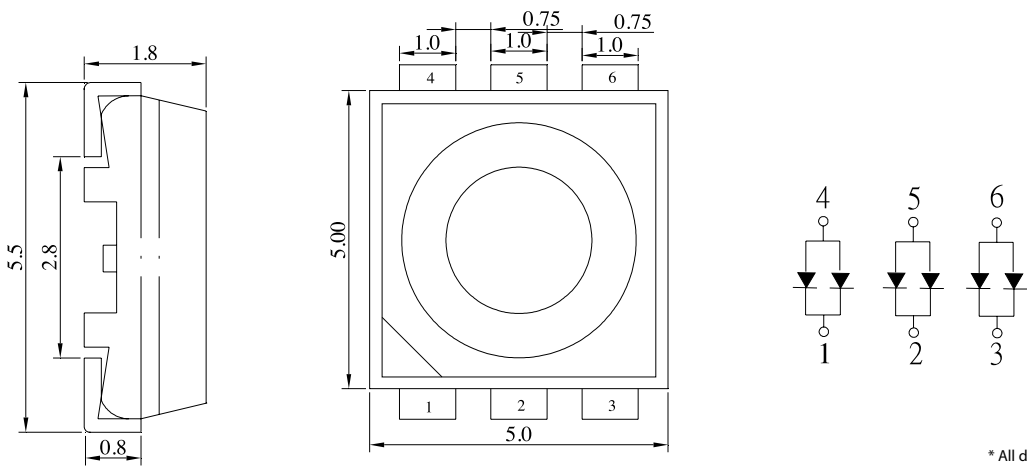


# 5.0 x 5.0mm SMD Type



**Package Dimensions:**



\* All dimensions are in mm  
\* Tolerance: ±0.25mm

Ant Part No.	LED Chip		Lens Colour
	Material	Emitting Colour	
703-1042	InGaN / Sapphire	White	Yellow diffused

**Important Notice:** This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2011.

www.element14.com  
www.farnell.com  
www.newark.com



# 5.0 x 5.0mm SMD Type



## Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation*	P <sub>D</sub>	120	°C
Reverse Voltage*	V <sub>R</sub>	5	V
D.C. Forward Current*	I <sub>f</sub>	30	mA
Pulsed Forward Current (1 / 10 Duty Cycle, 0.1ms Pulse Width)*	I <sub>f</sub> (Peak)	100	mA
Operating Temperature Range	T <sub>opr.</sub>	-40 to +100	°C
Storage Temperature Range	T <sub>stg.</sub>	-40 to +100	°C
Soldering Temperature*	T <sub>sld.</sub>	Reflow Soldering: 260°C for 10sec. Hand Soldering: 350°C for 3sec.	
Electric Static Discharge Threshold (HBM)*	ESD	6000	V

\* The values are based on 1 die performance.

## Electrical & Optical Characteristics: Hyper Red

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity* <sup>2</sup>	I <sub>v</sub>	I <sub>f</sub> =20mA* <sup>3</sup>	4800	11480		mcd
Luminous Flux* <sup>2</sup>	Φ <sub>v</sub>	I <sub>f</sub> =20mA* <sup>3</sup>		25890		lm
Forward Voltage* <sup>3</sup>	V <sub>f</sub>	I <sub>f</sub> =20mA* <sup>3</sup>		3.2	4.0	V
Correlated Colour Temperature* <sup>2</sup>	WA	CCT	I <sub>f</sub> =20mA* <sup>1</sup>	5000	5250	K
	WB			5250	5500	
	WC			5500	5750	
	WD			5750	6000	
Colour Rendering Index (Ra)	CRI	I <sub>f</sub> =20mA* <sup>3</sup>		64		Ra
Reverse Current* <sup>1</sup>	I <sub>r</sub>	V <sub>r</sub> =5V* <sup>3</sup>			50	μA
Viewing Angle* <sup>2</sup>	2θ <sub>1/2</sub>	I <sub>f</sub> =20mA* <sup>3</sup>		120		deg

Notes: 1. The data is tested by an IS tester.

2. Customer's special requirements are also welcome.

3. \* For each die.

4. \*<sup>2</sup> When all LED dies are operated simultaneously.

5. \*<sup>3</sup> For one circuit.

**Important Notice:** This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2011.

www.element14.com

www.farnell.com

www.newark.com



# 5.0 x 5.0mm SMD Type



## Typical Electrical & Optical Characteristics Curves: (25°C Ambient temperature unless otherwise noted)

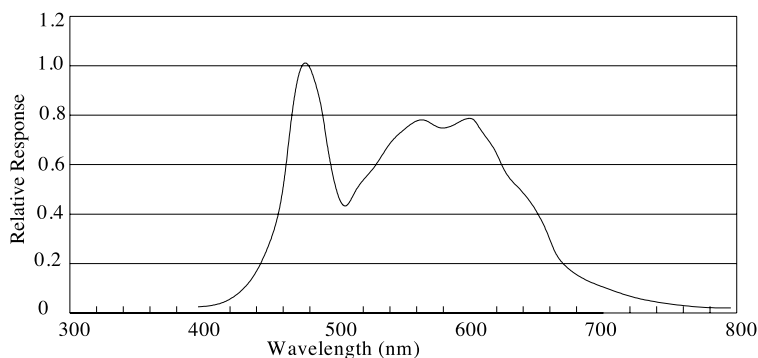
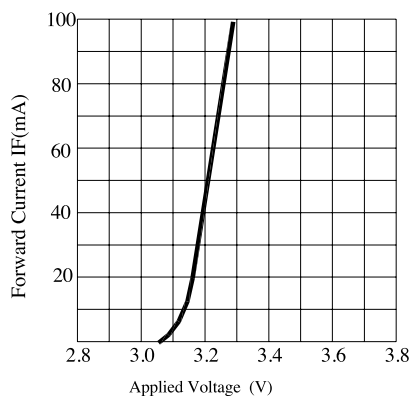
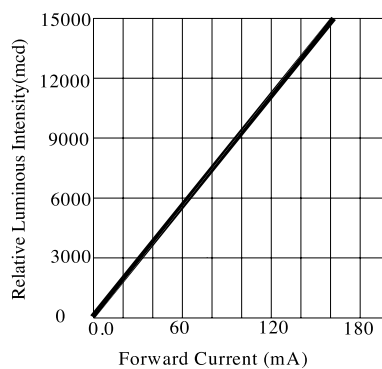


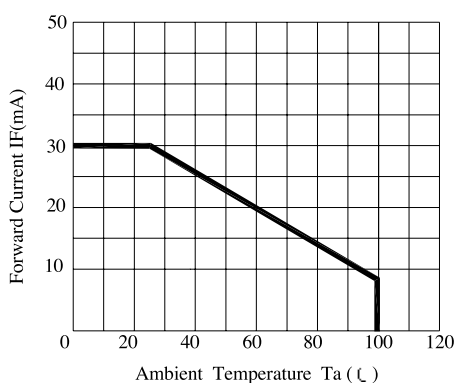
Fig1. WHITE LED Spectrum VS. WAVELENGTH



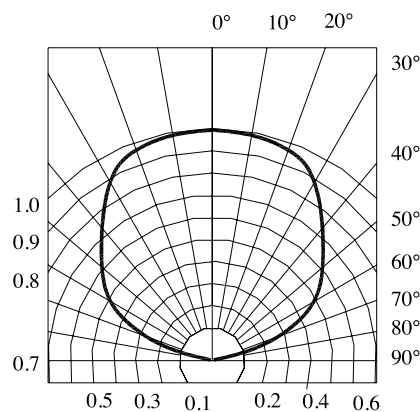
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Intensity



Ambient Temperature VS. Forward Current



Radiation Diagram

**Important Notice:** This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2011.

# 5.0 x 5.0mm SMD Type



## Recommended Storage Environment:

- Temperature: 5°C ~ 30°C (41°F ~ 86°F)
- Humidity: 60% RH Max.
- Use within 7 days after opening of sealed vapour/ESD barrier bags.

If moisture absorbent material (silica gel) has faded away or LEDs have exceeded the storage time, baking treatment should be performed using the following conditions:

- Baking Treatment: 60 ± 5°C for 24 hours
- Fold the opened bag firmly and keep in dry environment.

## Soldering

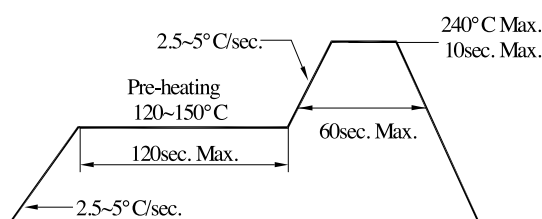
Reflow Soldering			Hand Soldering	
	Lead Solder	Lead-free Solder		
Pre-heat	12 ~ 150°C	180 ~ 200°C	Temperature	350°C Max.
Pre-heat Time	120sec. Max.	120sec. Max	Soldering Time	3sec. Max (one time only)
Peak Temperature	240°C Max.	260°C Max.		
Soldering Time	10sec Max.	10sec. Max		
Condition	Refer to Temperature profile 1	Refer to Temperature profile 2		

\*After reflow soldering rapid cooling should be avoided.

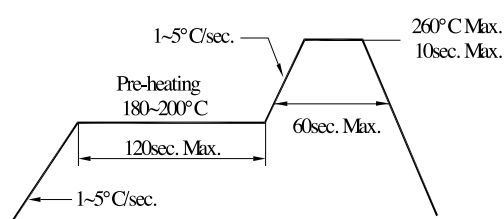
## Temperature-profile (surface of circuit board)

Use the conditions shown under figure.

### < 1 : Lead Solder >

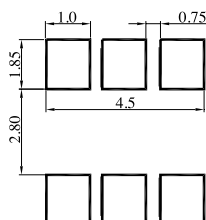


### < 2 : Lead-free Solder >



## Recommended Soldering Pad Design

Use the conditions shown under figure.



**Important Notice:** This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2011.

