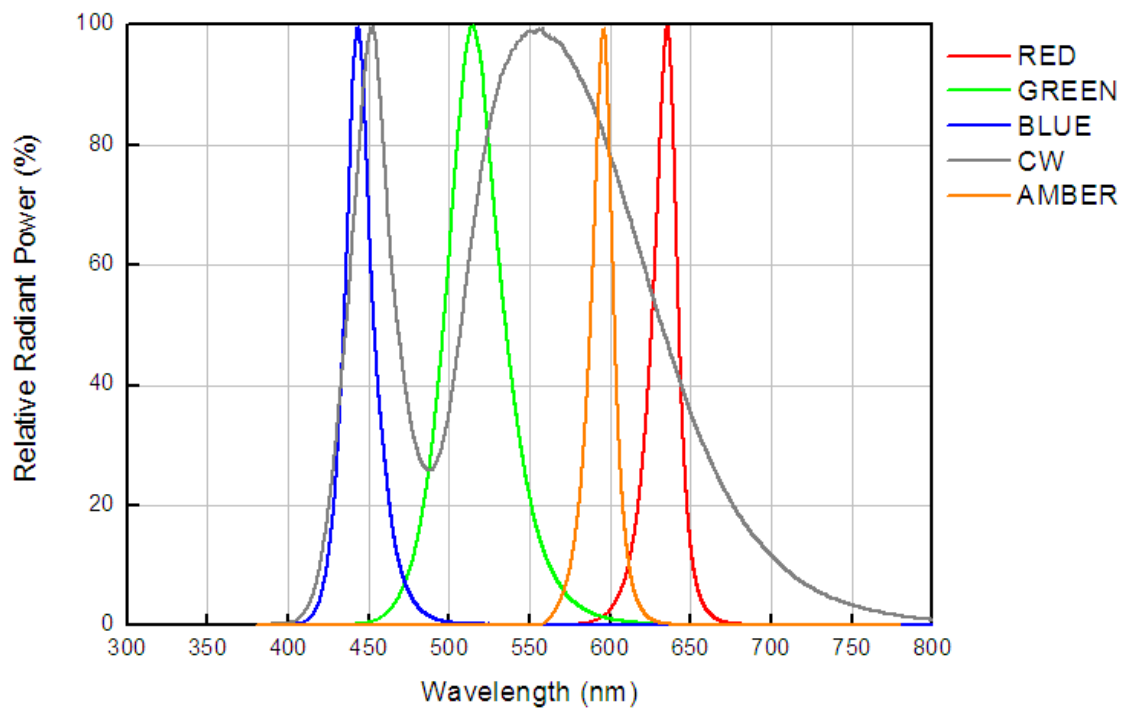


Fig.2 Normalised spectral power distribution

Typical Spatial Radiation Pattern

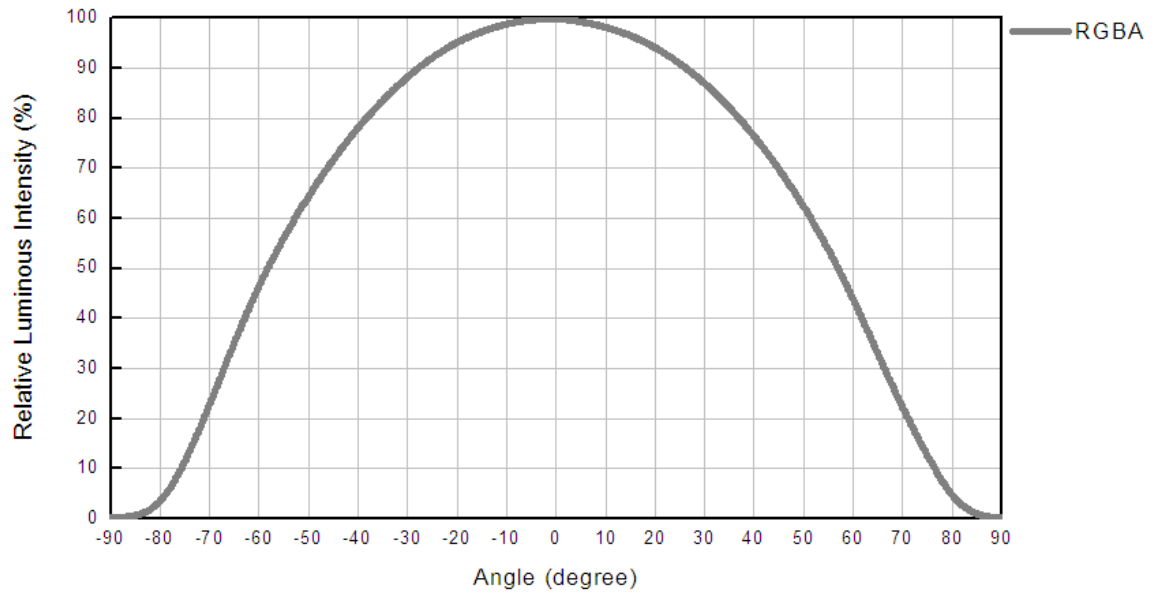


Fig.4 Typical spatial radiation pattern – RGBA

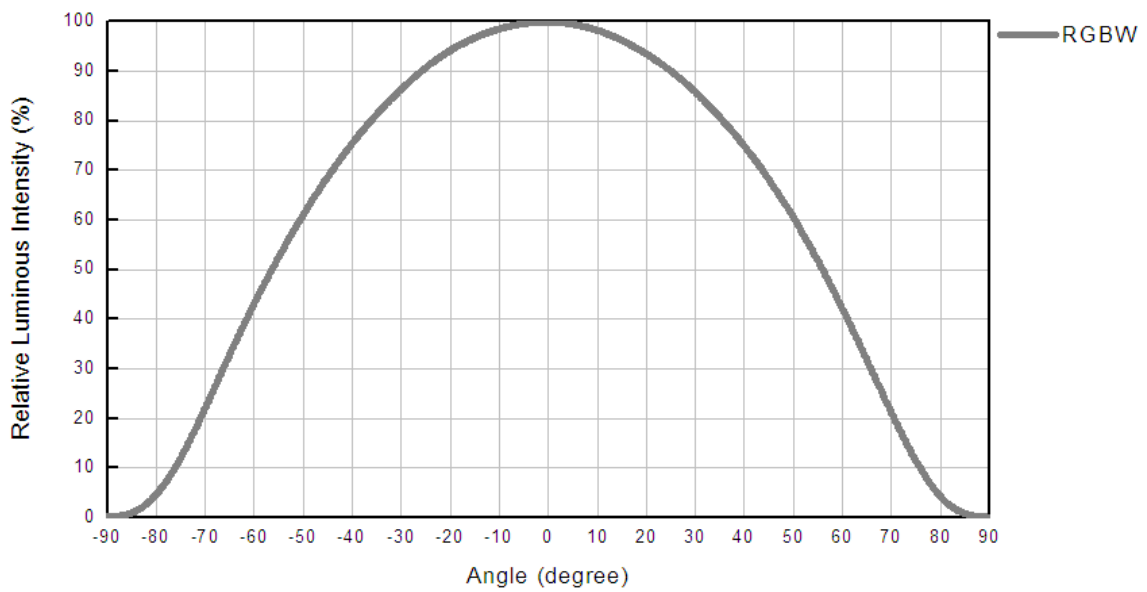


Fig.5 Typical spatial radiation pattern – RGBW

Luminous Flux Characteristics

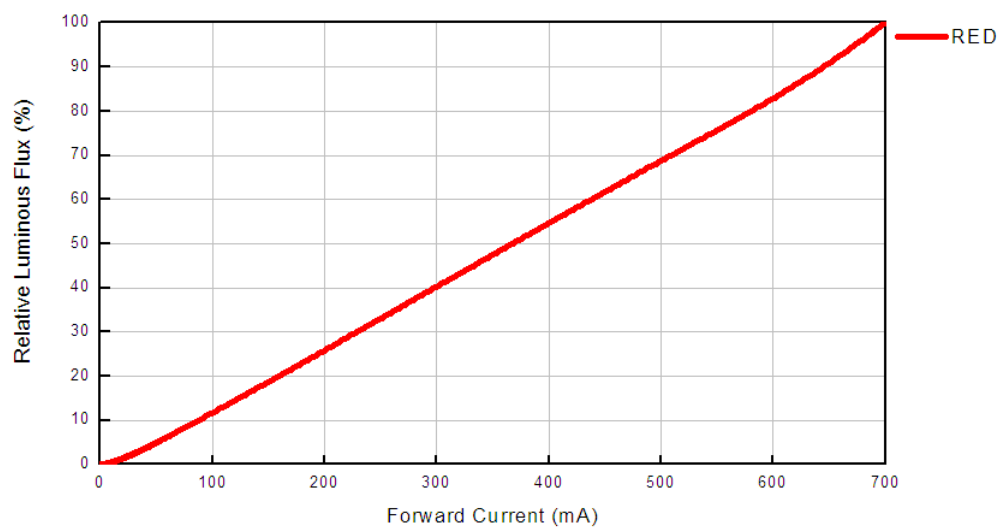


Fig.6 Relative Luminous Flux versus Forward Current – Red

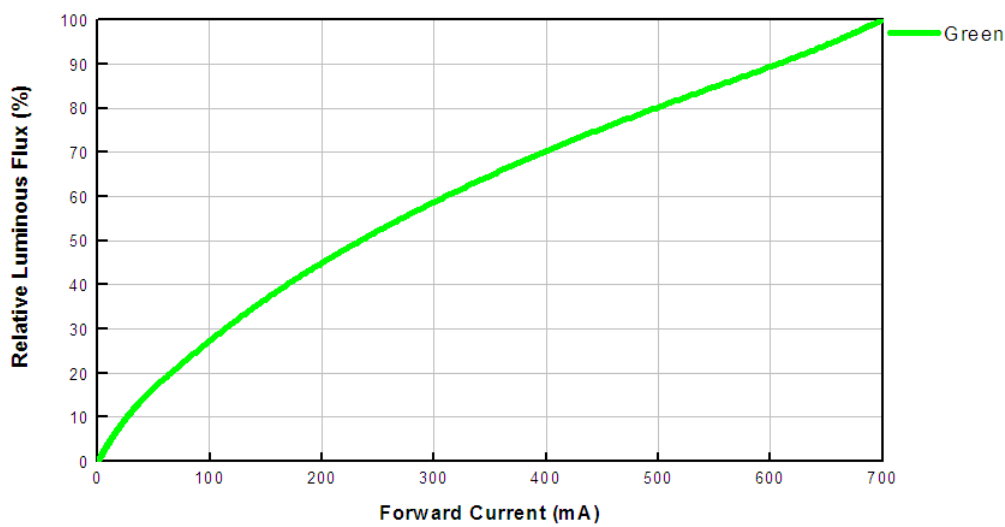


Fig.7 Relative Luminous Flux versus Forward Current – Green

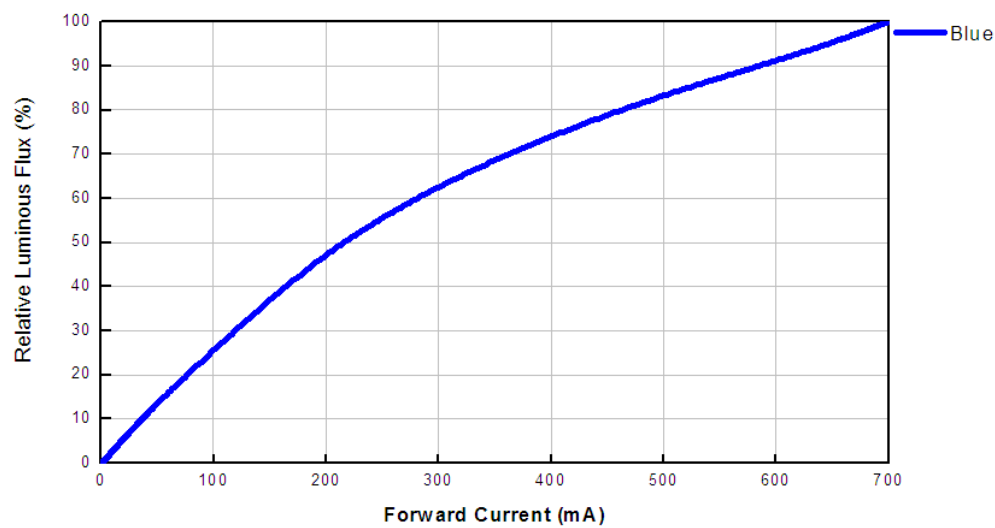


Fig.8 Relative Luminous Flux versus Forward Current – Blue

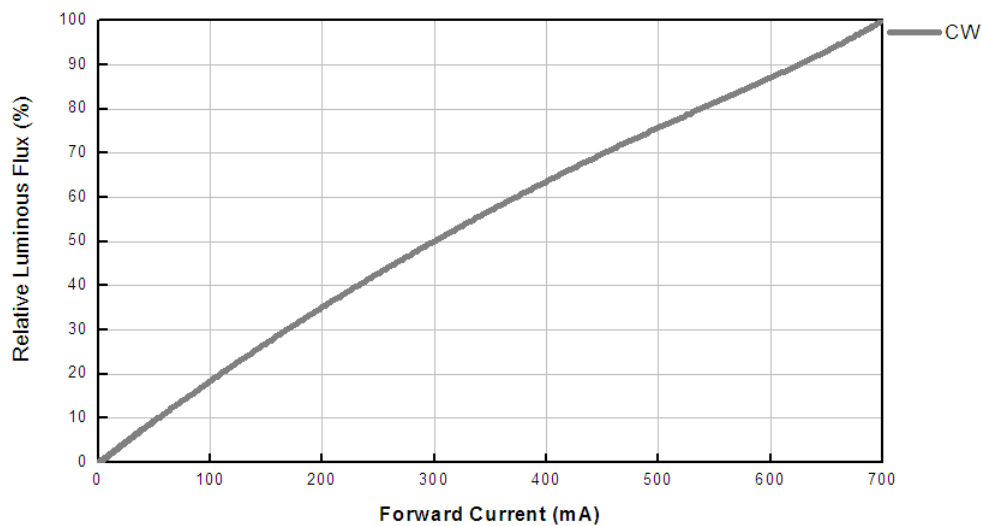


Fig.9 Relative Luminous Flux versus Forward Current – Cool White

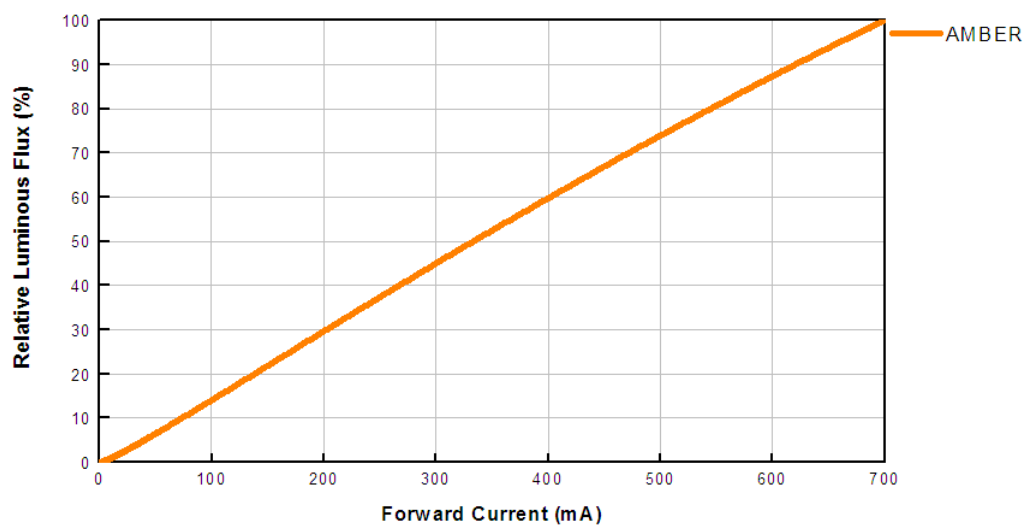


Fig.10 Relative Luminous Flux versus Forward Current – Amber

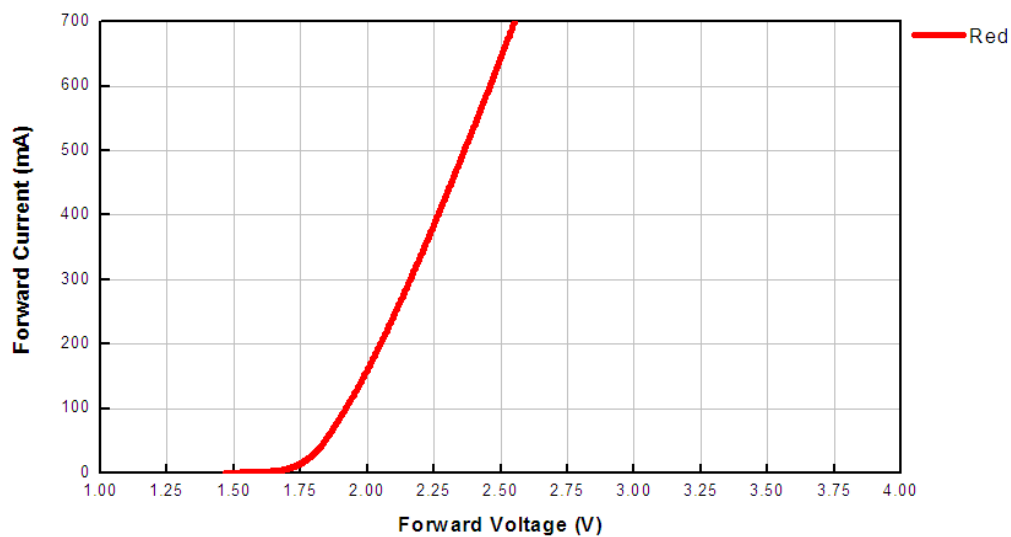


Fig.11 Typical Forward Voltage versus Forward Current – Red

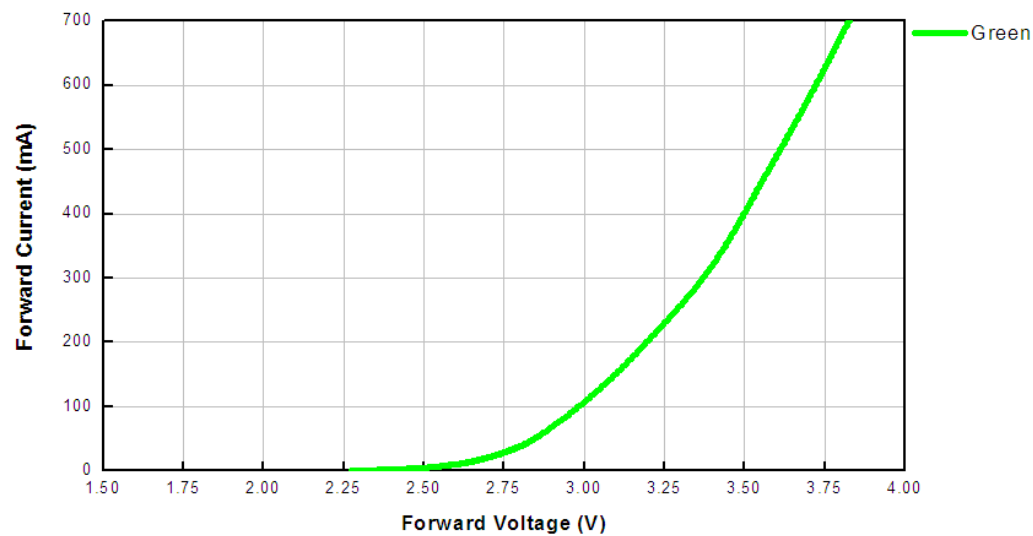


Fig.12 Typical Forward Voltage versus Forward Current – Green

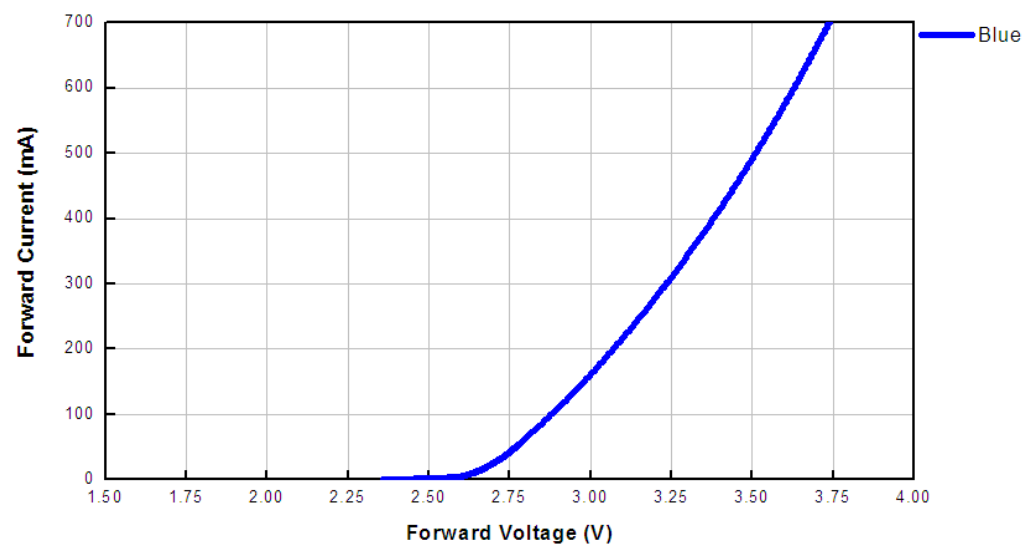


Fig.13 Typical Forward Voltage versus Forward Current – Blue

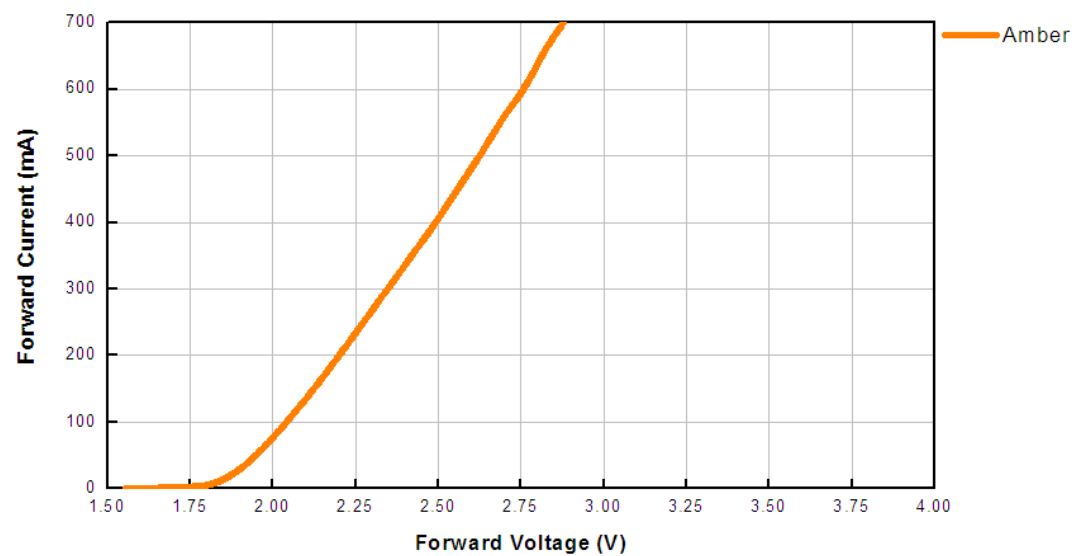


Fig.14 Typical Forward Voltage versus Forward Current – Amber

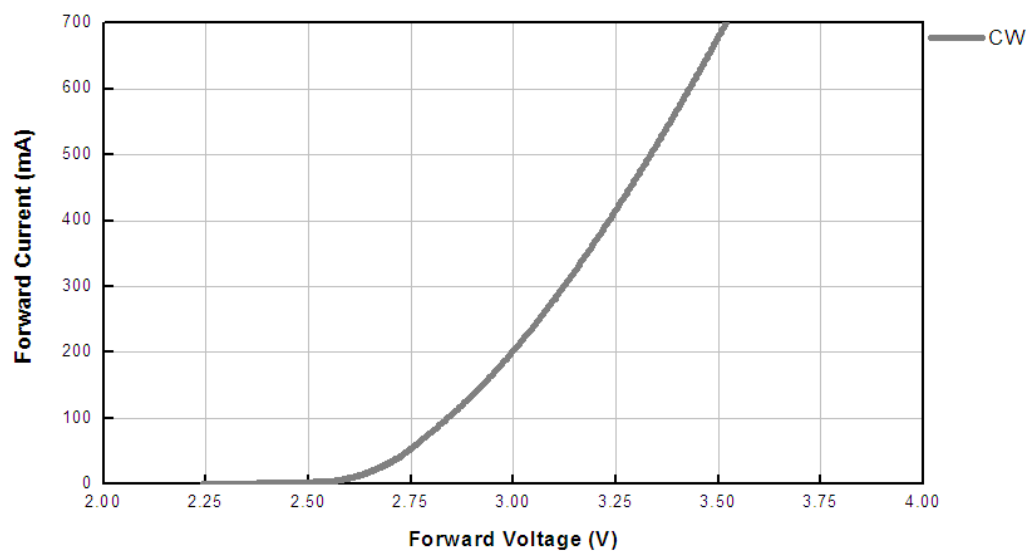


Fig.15 Typical Forward Voltage versus Forward Current – White

Soldering Information

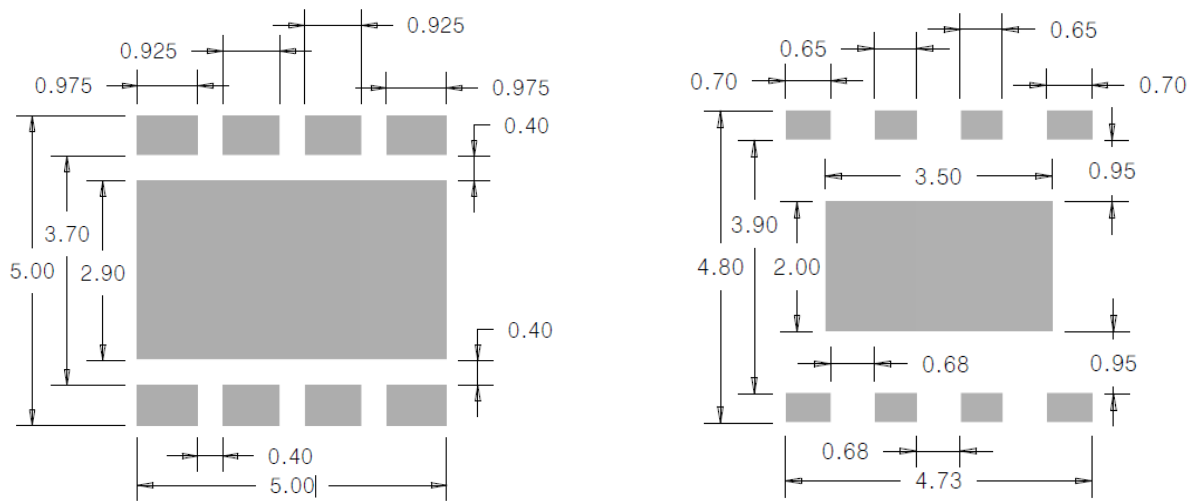


Fig.16 Recommended Solder Pad & Stencil Design (dimensions in mm)

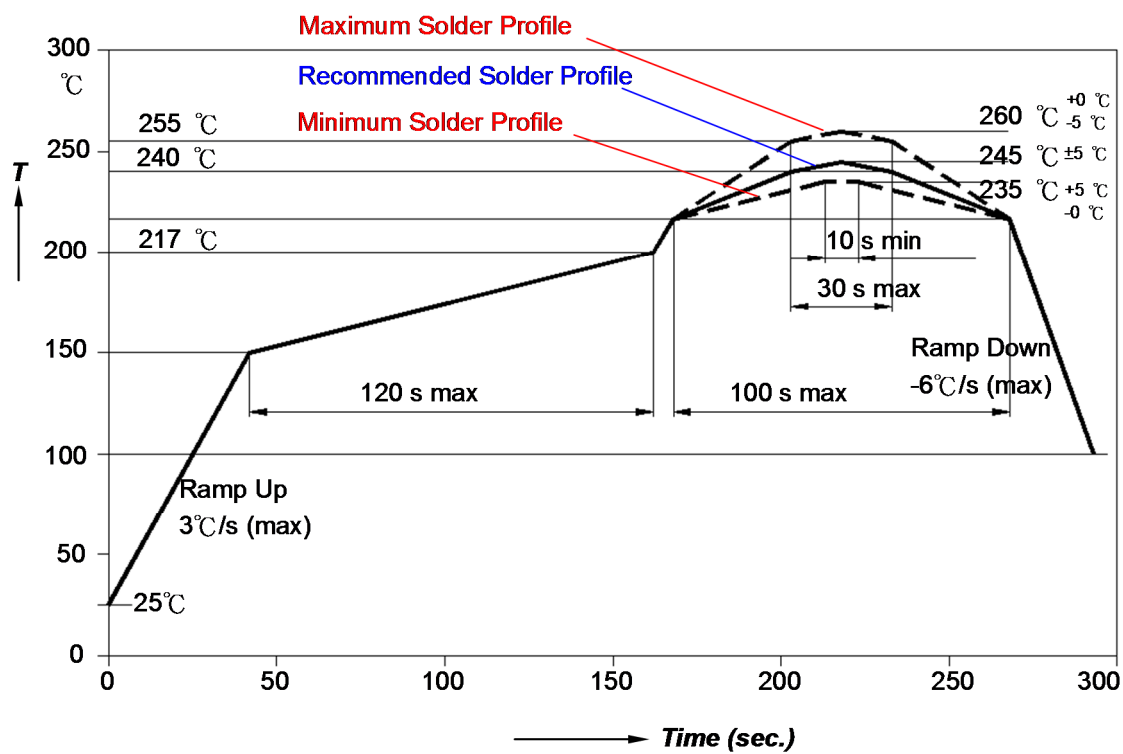
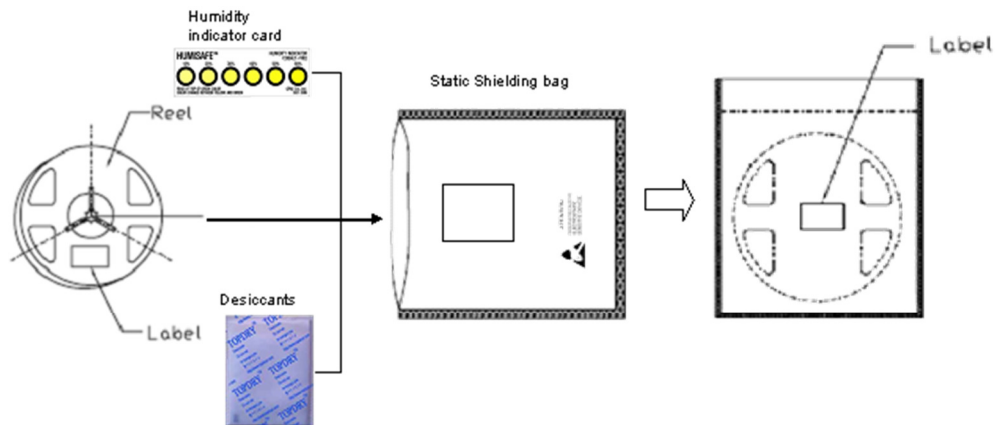
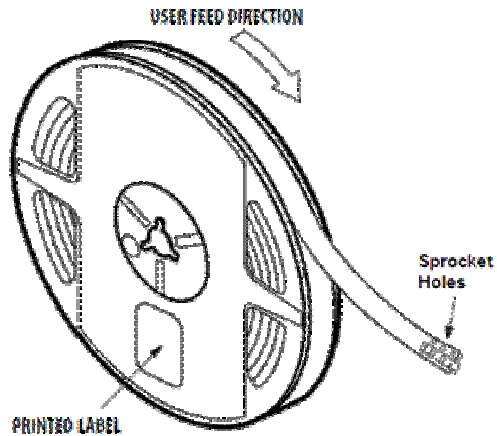
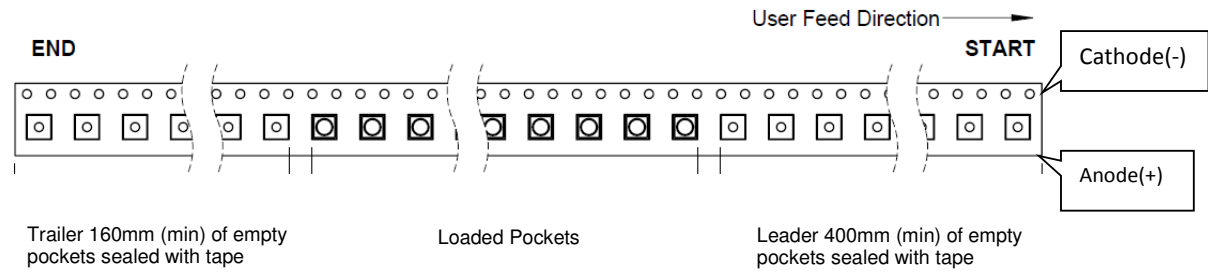
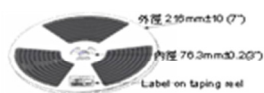


Fig.17 Recommended Solder Profile

Packing Information



MFG Packing

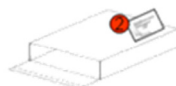


FG in after OQC Packing



1 reel in a bag = 400pcs

Ship out packing Step



1 bag in an inner box = 400pcs



Small size: 5 inner box in an outer box = 2000pcs

Legal Notice

Product information provided by Plessey Semiconductors Limited ("Plessey") in this document is believed to be correct and accurate. Plessey reserves the right to change/correct the specifications and other data or information relating to products without notice but Plessey accepts no liability for errors that may appear in this document, howsoever occurring, or liability arising from the use or application of any information or data provided herein. Neither the supply of such information, nor the purchase or use of products conveys any licence or permission under patent, copyright, trademark or other intellectual property right of Plessey or third parties.

Products sold by Plessey are subject to its standard Terms and Conditions of Sale that are available on request. No warranty is given that products do not infringe the intellectual property rights of third parties, and furthermore, the use of products in certain ways or in combination with Plessey, or non-Plessey furnished equipments/components may infringe intellectual property rights of Plessey.

The purpose of this document is to provide information only and it may not be used, applied or reproduced (in whole or in part) for any purpose nor be taken as a representation relating to the products in question. No warranty or guarantee express or implied is made concerning the capability, performance or suitability of any product, and information concerning possible applications or methods of use is provided for guidance only and not as a recommendation. The user is solely responsible for determining the performance and suitability of the product in any application and checking that any specification or data it seeks to rely on has not been superseded.

Products are intended for normal commercial applications. For applications requiring unusual environmental requirements, extended temperature range, or high reliability capability (e.g. military, or medical applications), special processing/testing/conditions of sale may be available on application to Plessey.

Contact

Customer Support

+44 1752 693000 | support@plesseysemi.com

www.plesseysemi.com

Plessey Semiconductors Ltd | Plymouth
Tamerton Road, Roborough
Plymouth, Devon
PL6 7BQ United Kingdom

P: +44 1752 693000
F: +44 1752 693700

Plessey Semiconductors Ltd | Swindon
Design & Technology Centre, Delta
500, Delta Business Park, Swindon
SN5 7XE United Kingdom

P: +44 1793 518000
F: +44 1793 518030