

# SML-01 Series

3020 (1208)  
3.0×2.0mm (t=1.3mm)

### Features

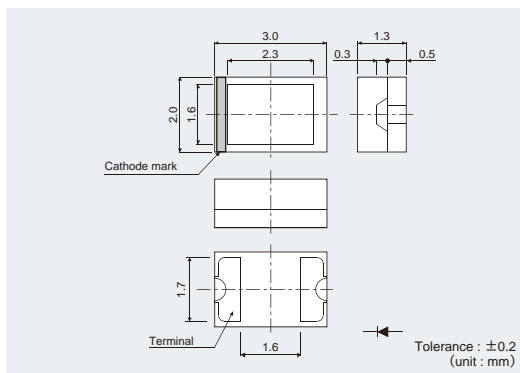
- Reflector type (3.0×2.0mm, t=1.3mm)
- Reflector improved the concentration of viewing angle and luminous intensity to the front direction



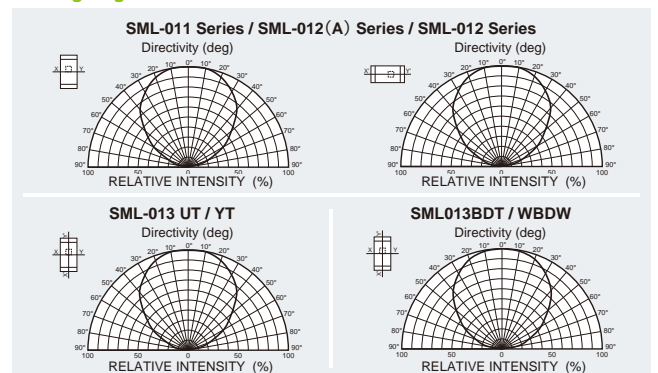
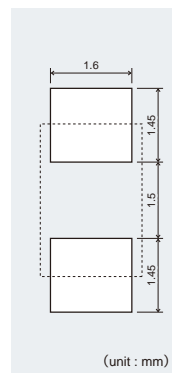
### Specifications

Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25°C)					Electrical and Optical Characteristics (Ta=25°C)										
			Power Dissipation Pd (mW)	Forward Current If (mA)	Peak Forward Current Ifp (mA)	Reverse Voltage Vr (V)	Operating Temperature Topr (°C)	Storage Temperature Tstg (°C)	Forward Voltage V <sub>F</sub> (V)	Reverse Current I <sub>R</sub> (μA)	Dominant Wavelength λ <sub>D</sub> (nm)			Luminous Intensity I <sub>v</sub> (mcd)				
■ SML-012VT(A)	AlGaInP on GaAs	Red	75	30			-40 to +100			2.0			626	630	636	35.5	71	
■ SML-012V8T			54	20			-40 to +85			2.2			625	635		25	63	
■ SML-013UT			75	30			-30 to +85			2.0			619	624	629	90	220	
■ SML-012U8T			54	20			-40 to +85			2.2						40	100	
■ SML-012UT			75	30			-40 to +100			2.0			615	620	625	36	100	
■ SML-011UT																	22	63
■ SML-012D8T					54	20			-40 to +85		2.2						63	160
■ SML-012DT				Orange			100*1							602	605	608	36	100
■ SML-011DT					75	30			-40 to +100		2.0	10					22	63
■ SML-012WT(A)																	140	280
■ SML-012Y8T			54	20					2.2						40	100		
■ SML-013YT		Yellow				5	-40 to +85	-40 to +100	2.1	20	5	587	590	593	20	100	250	20
■ SML-012YT			75	30					2.0						36	100		
■ SML-011YT															22	63		
■ SML-012M8T		Yellowish Green										569	572	575	16	40		
■ SML-012P8T			54	20			-40 to +85		2.2			557	560	563	2.5	6.3		
■ SML-012PT(A)		Green	62	25	60*1		-40 to +100		2.1			558	564		9	18		
■ SML012ECT		Bluish Green	84						3.3			520	525	535	140	360		
■ SML012EC4T									3.2						56	140		
■ SML013BDT	InGaN		78	20	100*1		-30 to +85			100					90	250		
■ SML012BCT		Blue							3.3			465	470	475	36	100		
■ SML012BC4T			84						3.2						22	36		
□ SML013WBDW		White										(x, y)	(0.30, 0.30)		360	900		

### Dimensions



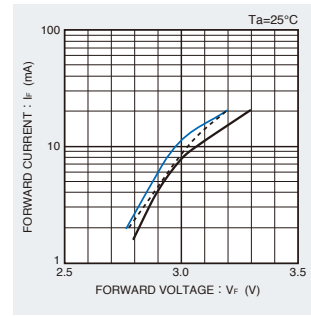
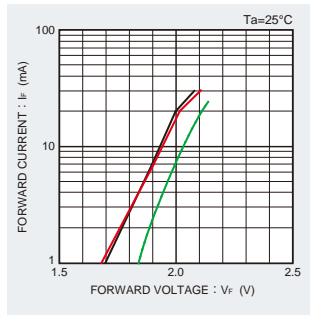
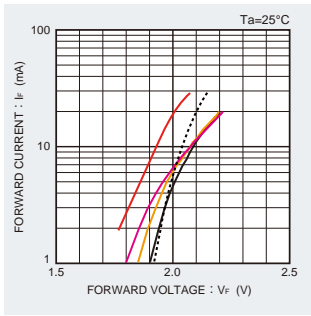
### Recommended Solder Pattern Viewing Angle



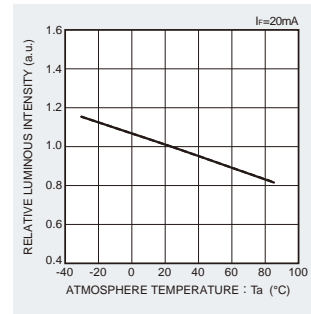
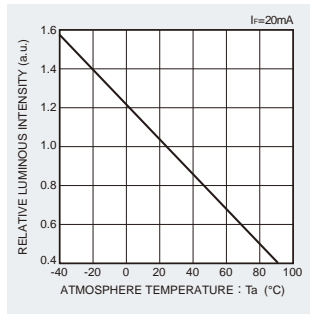
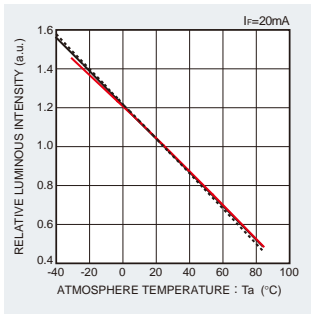
\* 1: Duty 1/10, 1kHz / \* 2: Reference

Electrical Characteristics Curves

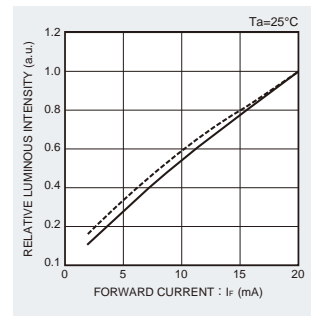
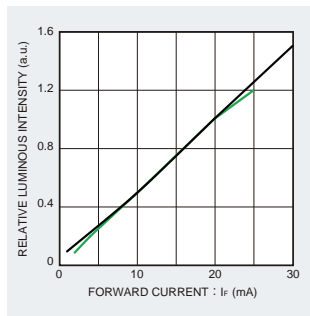
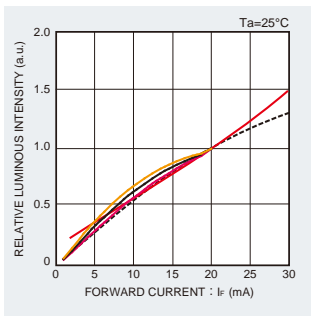
Forward Current-Forward Voltage



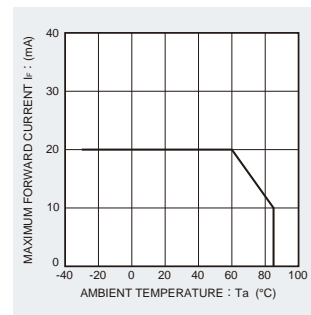
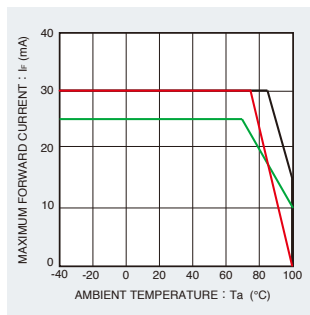
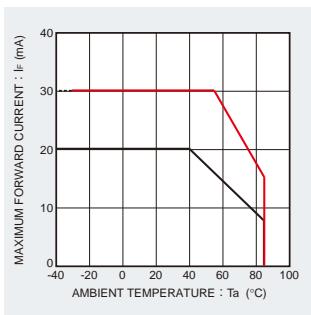
Luminous Intensity-Atmosphere Temperature



Luminous Intensity-Forward Current



Derating



# SML-01 series

## Rank Reference of Brightness

### Red (V, U)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	
			2.5 to 4.0	4.0 to 6.3	6.3 to 10	10 to 16	16 to 25	25 to 40	40 to 63	63 to 100	100 to 160	160 to 250	250 to 400	400 to 630	630 to 1000	1000 to 1600	
Chip LEDs with reflector	3020	1.3	SML-012V8T														
			SML-013UT														
			SML-012U8T														
			SML-012UT*														
SML-011UT*																	

\*Brightness on specification sheet include tolerance of within ±10%.

### Orange (D)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	
			2.5 to 4.0	4.0 to 6.3	6.3 to 10	10 to 16	16 to 25	25 to 40	40 to 63	63 to 100	100 to 160	160 to 250	250 to 400	400 to 630	630 to 1000	1000 to 1600	
Chip LEDs with reflector	3020	1.3	SML-011DT*														
			SML-012D8T														
			SML-012DT*														

\*Brightness on specification sheet include tolerance of within ±10%.

### Yellow (Y)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	
			2.5 to 4.0	4.0 to 6.3	6.3 to 10	10 to 16	16 to 25	25 to 40	40 to 63	63 to 100	100 to 160	160 to 250	250 to 400	400 to 630	630 to 1000	1000 to 1600	
Chip LEDs with reflector	3020	1.3	SML-011YT*														
			SML-012Y8T														
			SML-012YT*														
			SML-013YT														

\*Brightness on specification sheet include tolerance of within ±10%.

### Green (M, P, E)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	
			2.5 to 4.0	4.0 to 6.3	6.3 to 10	10 to 16	16 to 25	25 to 40	40 to 63	63 to 100	100 to 160	160 to 250	250 to 400	400 to 630	630 to 1000	1000 to 1600	
Chip LEDs with reflector	3020	1.3	SML-012P8T														
			SML-012M8T														
			SML012EC4T*													SML012ECT*	

\*Brightness on specification sheet include tolerance of within ±10%.

### Blue (B)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	
			0.9 to 1.4	1.4 to 2.2	2.2 to 3.6	3.6 to 5.6	5.6 to 9.0	9 to 14	14 to 22	22 to 36	36 to 56	56 to 90	90 to 140	140 to 220	220 to 360	360 to 560	560 to 900	
Chip LEDs with Reflector	3020	1.3	SML012BC4T															
			SML012BCT															
			SML013BDT															

### White (WB)

(Ta=25°C, If=5mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	P	Q	R	S	T	U	V	W	X1	X2	Y1	Y2	Z1		
			25 to 36	36 to 56	56 to 90	90 to 140	140 to 220	220 to 360	360 to 560	560 to 900	900 to 1100	1100 to 1400	1400 to 1800	1800 to 2200	2200 to 2800		
Chip LEDs with reflector	3020	1.3	SML013WBDW														

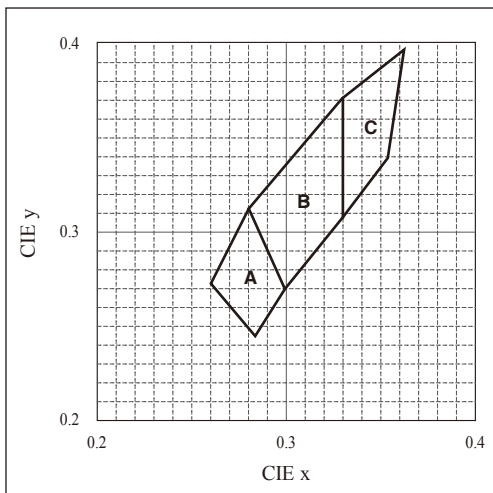
### SML-012(A)

(Ta=25°C, If=20mA)

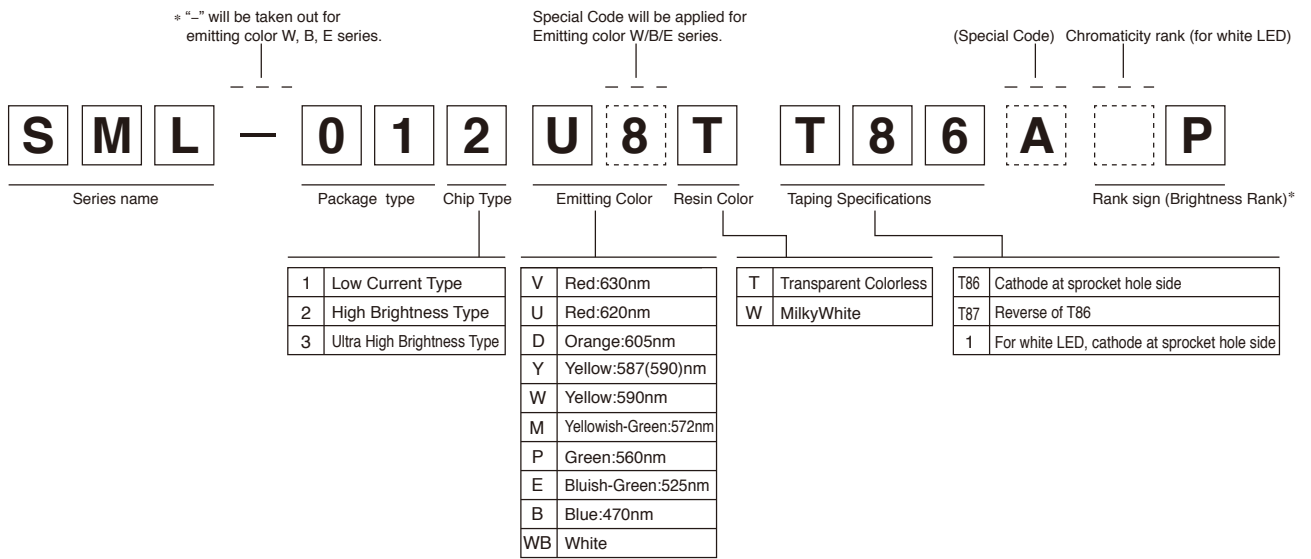
Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	
			9.0 to 11.2	11.2 to 14	14 to 18	18 to 22.4	22.4 to 28	28 to 35.5	35.5 to 45	45 to 56	56 to 71	71 to 90	90 to 112	112 to 140	140 to 180	180 to 224	224 to 280	280 to 355	355 to 450	450 to 560	
Chip LEDs with Reflector	3020	1.3	SML-012PT(A)*																		
			SML-012VT(A)																	SML-012WT(A)*	

\* Please note that the brightness of some products may fall between ranks (half rank).

## Chromaticity Diagram (White)



## Part No. Construction



- \* Concerning the Brightness rank
  - Please refer to the rank chart above for luminous intensity classification.
  - Part name is individual for each rank.
  - When shipped as sample, the part name will be a representative part name.
- General products are free of ranks. Please contact sales if rank appointment is needed.

## Packing Specification

ROHM LED products are being shipped with desiccant (silica gel) concluded in moisture-proof bags.  
 Pasting the moisture sensitive label on the outer surface of the moisture-proof bags or enclosing the humidity indication card inside the bag is available upon request.  
 Please contact the nearest sales office or distributor if necessary.

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