

SML-01 Series

3020 (1208)
3.0 × 2.0mm (t=1.3mm)

Features

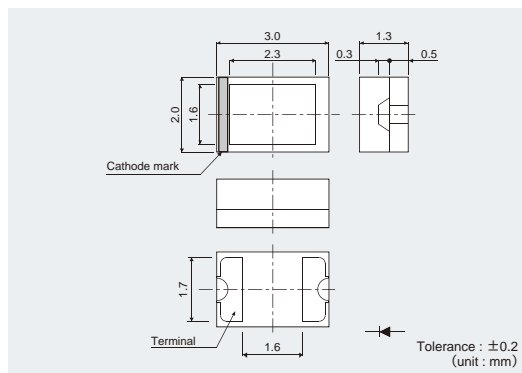
- Reflector type (3.0 × 2.0mm, t=1.3mm)
- Reflector improved the concentration of viewing angle and luminous intensity to the front direction



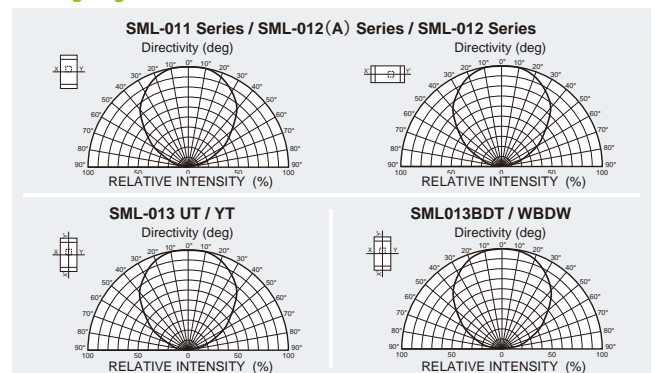
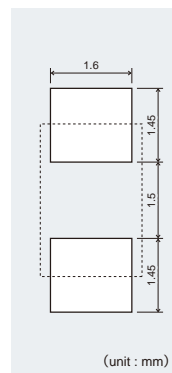
Specifications

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 _F (V)	Reverse Current I _R (μA)	Dominant Wavelength λ _D (nm)			Luminous Intensity I _v (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	54	20			-40 to +85		2.2			569	572	575	16	40			
■ SML-012P8T		Green										557	560	563	2.5	6.3			
■ SML-012PT(A)			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	Blue	78	20	100*1		-30 to +85			100					90	250			
■ SML012BCT									3.3			465	470	475	36	100			
■ SML012BC4T				84						3.2						22	36		
□ SML013WBDW		White										(x, y)	(0.30, 0.30)		360	900			

Dimensions



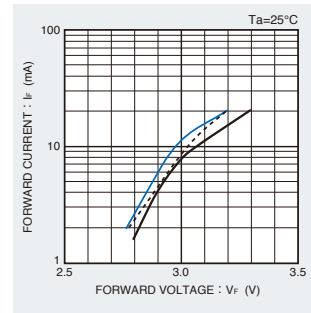
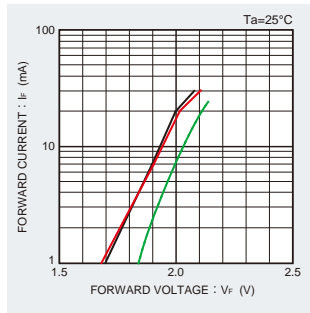
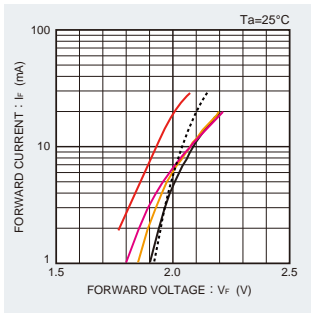
Recommended Solder Pattern Viewing Angle



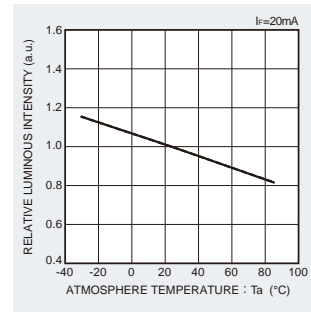
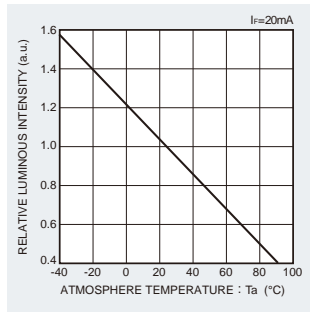
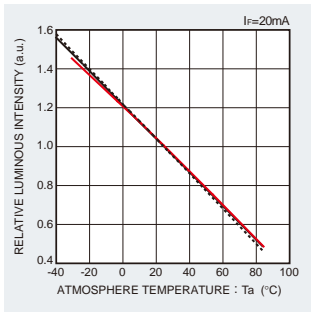
* 1: Duty 1/10, 1kHz / * 2: Reference

Electrical Characteristics Curves

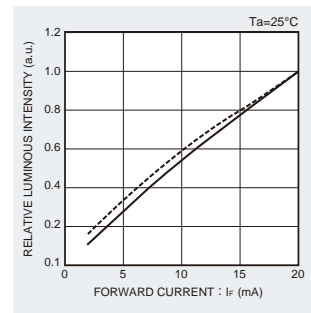
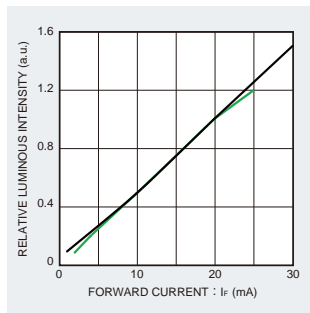
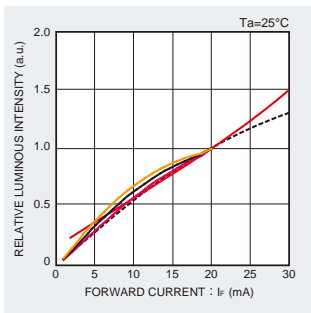
Forward Current-Forward Voltage



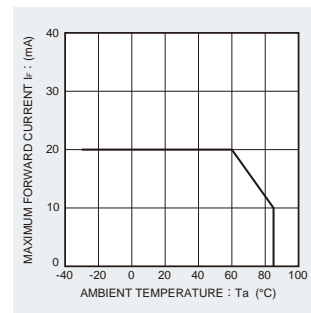
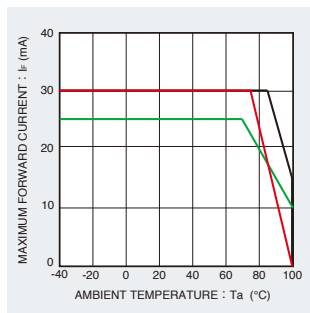
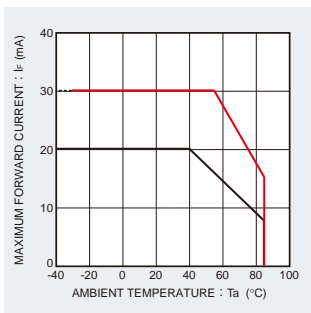
Luminous Intensity-Atmosphere Temperature



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												

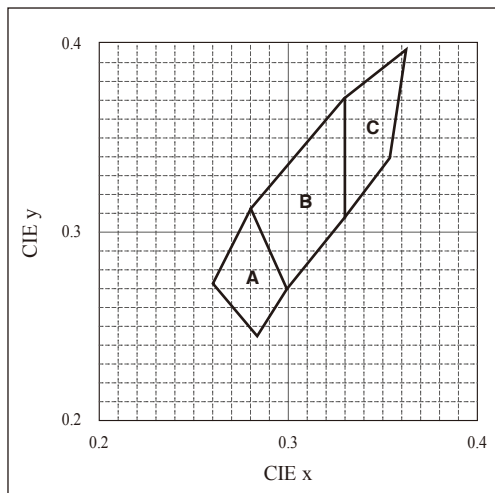
SML-012(A)

(Ta=25°C, If=20mA)

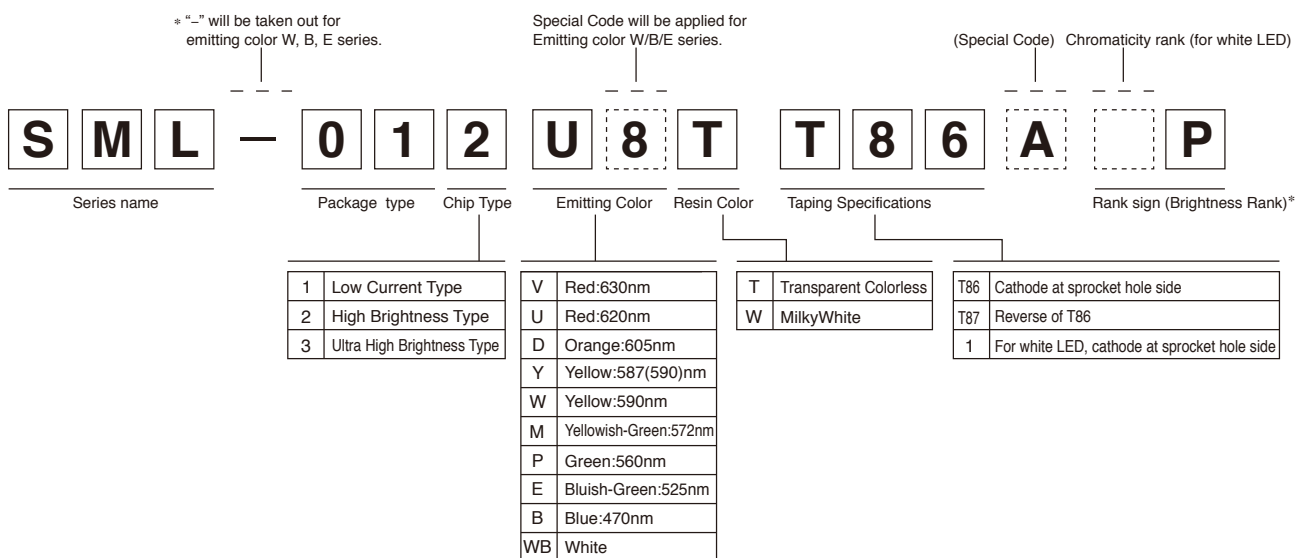
Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ		
			9.0 to 11.2	11.2 to 14	14 to 18	18 to 22.4	22.4 to 28	28 to 35.5	35.5 to 45	45 to 56	56 to 71	71 to 90	90 to 112	112 to 140	140 to 180	180 to 224	224 to 280	280 to 355	355 to 450	450 to 560		
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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