Snowdragon Industrial Co.,Ltd

DATA SHEET

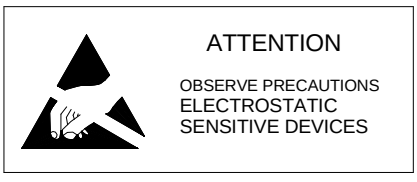
MODEL No : SD-FF3EF4

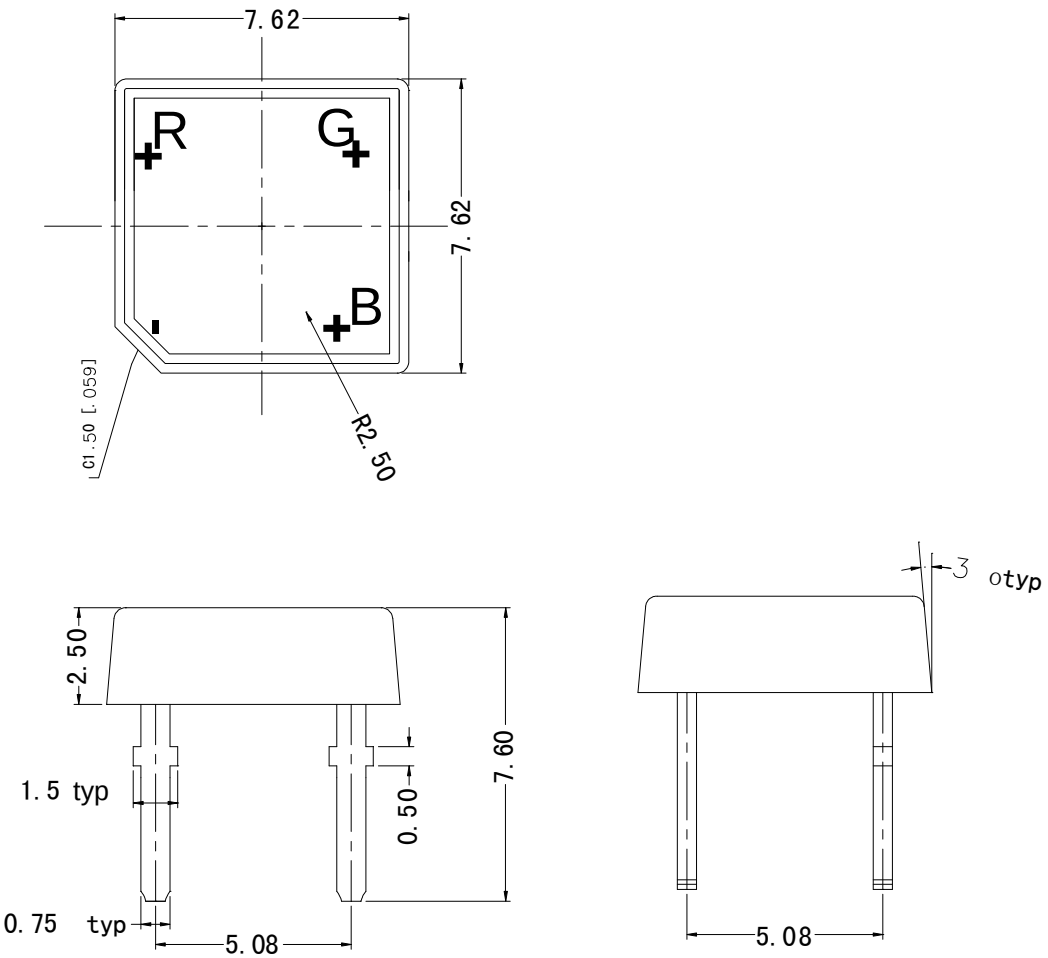
ENG. No:

Description:

- **Flat Top RGB led**
- **Lens Color: Water Clear**
- **Emitting Color: RGB**
- **Viewing Angle :120˚**
- **With Stopper**

PREPARED BY	CHECKED BY	APPROVED BY
CUSTOMER APPROVED SIGNATURES		





Note:

1. All Dimensions are in millimeters

2. Tolerance is ±0.25mm(0.010”)Unless otherwise specified.

3. Protruded resin under flemge is 1.5mm(0.59”)max.

4. This product to static electricity sensitive, Usage the hour please watch for the electricity aegis.

Absolute Maximum Ratings at Ta=25℃

Parameter	Symbol	Red	Green	blue	Unit
Power Dissipation	P_D	80	100	100	mW
Continuous Forward Current	I_F	30	30	30	mA
Peak Forward Current*1	I_{FP}	100	100	100	mA
Reverse Voltage	V_R	5			V
Operating Temperature Range	Topr	-40℃ to+80℃			
Storage Temperature Range	Tstg	-25℃ to+100℃			
Lead Soldering Temperature【3mm From Body】	Tsol	260℃ For 5 Seconds			

*1：Peak Forward Current 1/10 Duty Cycle,0.1ms Pulse Width

Electrical Optical Characteristics at Ta=25℃

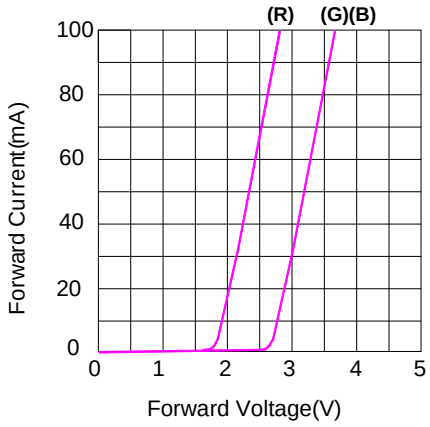
Parameter	Symbol		Min	Typ	Max	Unit	Condition
Forward Voltage	VF	R	1.9	2.1	2.3	V	IF=20mA
		G	2.9	3.1	3.3		
		B	2.9	3.1	3.3		
Luminous Intensity	IV	R	---	200	---	mcd	IF=20mA
		G	---	800	---		
		B	---	300	---		
Dominant Wavelength	λd	R	620	---	630	nm	IF=20mA
		G	520	---	530		
		B	465	---	475		
Reverse Current	IR		/	/	5	μA	VR=5V
Viewing Angle	2θ1/2		/	120	/	deg	IF=20mA

Note.

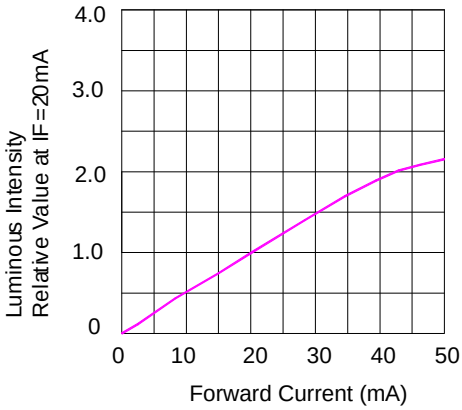
1. 2θ1/2 is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is ± 10

Typical Electro-Optical Characteristics Curves

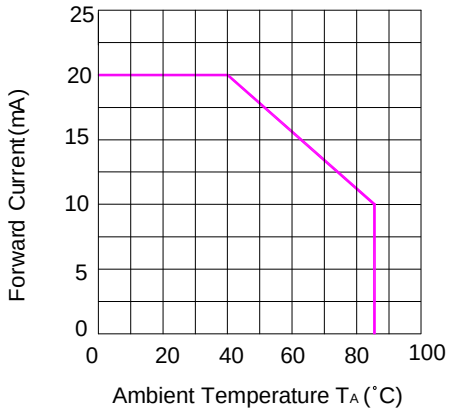
Relative Luminous Intensity vs Forward Current, *T Ambient*=25o C



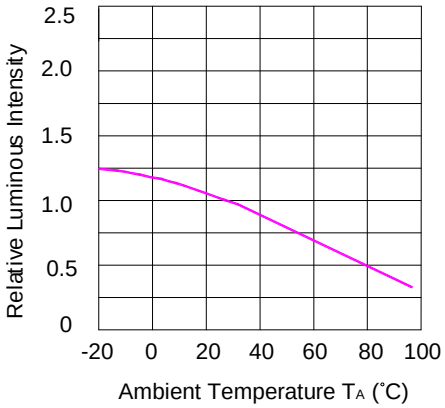
Relative Luminous Intensity vs Forward Current, *T Ambient*=25o C



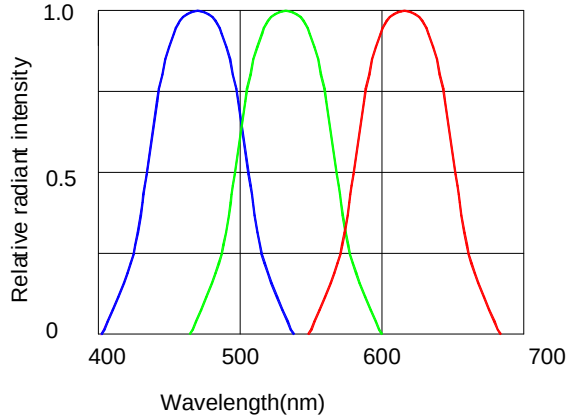
Forward Current Derating Curve, Derating based on TjMAX=85° C

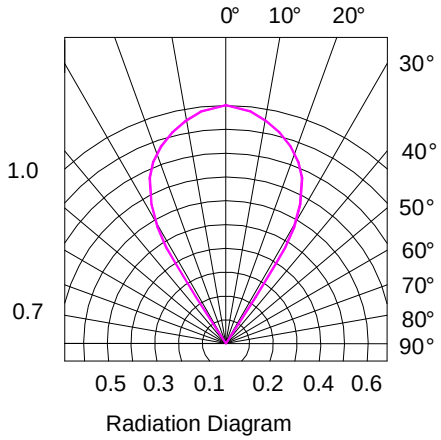


Luminous Intensity VS Ambient Temperature



Relative Spectral Distribution, IF=80mA, T Ambient=25o C





LED Lamp Reliability test standard

Type	Test Item	REF. Standard	Test conditions		Note	Number of Damaged
			Binary / Trinary Chip	Quaternary Chip		
Environments Sequence	Temperature Cycle	JIS C7021 (1977)A4	-20℃~25℃~80℃~25℃ 30min,5min,30min,5min	-40℃~25℃~100℃~25℃ 30min,5min,30min,5min	100 cycles	0/100
	Thermal shock	MIL-STD-202G	-20℃~80℃ 30min, 30min	-40℃~100℃ 30min, 30min	100 cycles	0/100
	High Temperature Storage(*)	JIS C7021 (1977)B10	Ta=80℃	Ta=100℃	1000Hrs	0/100
	Low Temperature Storage	JIS C7021 (1977)B12	Ta=-30℃	Ta=-40℃	1000Hrs	0/100
Operation Sequence	Life test	JIS C7035 (1985)	Ta=25℃ If=25mA	Ta=25℃ If=25mA	1000Hrs	0/100
	High humidity Heat life test	------	60℃ RH=90% If=20mA	60℃ RH=90% If=20mA	500Hrs	0/100
	Low temperature Life test	------	Ta=-20℃ If=20mA	Ta=-30℃ If=20mA	1000Hrs	0/100
Destructive Sequence	Resistance to solderingHeat	JIS C7021 (1977)A11	Tsol=260±5℃ ,10sec. (3mm from the base of the epoxy bulb)		1 time	0/20
	Solder ability	JIS C7021 (1977)A2	Tsol=235±5℃ ,5sec. (using flux)		1 time (over95 %)	0/20
	Lead Pull/Bend Test	JIS C7021 (1977)A11	Load 2.5N(0.25kgf) 0℃~90℃~0℃;Bend 3times		3 time	0/10
ESD Test	ESD TEST	AEC (Q101002)	Human body model 1000v		-----	0/10

Items marked with * are selective.

Failure Criteria

Item	Symboi	Test Condition	Criteria for Judgment	
			min	Max
Forward Voltage	VF	IF = 20 mA	------	Initial Data x 1.1
Reverse Current	IR	VR = 5 V	-----	100 A
Luminous Flux/Intensity	/IV	IF = 20 mA	Initial Data x 0.7 (Total degradation) Initial Data x 0.5 (Single lamp degradation)	------