

# SML-01 Series

3020(1208)  
3.0×2.0mm(t=1.3mm)

### Features

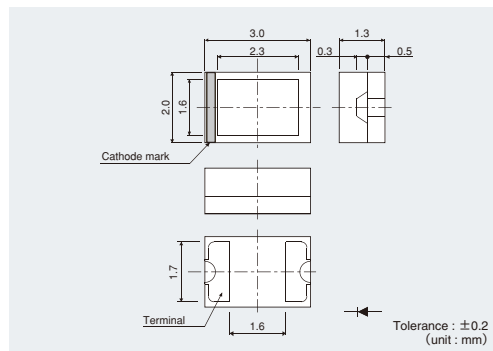
- Reflector type (3.0×2.0mm, t=1.3mm)
- Reflector improved the concentration of viewing angle and luminous intensity to the front direction



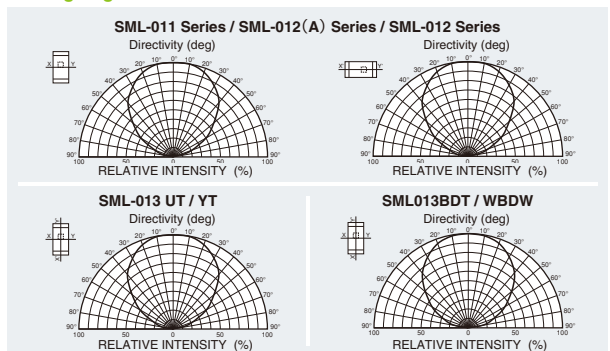
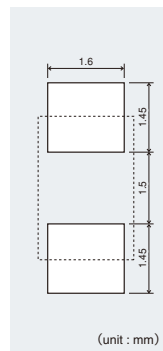
### Specifications

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 Vf(V)	Reverse Current Ir(μA)	Dominant Wavelength λD(nm)			Luminous Intensity Iv(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	630	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			75	30			-40 to +100	2.0							22	63		
SML-012D8T			54	20			-40 to +85	2.2							63	160		
SML-012DT				Orange									602	605	608	36	100	
SML-011DT					75	30	100*1		-40 to +100	2.0	10					22	63	
SML-012WT(A)																140	280	
SML-012Y8T		Yellow	54	20			-40 to +85	2.2						40	100			
SML-013YT						5	-40 to +85	2.1	20	5	587	590	593	20	100	250	20	
SML-012YT				75	30		-40 to +100	2.0							36	100		
SML-011YT							-40 to +100	2.0							22	63		
SML-012M8T		Yellowish Green	54	20			-40 to +85	2.2				569	572	575	16	40		
SML-012P8T		Green					-40 to +85	2.2				557	560	563	2.5	6.3		
SML-012PT(A)			62	25	60*1		-40 to +100	2.1				558	560	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	3.3	100			465	470	475	90	250		
SML012BCT								3.3							36	100		
SML012BC4T				84					3.2							22	36	
SML013WBDW		White										(x, y) (0.30, 0.30)		360	900			

### Dimensions



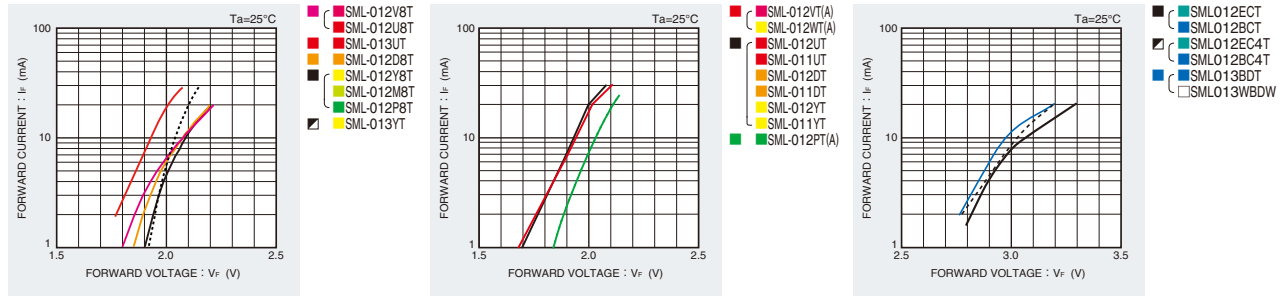
### Recommended Solder Pattern Viewing Angle



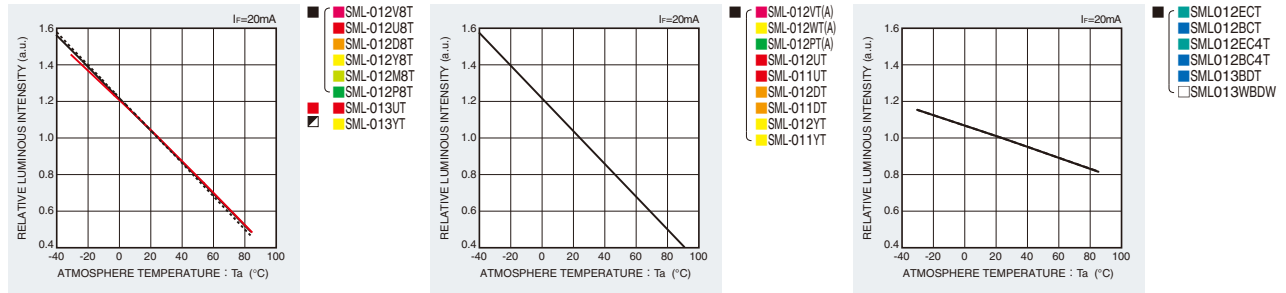
\* 1:Duty 1/10, 1kHz / \* 2:Reference

Electrical Characteristics Curves

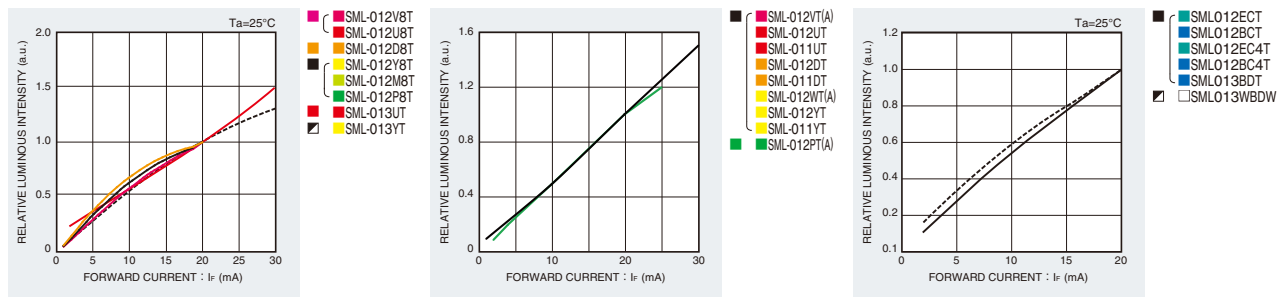
Forward Current-Forward Voltage



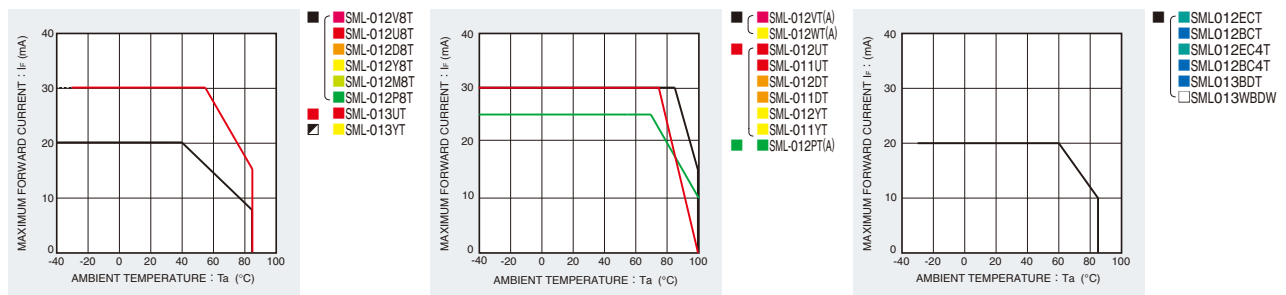
Luminous Intensity-Atmosphere Temperature



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	SML012EC4T*														
			SML-012P8T					SML-012M8T					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														

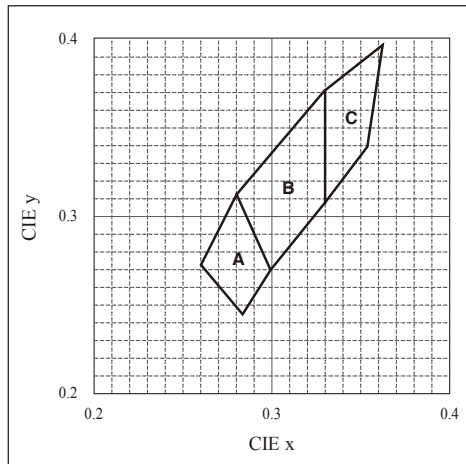
### SML-012(A)

(Ta=25°C, If=20mA)

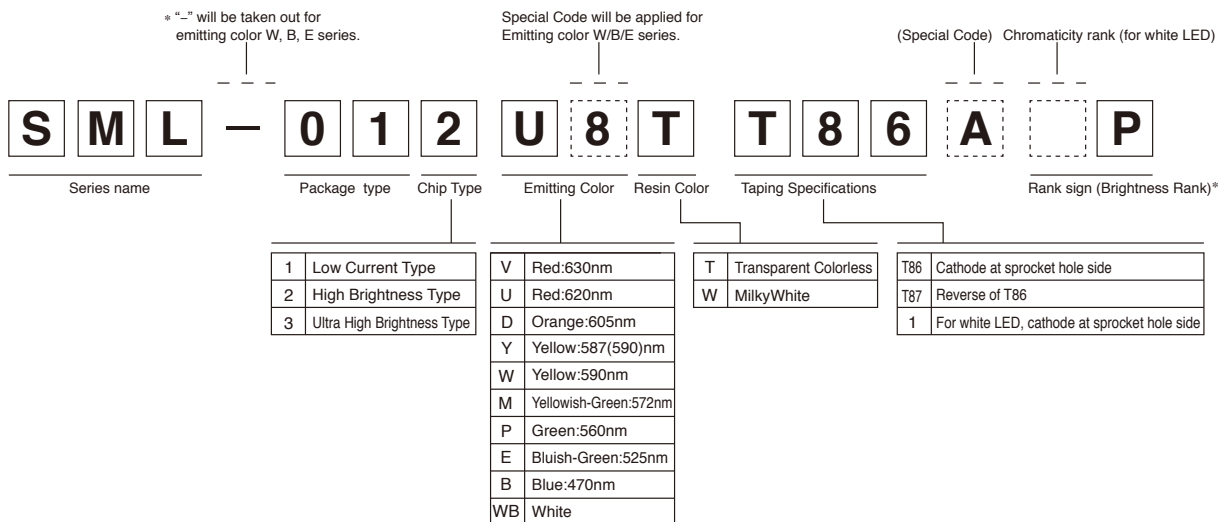
Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	
			9.0 to 11.2	11.2 to 14	14 to 18	18 to 22.4	22.4 to 28	28 to 35.5	35.5 to 45	45 to 56	56 to 71	71 to 90	90 to 112	112 to 140	140 to 180	180 to 224	224 to 280	280 to 355	355 to 450	450 to 560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