

## Electrical/Optical characteristics at $T_A = 25^\circ\text{C}$

Parameter	Symbol	Min.	Type	Max.	Unit	Test
Luminous Intensity	IV	45	85	120	mcd	IF = 20mA
Viewing Angle	$2\theta_{1/2}$		130		Deg.	IF = 20mA
Peak Emission Wavelength	$\lambda_p$		470		nm	
Dominant Wavelength	$\lambda_D$	463	470	475	nm	IF = 20mA
Spectral Line Half-Width	$\Delta\lambda$		45		nm	
Forward Voltage	VF	2.9	3.2	3.6	V	IF = 20mA
Power Dissipation	Pd			85	mW	
Peak Forward Current ( Duty1/10 @ 1kHz )	IF (Peak)			100	mA	
Recommended Operating Current	IF (Rec)		20		mA	

## Absolute Maximum Ratings : ( $T_A = 25^\circ\text{C}$ )

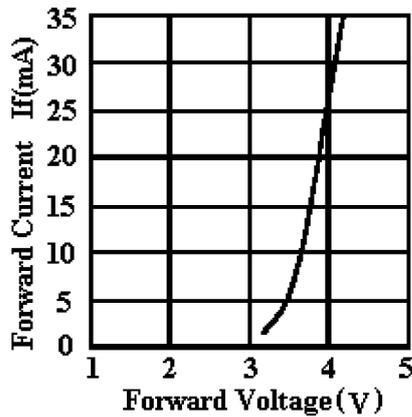
Reverse Voltage	: 5 Volt
Reverse Current	: 10 $\mu$ A ( $V_R = 5V$ )
Operating Temperature Range	: $-40^\circ\text{C}$ to $+85^\circ\text{C}$
Storage Temperature Range	: $-40^\circ\text{C}$ to $+100^\circ\text{C}$
Lead Soldering Temperature Range {1.6mm (1/16 inch) from body}	: $260^\circ\text{C}$ For 5 Seconds

## Reliability test For LED Lamps

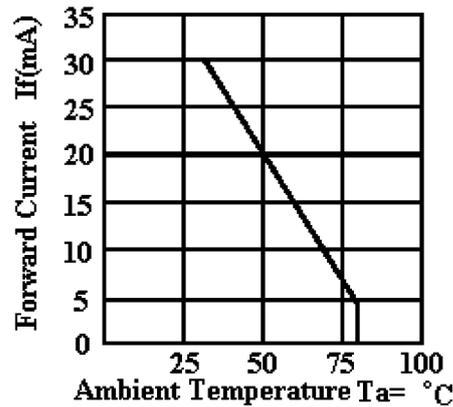
Item	Test Conditions	Test Time/Cycle	Sample Size	Ac/Re
DC Operating Life	Temperature : $25^\circ\text{C}$ IF : 20mA	1,000 Hrs.	76 Pcs.	0/1
High Temperature High Humidity	Temperature : $85^\circ\text{C}$ 85%RH			
High Temperature Storage	Temperature : $100^\circ\text{C}$			
Low Temperature Storage	Temperature : $-40^\circ\text{C}$			
Temperature Cycling	$85^\circ\text{C} \sim 25^\circ\text{C} \sim -35^\circ\text{C}$ 15min~ 5min~ 15min	15 Cycles		
Thermal Shock	$85^\circ\text{C} \sim 25^\circ\text{C} \sim -10^\circ\text{C}$ 5min~ 10sec ~ 5min			
Solder Heat	Temperature : $260^\circ\text{C} \pm 5^\circ\text{C}$	10 Sec.		

## Typical Electro-Optical Characteristics Curves

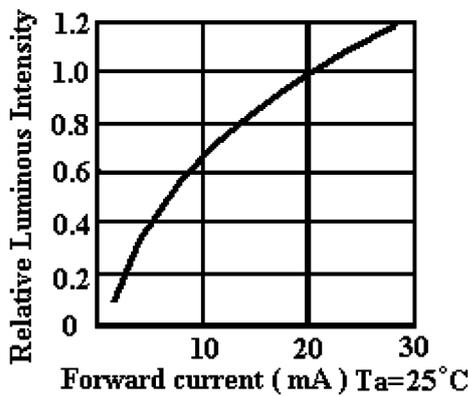
### Super Blue (InGaN $\lambda_P=470\text{nm}$ )



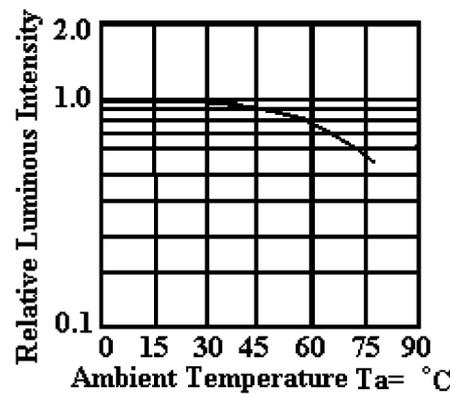
Forward current vs. Forward Voltage



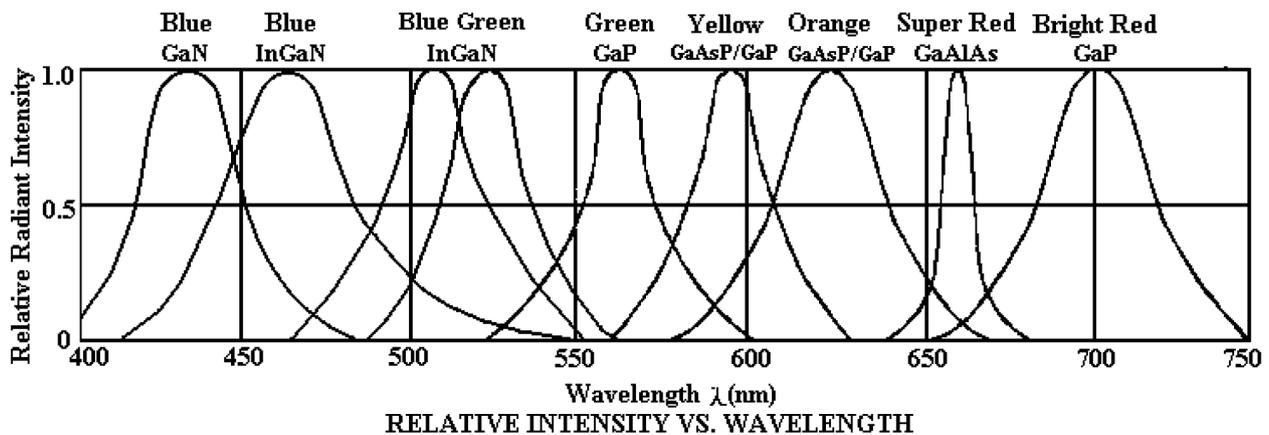
Forward current Derating curve



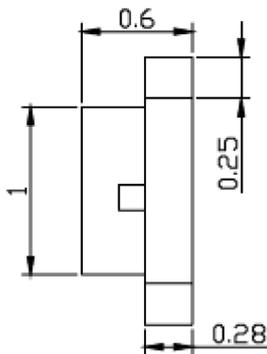
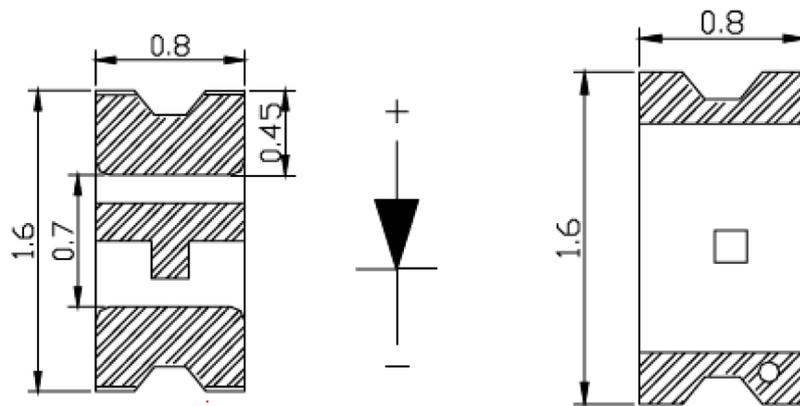
Luminous Intensity vs. Forward current



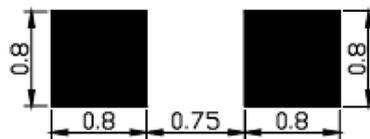
Luminous Intensity vs. Ambient Temperature



## Dimensions:



## Recommended soldering pad design



Dimensions : Millimetres  
 All tolerance shall be  
 $\pm 0.02\text{mm}$

## Part Number Table

Description	Part Number
LED, 0.8mm, Blue, 85mcd, 470nm	MCL-S291SBLC-ML

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