0603 SMD Chip LED

multicomp PRO

Features

RoHS Compliant

- Reflow Solderable
- High Luminous Intensity and Low Power Dissipation
- Good Reliability and Long Life
- Lead Free

Applications

- Optical indicator
- Indoor display
- Backlighting in dashboard and switch
- Flat backlighting for LCD, symbol and display
- General use

Specifications

Dice material	: AlGaInP
Emmiting Colour	: Blue
Lens colour	: Water Clear
Dominant wavelength	: 475nm
Luminous intensity @ 5mA	: 60mcd
Luminous intensity @ 20mA	: 200mcd

Selection Guide

Part Number	Chip materials	Lens Type	Luminous intensity (mcd) @ 5mA			Viewing Angle
			Min	Typ	Max	2θ1/2
MP008284	Blue (AlGaInP)	Water Clear	35	60	-	120
			Luminous intensity (mcd) @ 20mA			Viewing Angle
			Min	Typ	Max	2θ1/2
			100	200	-120	

Electrical and Optical Characteristics at Ta=25°C

Parameter	Symbol	Min.	Typ	Max	Units	Test conditions
Forward voltage	VF	2.5	-	3.1	V	IF=5mA
		2.8	-	3.4		IF=20mA
Reverse Current	IR	-	-	10	uA	VR=5V
Dominant wavelength	λd	465	-	475	nm	IF=5mA
		465	-	475		IF=20mA

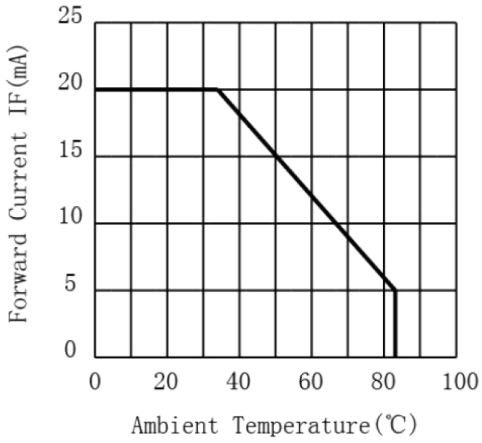
Absolute Maximum Ratings at Ta=25°C

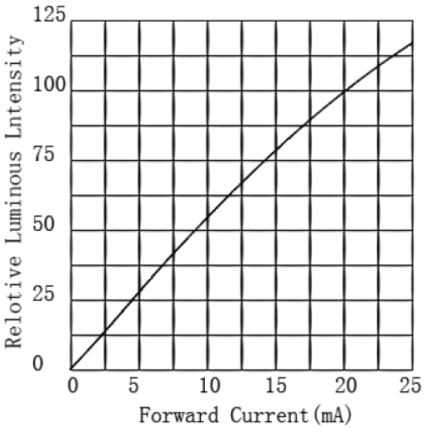
Parameter	Symbol	Rating	Units
Power Dissipation	Pd	68	mW
DC Forward Current	IF	20	mA
Peak Forward Current [1]	IFP	100	mA
Reverse Voltage	VR	5	V
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-40 to +100	°C

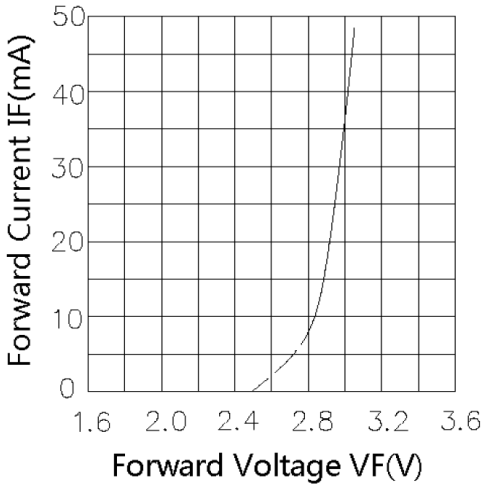
Notes:
1. 1/10 Duty cycle,0.1ms pulse width
2. The above forward voltage measurement allowance tolerance ±0.1V
3. The tolerance of wave length:±1nm

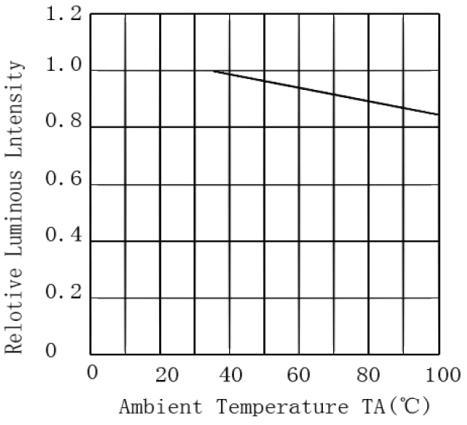
Typical optical characteristics curves

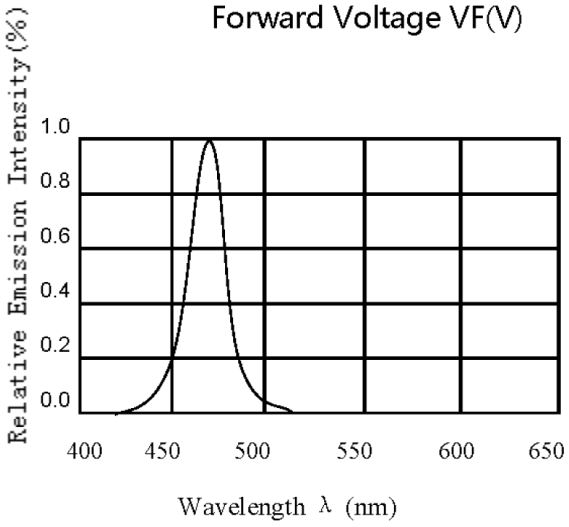
Ambient Temperature VS. Forward Current

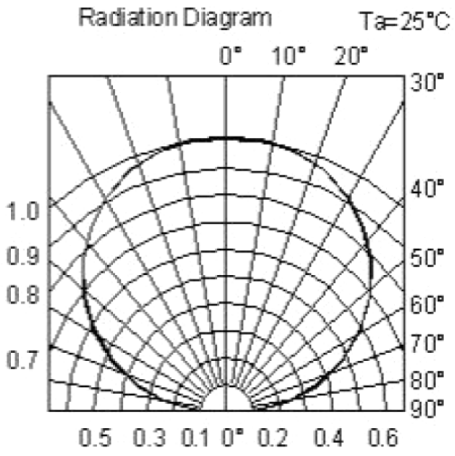




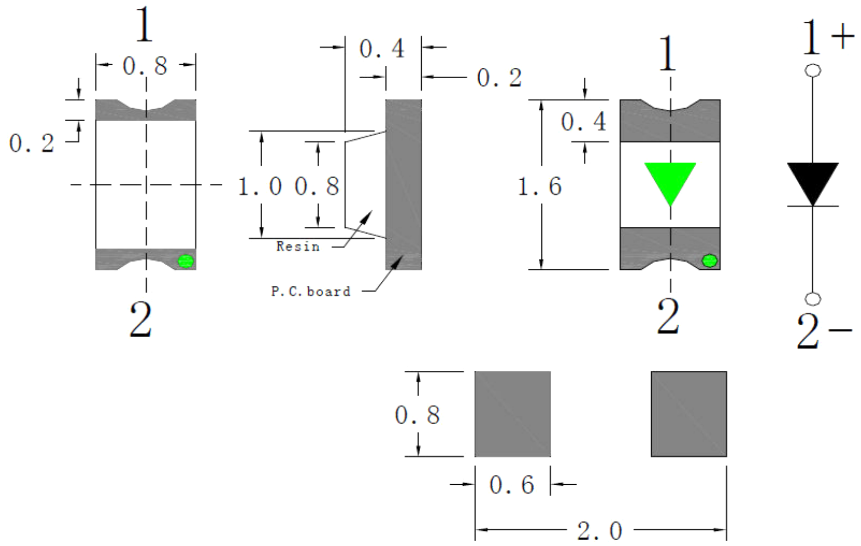








Dimensions



Notes

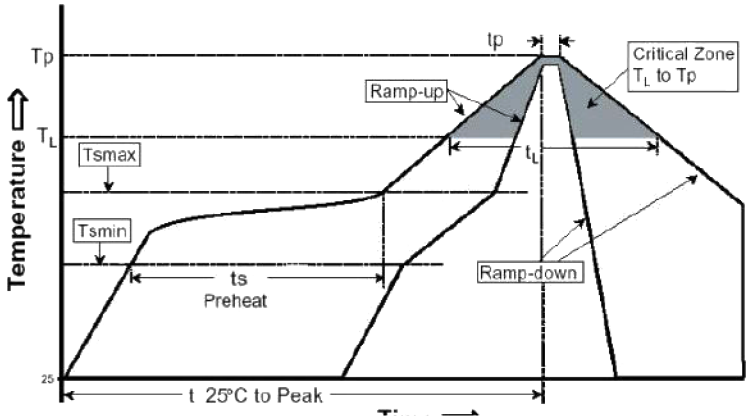
Dimensions : Millimetres

1. All dimension tolerance is ±0.2mm unless otherwise noted
2. All PCB and markings are subject to change without prior notice
3. Polarity mark: ▼or T

SMT Reflow Soldering Instructions

1. High temperature welding recommended no more than 2 times
2. When soldering , do not put stress on the LEDs during heating
3. Reflow temperature distribution (Acc.to J-STD-020D)

Profile feature	Sn-Pb Eutectic Assembly		Pb-Free Assembly	
	Large body	Small body	Large body	Small body
Average ramp-up rate (TL to Tp)	3°C / second max.			
Preheat -Temperature Min (TSmin) -Temperature Max (TSmax) -Time (min to max) (ts)	100°C 150°C 60 to 120 seconds		150°C 200°C 60 to 180 seconds	
Tsmax to TL -Ramp-up Rate			3°C / second max.	
Time maintained above -Temperature (TL) -Time (tL)	183°C 60 to 150 seconds		217°C 60 to 150 seconds	
Peak Temperature (Tp)	225 +0/-5°C	240 +0/-5°C	245 +0/-5°C	260 +0/-5°C
Time within 5°C of actual Peak Temperature (tp)	10 to 30 seconds		10 to 30 seconds	20 to 40 seconds
Ramp-down Rate	6°C / second max.			
Time 25°C to Peak Temperature	6 minutes max.		8 minutes max.	



Soldering iron

1. When hand soldering, the temperature of the iron must be less than 350°C for 3 seconds
2. The hand solder should be done only once

Part Number Table

Description	Part Number
Chip LED, Blue, 475nm, 120°, -120mcd, Surface Mount	MP008284