

# SML-A1 Series

## EXCELED™

1611(0605)  
1.6 × 1.15mm(t=0.55mm)

### Features

- Compact size side-view LEDs

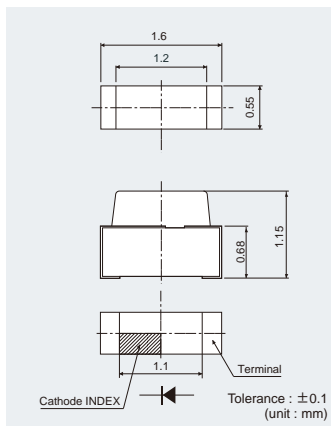


### Specifications

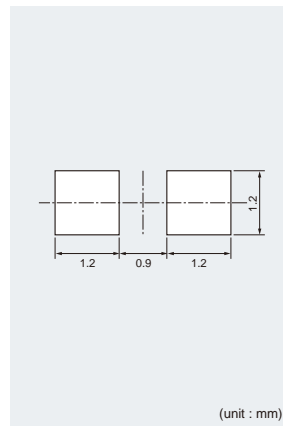
Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25°C)					Electrical and Optical Characteristics (Ta=25°C)										
			Power Dissipation Pd(mW)	Forward Current IF(mA)	Peak Forward Current I <sub>FP</sub> (mA)	Reverse Voltage VR(V)	Operating Temperature Topr(°C)	Storage Temperature Tstg(°C)	Forward Voltage VF(Typ.)(V)	IF(mA)	Reverse Current IR(Max.)(μA)	VR(V)	Dominant Wavelength λD			Luminous Intensity Iv		
												Min.*2(nm)	Typ.*2(nm)	Max.*2(nm)	IF(mA)	Min.(mcd)	Typ.(mcd)	IF(mA)
■ SML-A12V8T	AlGaInP on GaAs	Red	54	20								625	630	635		16	40	
■ SML-A12U8T												615	620	625		25	63	
■ SML-A12UT(J)												619	624	629		36		
■ SML-A12D8T	AlGaInP on GaAs	Orange	54	20			-40 to +85	-40 to +100				602	605	608		40	100	
■ SML-A12DT(J)												606	609	20		36	20	
■ SML-A12WT(J)												587	590	593		25	63	
■ SML-A12Y8T	AlGaInP on GaAs	Yellow	54	20								569	572	575		10	25	
■ SML-A12M8T												567	570	573		14	40	
■ SML-A12MT(J)												557	560	563		2.5	6.3	
■ SML-A12P8T	AlGaInP on GaAs	Yellowish Green	54	20			-40 to +85	-40 to +100				557	560	563		2.5	6.3	
■ SML-A12EC6T												(520)	527	(535)		22	56	
■ SMLA12BC7T												465	470	475		5.6	16	
■ SMLA13BC8T	InGaN	Blue	84				-40 to +85	-40 to +100				464	476		22	24		
□ SMLA12WBC7W												(X,Y)	(0.30,0.30)		56			

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

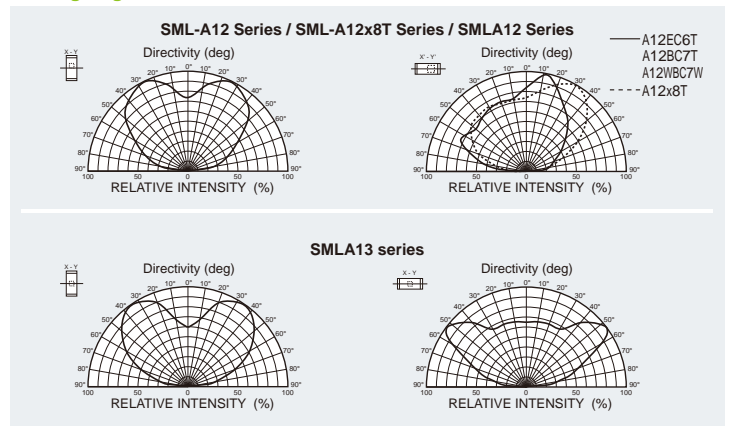
### Dimensions



### Recommended Solder Pattern



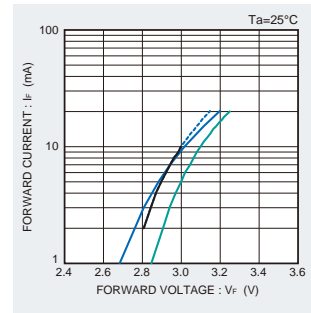
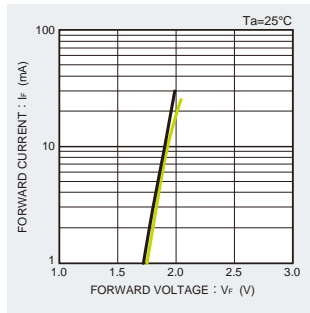
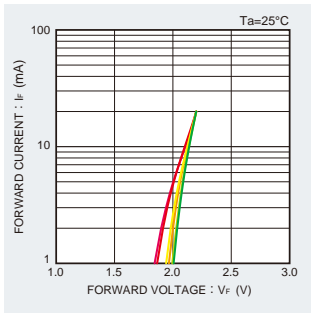
### Viewing Angle



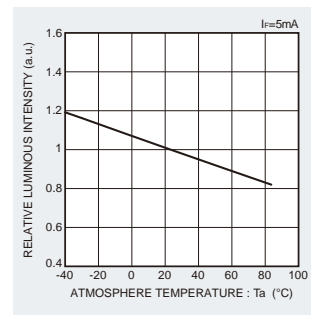
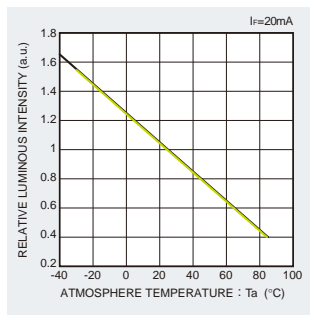
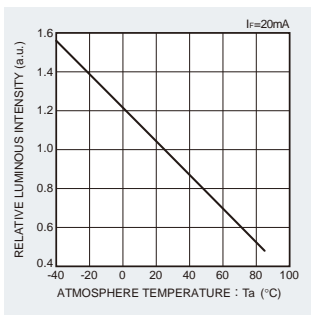
\* EXCELED™ is ROHM's pending trademark.

## Electrical Characteristics Curves

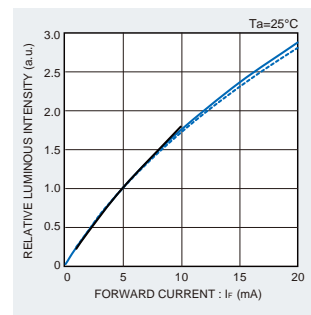
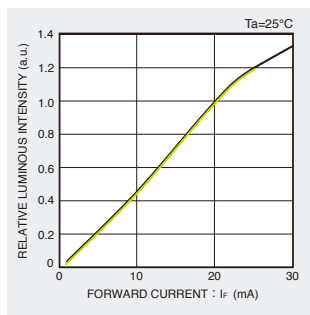
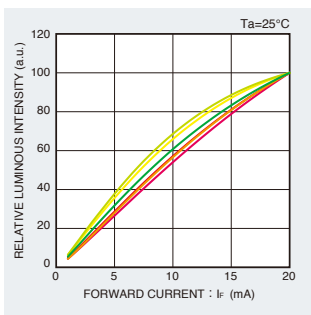
### Forward Current-Forward Voltage



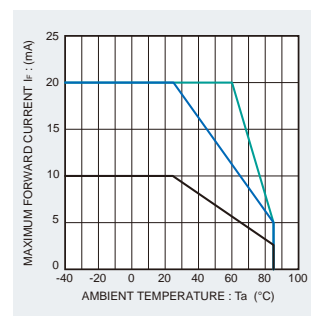
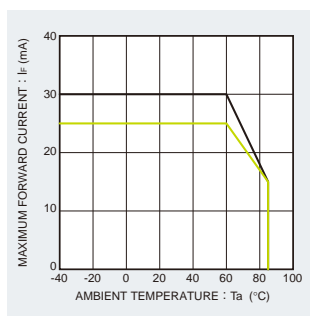
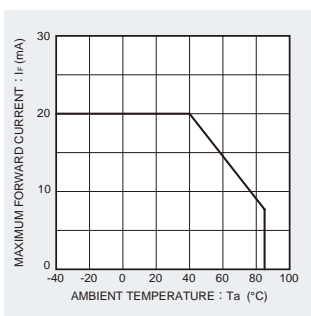
### Luminous Intensity-Atmosphere Temperature



### Luminous Intensity-Forward Current



### Derating



# SML-A1 Series

## Rank Reference of Brightness

### Red (V, U)

(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	X
			1.0 to 1.6	1.6 to 2.5	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
Side View Chip LEDs	16115	0.55									SML-A12V8T							
											SML-A12U8T							
											SML-A12UT*							

### Orange (D)

(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	X
			1.0 to 1.6	1.6 to 2.5	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
Side View Chip LEDs	16115	0.55									SML-A12D8T							
											SML-A12DT*							

### Yellow (Y)

(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	X
			1.0 to 1.6	1.6 to 2.5	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
Side View Chip LEDs	16115	0.55									SML-A12Y8T							
											SML-A12YT*							

### Green (M, P)

(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	X
			1.0 to 1.6	1.6 to 2.5	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
Side View Chip LEDs	16115	0.55									SML-A12MT*							
											SML-A12M8T							
											SML-A12P8T							

### Bluish Green (E)

(Ta=25°C, If=5mA)

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
Side View Chip LEDs	16115	0.55									SMLA12EC6T						

### Blue (B)

(Ta=25°C, If=5mA)

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
Side View Chip LEDs	16115	0.55									SMLA12BC7T						
											SMLA13BC8T						

### White (WB)

(Ta=25°C, If=5mA)

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
Side View Chip LEDs	16115	0.55									SMLA12WBC7W						

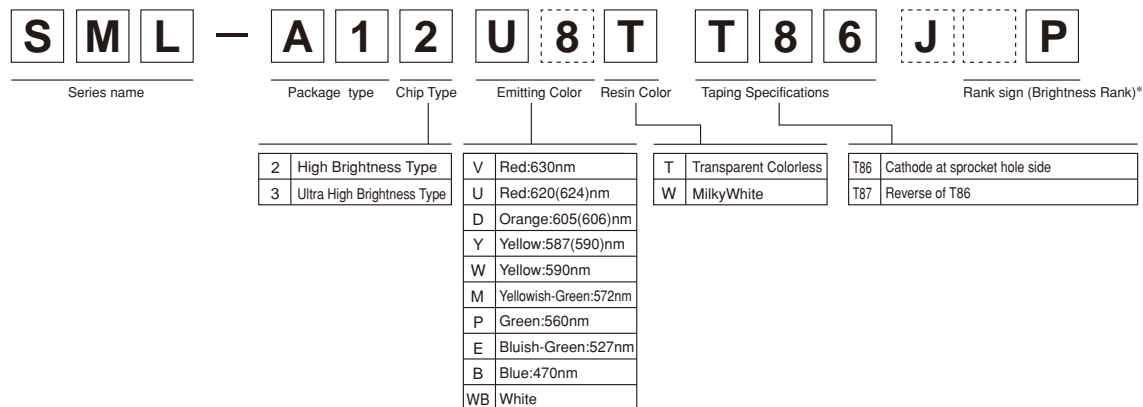
※Brightness on specification sheet include tolerance of within ± 10%.

## Part No. Construction

\* "-" will be taken out for emitting color B/E series.

Dice classification code

(Special classification code) Chromaticity rank(for white LED)



- \* 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.

## Notes

- 1) The information contained herein is subject to change without notice.
- 2) Before you use our Products, please contact our sales representative and verify the latest specifications :
- 3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.  
Therefore, in order to prevent personal injury or fire arising from failure, please take safety measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures. ROHM shall have no responsibility for any damages arising out of the use of our Products beyond the rating specified by ROHM.
- 4) Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.
- 5) The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM or any other parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.
- 6) The Products are intended for use in general electronic equipment (i.e. AV/OA devices, communication, consumer systems, gaming/entertainment sets) as well as the applications indicated in this document.
- 7) The Products specified in this document are not designed to be radiation tolerant.
- 8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.
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