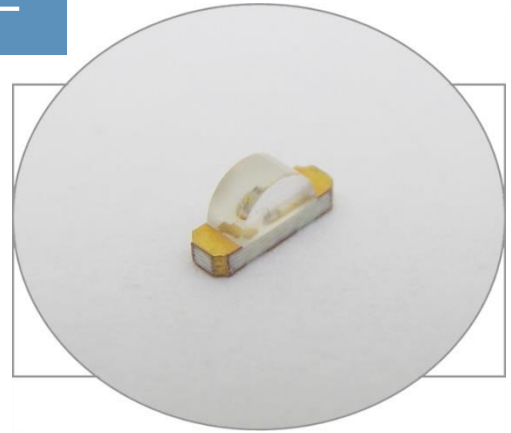


SURFACE MOUNT LED RED/GREEN/BLUE, 1204 PACKAGE

BIVAR

SM1204RGB

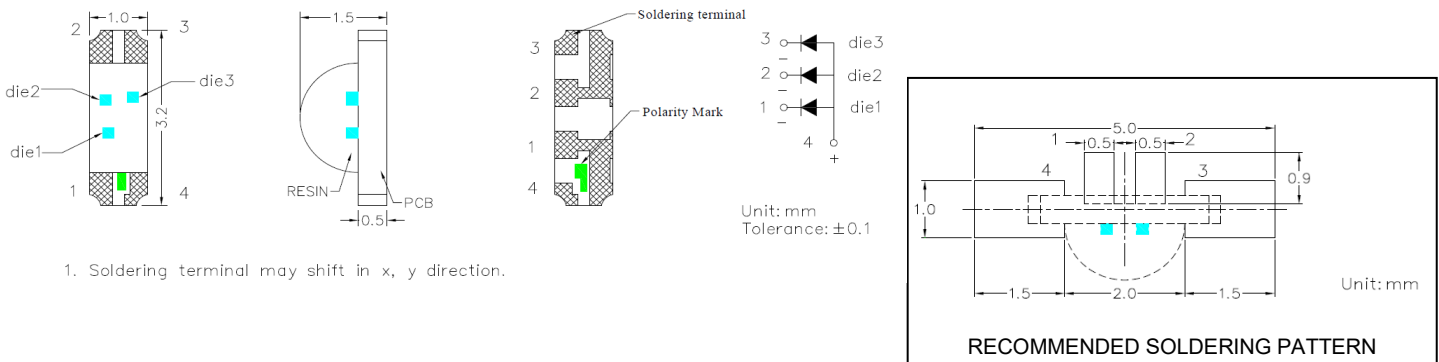
- ◆ Industry Standard 1204 Package
- ◆ RoHS Compliant
- ◆ Right Angle Mounting
- ◆ Three Chips in One Package
- ◆ Water Clear Lens
- ◆ Wide Viewing Angle
- ◆ Ideal for Status Indication and Backlighting



Bivar Surface Mount SM1204 RGB LED is offered in an industry standard package with high luminous intensity and wide viewing angles. The miniature package is ideal for reduced space applications such as general indication and backlighting. Low power consumption and excellent long-life reliability are suitable for battery powered equipment. The flexible three chip design allows for a wide variety of lighting options where the chips can be individually driven or mixed to create numerous color and intensity combinations. Bivar SM1204 LED is packaged in standard tape and reels for pick and place assemblies.

Part Number	Emitted Color	Peak Wavelength λ_P (nm) TYP.	Dominant Wavelength λ_D (nm) TYP.	Lens Appearance	Luminous Intensity (mcd) TYP.	Viewing Angle
SM1204RGB	ULTRA HIGH RED	645	631	Water Clear	100	110°
	GREEN	523	525		550	
	BLUE	468	470		225	

Outline Dimensions



Bivar reserves the right to make changes at any time without notice.

SURFACE MOUNT LED RED/GREEN/BLUE, 1204 PACKAGE



Absolute Maximum Ratings

$T_a = 25^\circ\text{C}$ unless otherwise noted

Item	Symbol	Maximum	Unit
Peak Forward Current ¹	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Derating Linear from 25°C	-	0.4	mA/°C
Operating Temperature Range	T_{opr}	-30 to 80	°C
Storage Temperature Range	T_{stg}	-40 to 85	°C

Notes: 1. 10% Duty Cycle, Pulse Width ≤ 0.1 msec.

Electrical/Optical Characteristics

($T_a = 25^\circ\text{C}$)

Chip			Lens Appearance	Absolute Maximum Rating			Electro-Optical Data (at 20mA)				Viewing Angle 20 ½ (deg)
Emitted Color	λ_p (nm)	λ_D (nm)		$\Delta\lambda$ (nm)	P_d (mW)	I_f (mA)	V_f (V)		I_v (mcd)		
							Typ.	Max.	Min.	Typ.	
Ultra High Red (Die 1)	645	631	Water Clear	20	78	30	2.1	2.6	72	100	110°
Green (Die 2)	523	525		30	84	20	3.1	4.2	360	550	
Blue (Die 3)	468	470		25	84	20	2.9	4.2	145	225	

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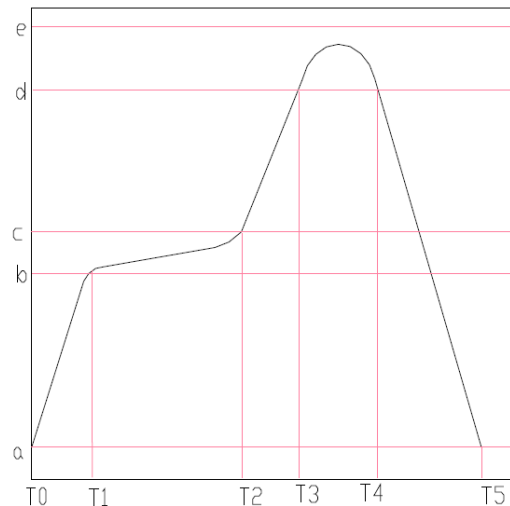
Soldering Iron:

1. Temperature at tip of iron: 300°C Max. (25W Max)
2. Soldering Time: 5 ± 1 sec.

Recommended Reflow Temp/Time:

Please refer to the figure on the right:

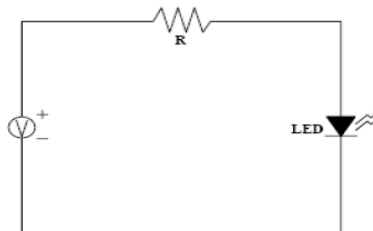
Temp. (°C)		Time (sec)	
a	25	T0~T1	Max. 3°C/sec
b	150	T1~T2	90~130 sec
c	200	T2~T3	Max. 3°C/sec
d	220	T3~T4	Max. 30~50 sec
e	250		
		T4~T5	Max. -3°C/sec
Belt Speed		70~90 cm/min	



Note: Will vary based on equipment and process used.

Precautions for Use:

- Over – current – proof
Customer must use apply resistors for protection otherwise slight voltage shift will cause a large current change, causing burnout.



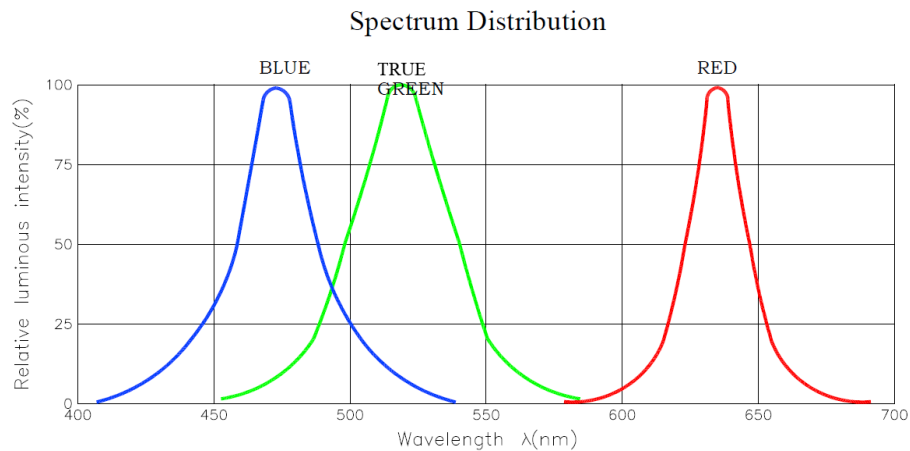
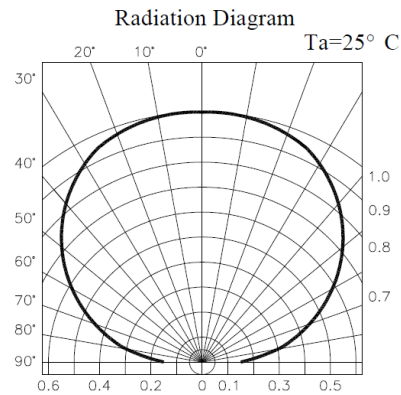
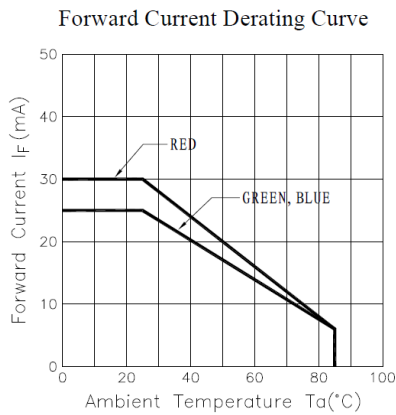
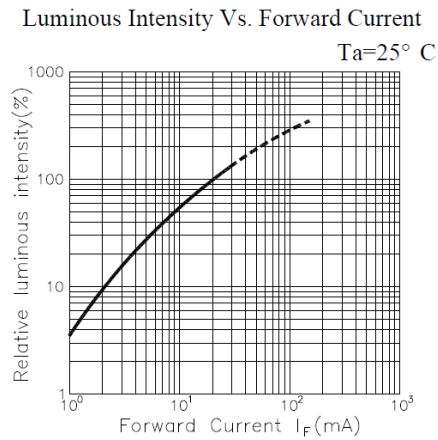
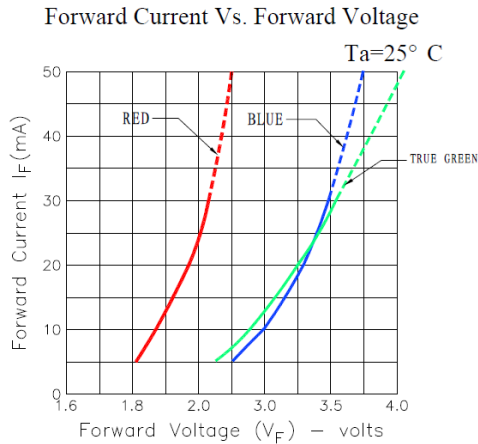
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SURFACE MOUNT LED RED/GREEN/BLUE, 1204 PACKAGE



Typical Electrical/Optical Characteristics

T_A = 25°C unless otherwise noted



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SURFACE MOUNT LED RED/GREEN/BLUE, 1204 PACKAGE

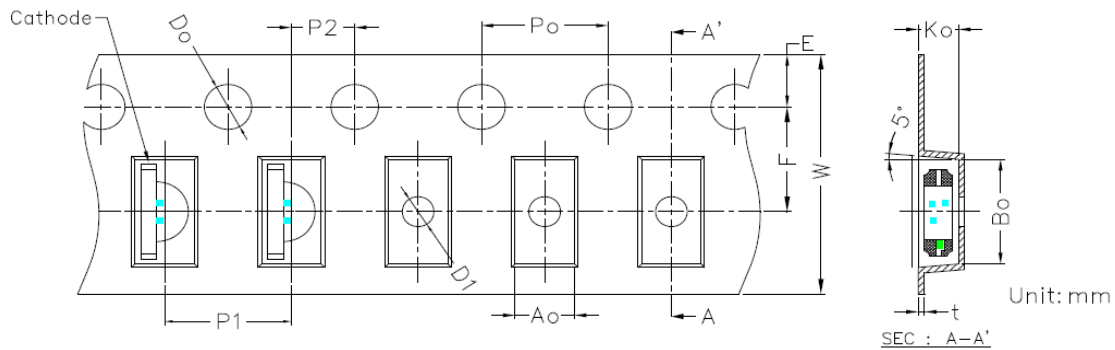


Storage:

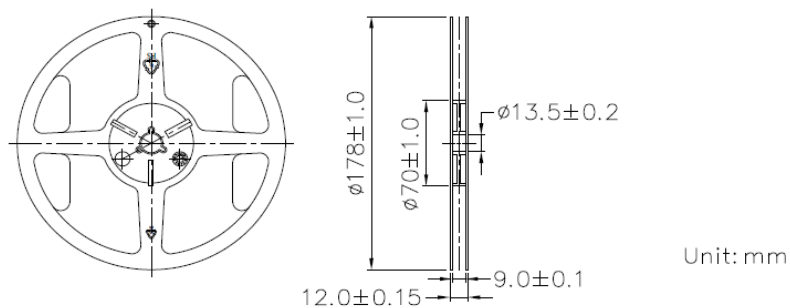
1. The storage temperature and relative humidity range are: 5°C ~ 30°C, R.H. 60 % max
2. Once the package is opened, products should be used within 72 hrs. Otherwise, they should be kept in a dampproof box with a desiccating agent. Considering the tape life, we suggest using product within 1 year of production date.
3. It's recommended to bake at 80°C ± 5°C for 24 hrs before soldering them when the package is unsealed for 72 hrs.

Tape Specification: 3000 pcs per Reel

Packing Size													
Item	W	P1	E	F	Do	D1	Po	10Po	P2	Ao	Bo	Ko	t
Spec. (mm)	8.00	4.00	1.75	3.5	1.5	1.00	4.00	40.00	2.00	1.60	3.35	1.15	0.22
Tolerance (mm)	±0.20	±0.10	±0.10	±0.05	+0.10 -0.000	±0.05	±0.05	±0.20	±0.05	±0.10	±0.10	±0.10	±0.05



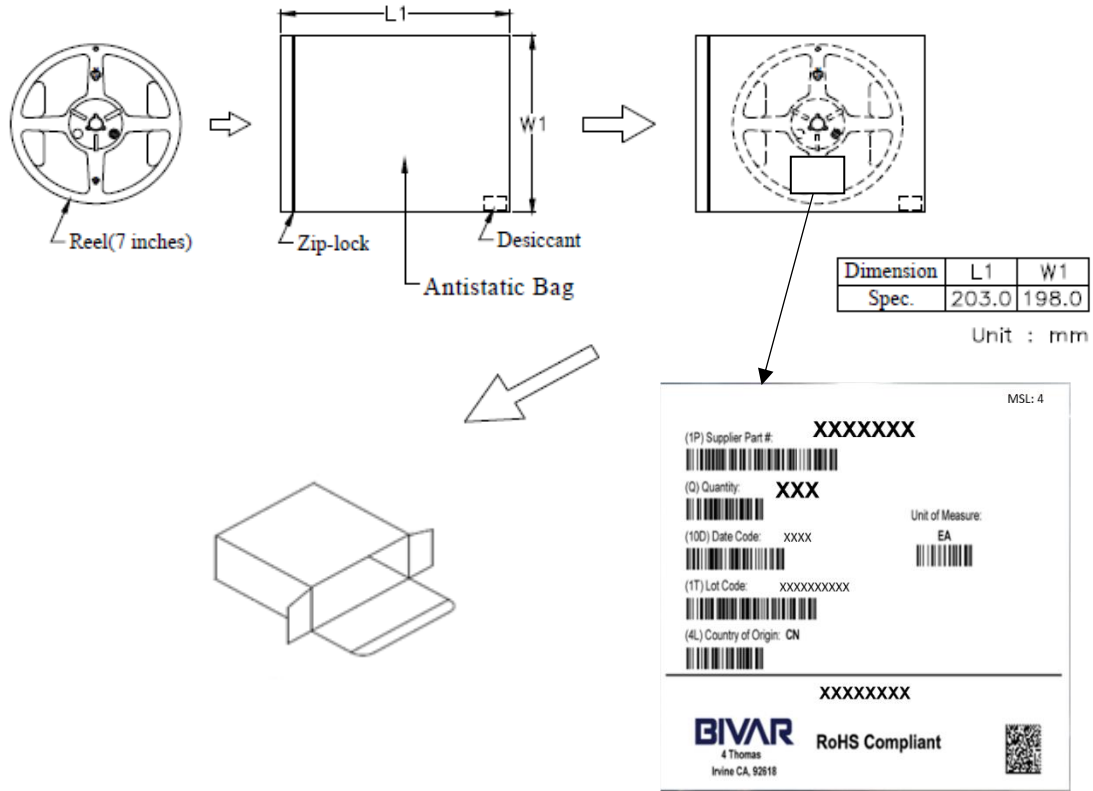
Dimensions of Reel and Packaging:



1 reel per bag.

Bivar reserves the right to make changes at any time without notice.

SURFACE MOUNT LED RED/GREEN/BLUE, 1204 PACKAGE



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