



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

**5060U57GU4FH190BC**  
**GREEN \ RED \ BLUE**



**Features**

- CHIPS CAN BE CONTROLLED SEPARATELY.
- SUITABLE FOR ALL SMT ASSEMBLY AND SOLDER PROCESS.
- AVAILABLE ON TAPE AND REEL.
- PACKAGE: 1000PCS / REEL.

**Description**

The Green source color devices are made with GaP on SiC Light Emitting Diode.

The Red source color devices are made with DH GaAsP/ GaP on GaAs substrate Light Emitting Diode.

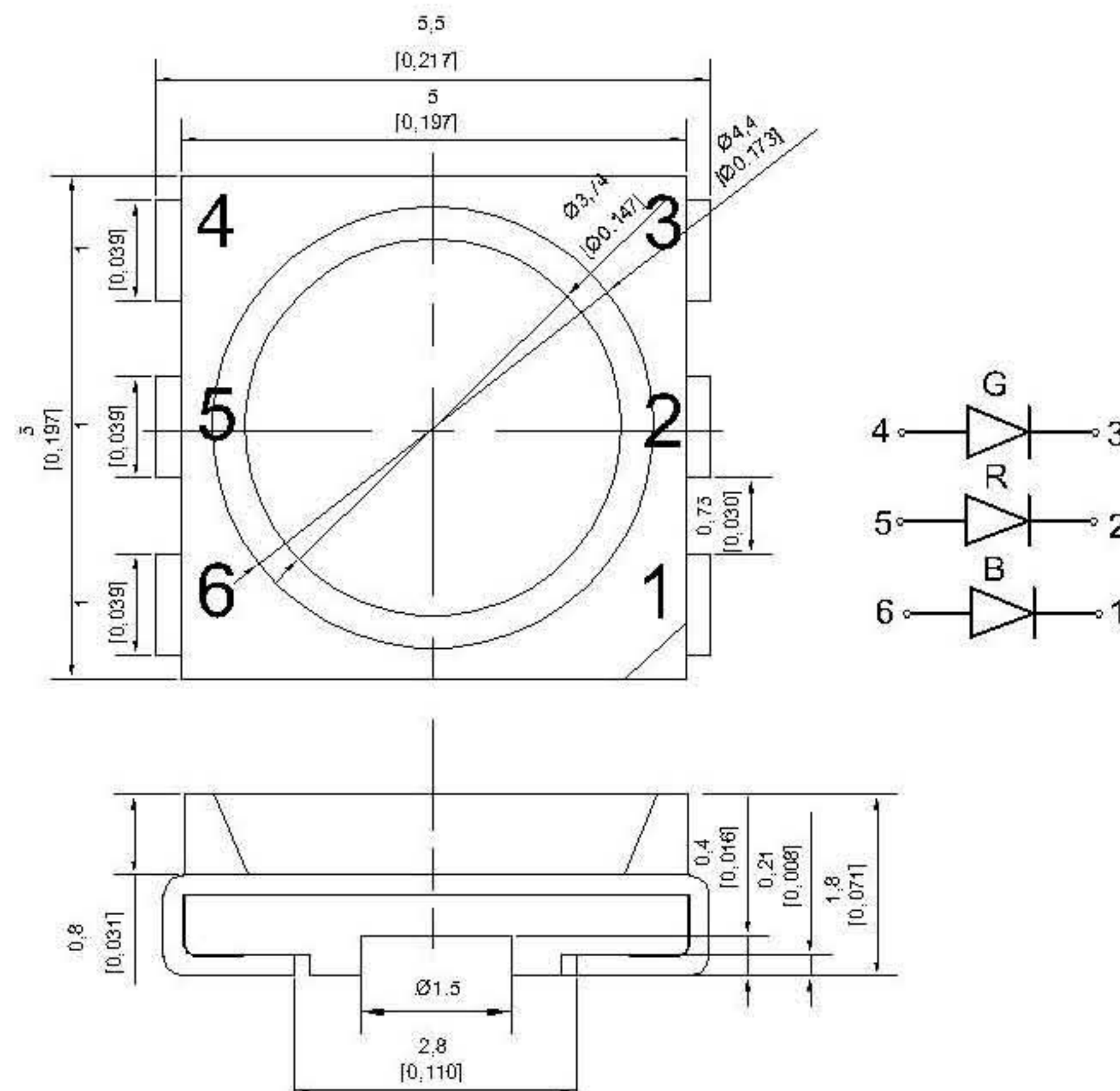
The Blue source color devices are made with GaN on SiC Light Emitting Diode.

Static electricity and surge damage the LEDs.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

**Package Dimensions**



Notes:

1. All dimension units are millimeters.
2. All dimension tolerance is  $\pm 0.2\text{mm}$  unless otherwise noted.
3. An epoxy meniscus may extend about 1.5mm down the leads.
4. Burr around bottom of epoxy may be 0.5mm max..

### Selection Guide

Part No.	Lens Type	Iv (mcd) @ 20mA						Viewing Angle
		GREEN (GaP)		RED (GaAsP/GaP)		BLUE (GaN)		
		Min.	Typ.	Min.	Typ.	Min.	Typ.	2θ1/2
HL-AF-5060U57GU4FH190BC	WATER CLEAR	500	700	170	250	170	250	100°

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

### Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Green		Red		Blue		Units	Test Conditions
		Min.	Typ.	Min.	Typ.	Min.	Typ.		
λD	Dominate Wavelength	517	520	621	624	471	474	nm	IF=20mA
C	Capacitance		45		35		110	pF	VF=0V,f=1MHz
VF	Forward Voltage	3.0	3.2	1.6	1.9	3.0	3.2	V	IF=20mA
IR	Reverse Current		5		5		5	uA	VR = 5V

### Absolute Maximum Ratings at TA=25°C

Parameter	Green	Red	Blue	Units
Power dissipation	90	75	110	mW
DC Forward Current	25	30	30	mA
Peak Forward Current [1]	150	185	160	mA
Reverse Voltage	5	5	5	V
Operating/Storage Temperature	-40°C TO +85°C			

Notes:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.

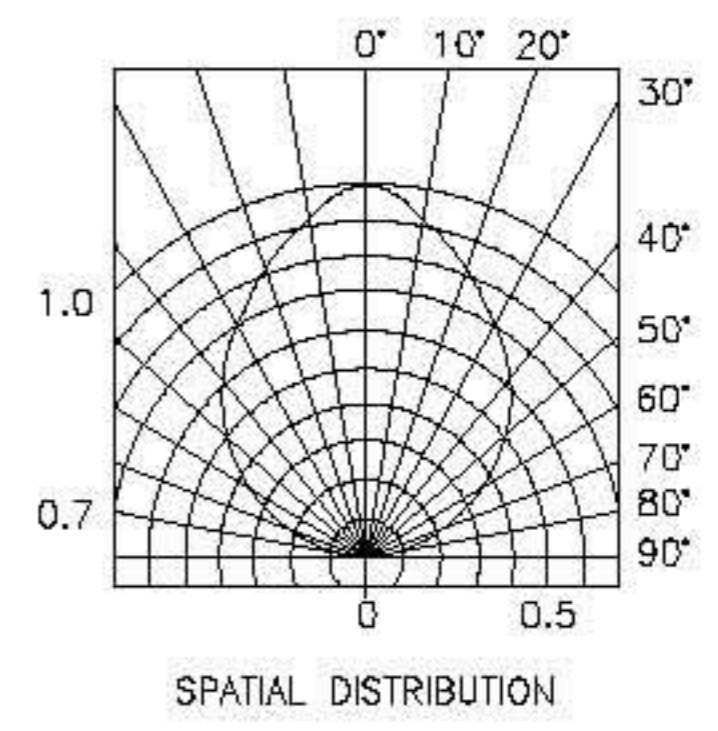
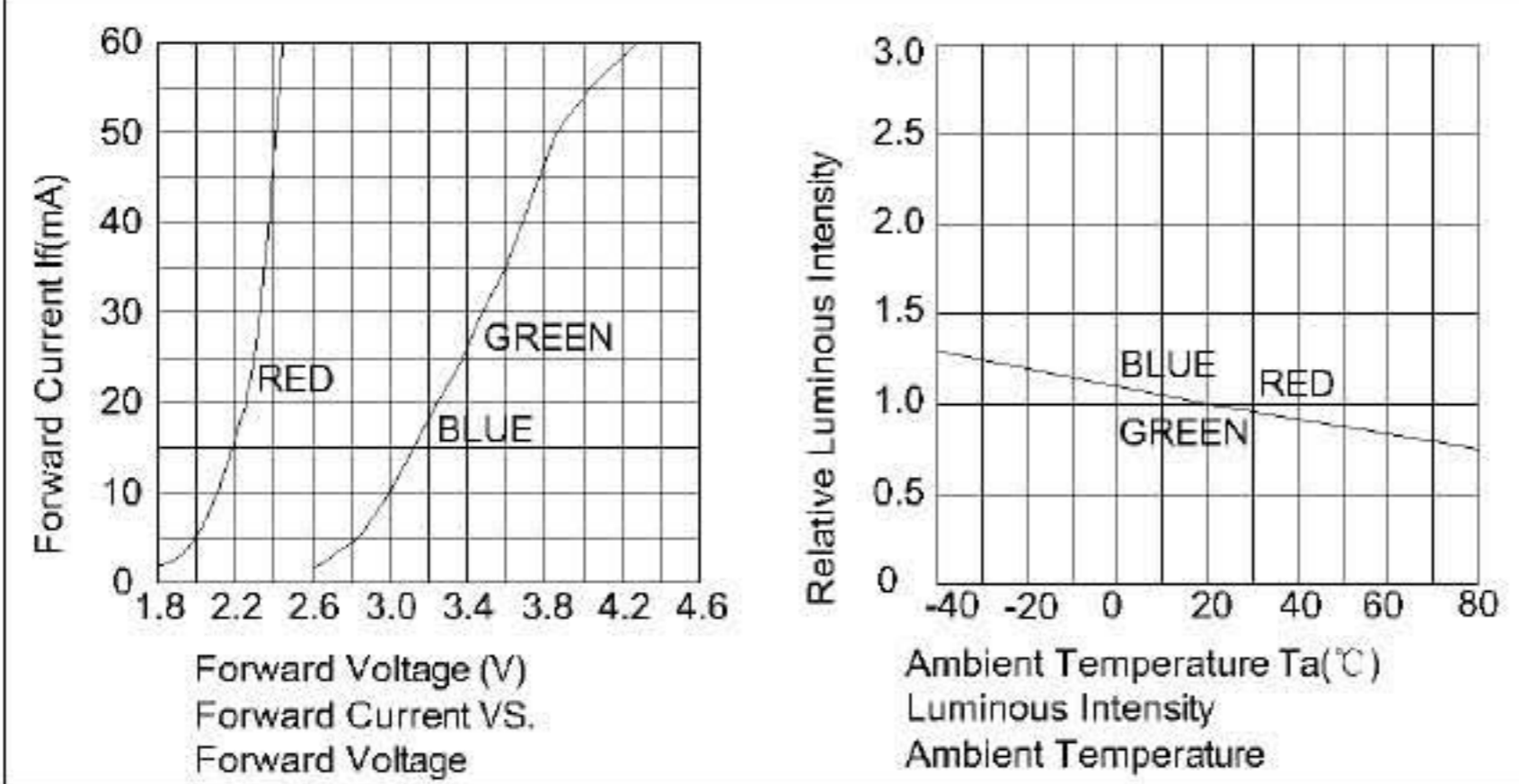
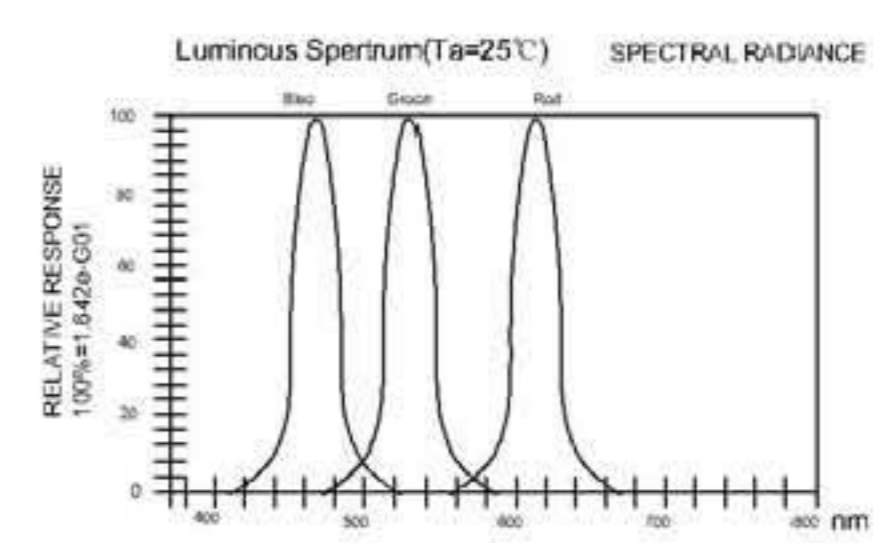
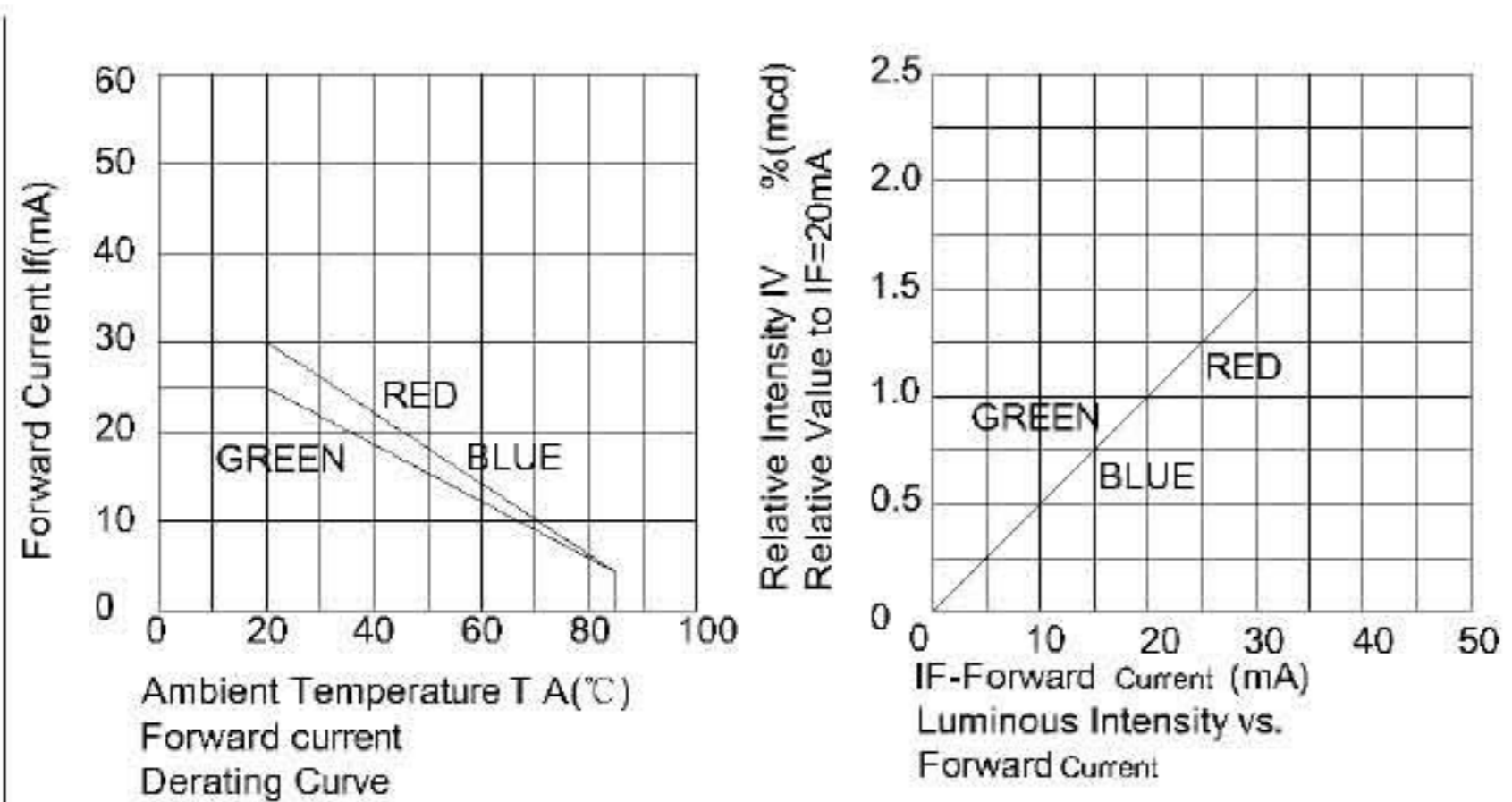
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**Green/Red/Blue**

**Reliability Test Items And Conditions**

The reliability of products shall be satisfied with items listed below.  
 Confidence level :90% LTPD :10%

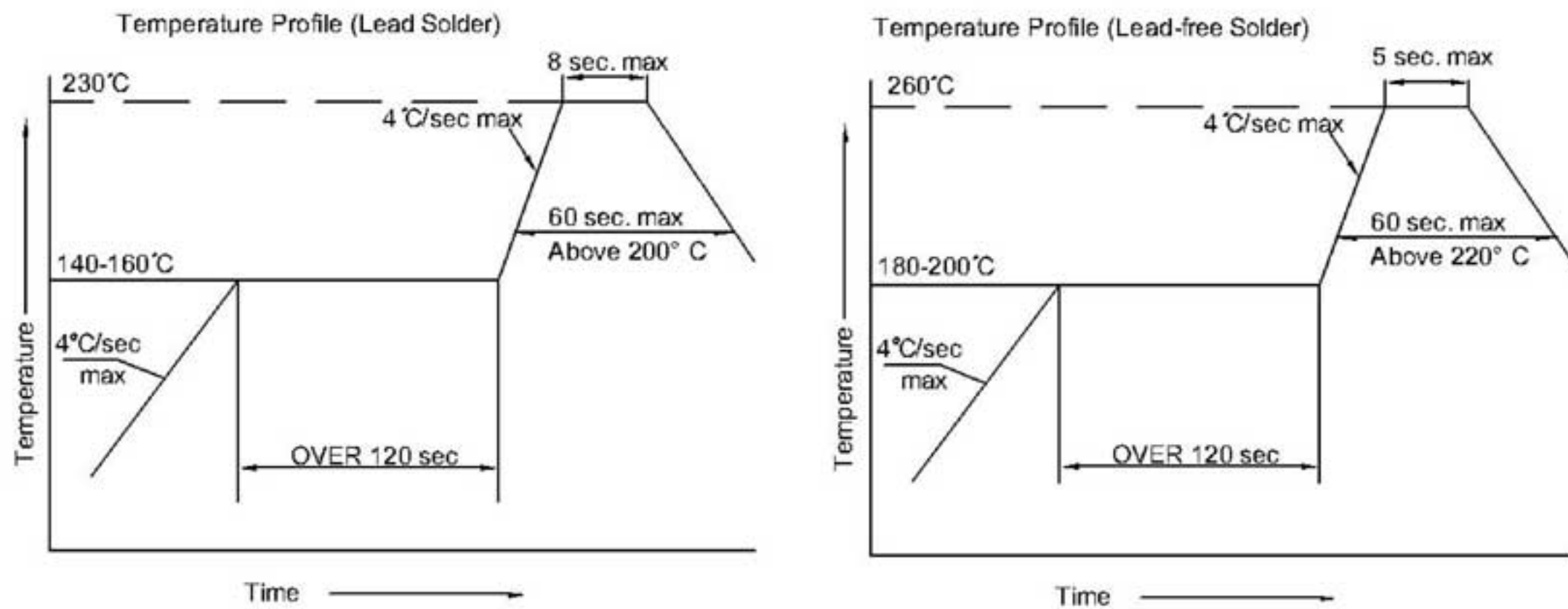
No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Rc
1	Reflow	Temp:240°C±5°C Min.5 sec.	6 Min.	22Pcs.	0/1
2	Temperature Cycle	H:+100°C 15 min. ~ 5 min L:-40°C 15 min.	300 Cycles	22Pcs.	0/1
3	Thermal Shock	H:+100°C 5 min. ~ 10 sec. L:-10°C 5 min.	300 Cycles	22Pcs.	0/1
4	High Temperature Storage	Temp.:100°C	1000Hrs.	22Pcs.	0/1
5	Low Temperature Storage	Temp.: -55°C	1000Hrs.	22Pcs.	0/1
6	DC Operating Life	I <sub>f</sub> =20mA	1000Hrs.	22Pcs.	0/1
7	High Temperature/High Humidity	85°C/R.H85%	1000Hrs.	22Pcs.	0/1



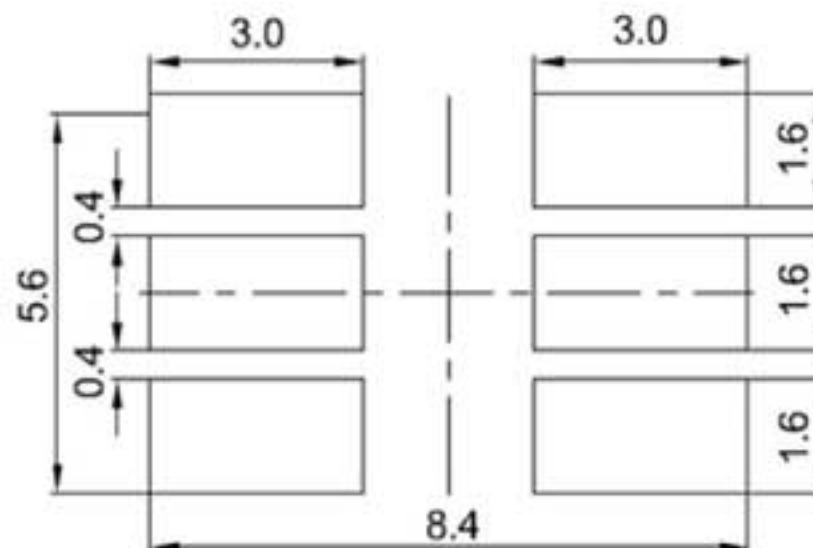
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### SMT Reflow Soldering Instructions

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and second soldering process.



### Recommended Soldering Pattern (Units : mm)



### Tape Specifications (Units : mm)

