

## SML-81 series

3412 (1305)  
3.4 × 1.25mm (t=1.1mm)

### Features

- Reverse-mount available type

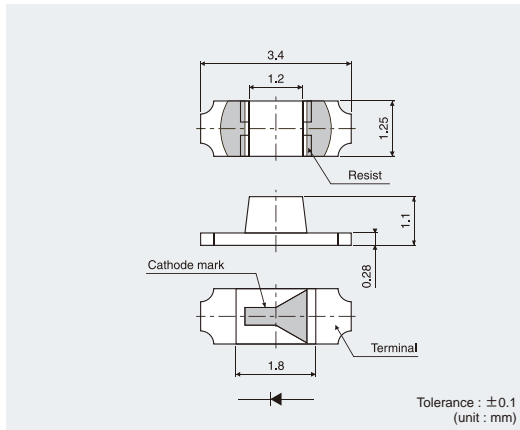


### Specifications

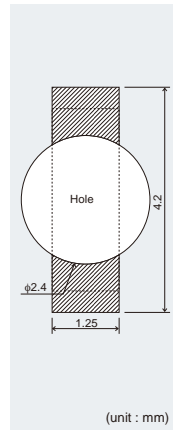
Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25°C)					Electrical and Optical Characteristics (Ta=25°C)										
			Power Dissipation Pd (mW)	Forward Current IF (mA)	Peak Forward Current I <sub>FP</sub> (mA)	Reverse Voltage VR (V)	Operating Temperature Topr (°C)	Storage Temperature Tstg (°C)	Forward Voltage VF		Reverse Current IR		Dominant Wavelength λD			Luminous Intensity Iv		
								Typ. (V)	IF (mA)	Max. (μA)	VR (V)	Min.*3 (nm)	Typ.*3 (nm)	Max.*3 (nm)	IF (mA)	Min. (mcd)	Typ. (mcd)	IF (mA)
■ SML-811VT(A)	AlGaInP	Red	62	25	100*2	5	-40 to +85	-40 to +100	1.95	10	5	625	630	636	10	11	22	10
■ SML-811UT(A)												615	620	625		11.2	22.4	
■ SML-811DT(A)		Orange										602	605	608		14	28	
■ SML-811WT(A)												587	590	593		9	18	
■ SML-811YT(A)		Yellow										584	587	590		9	18	
■ SML-812MT	GaP	Yellowish Green	65	60*1	4	-30 to +85	-40 to +85	2.1	20	4	569	572	575	20	14	40	20	
■ SML-810MT								2.2			567	570	573		5.6	16		
■ SML813BC8T	InGaN	Blue	87	20	100*2	5	-40 to +85	-40 to +100	3.3	20	5	464	470	476	22	56	56	
■ SML812BCT			80									-30 to +85	-40 to +85	20				

\* 1: Duty 1/5, 200Hz / \* 2: Duty 1/10, 1kHz / \* 3: Reference

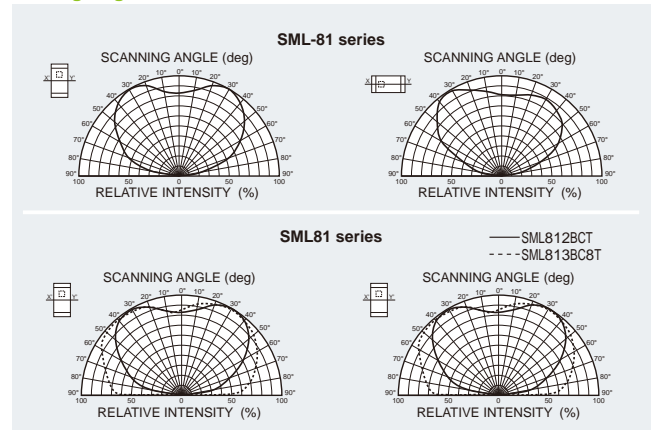
### Dimensions



### Recommended Solder Pattern

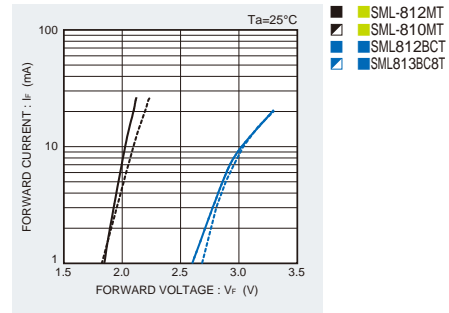
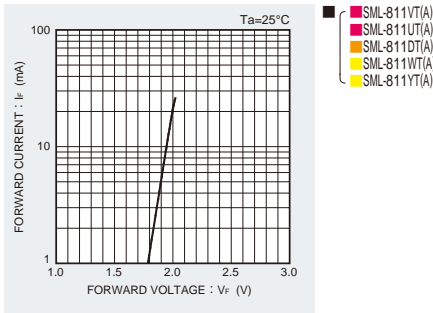


### Viewing Angle

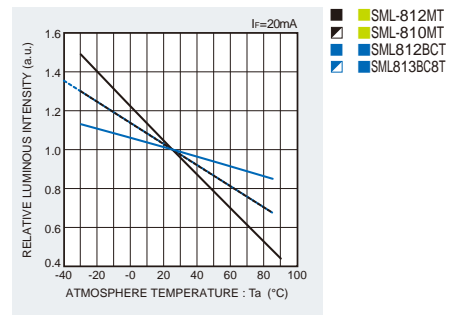
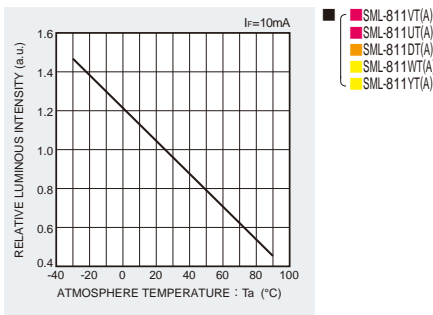


## Electrical Characteristics Curves

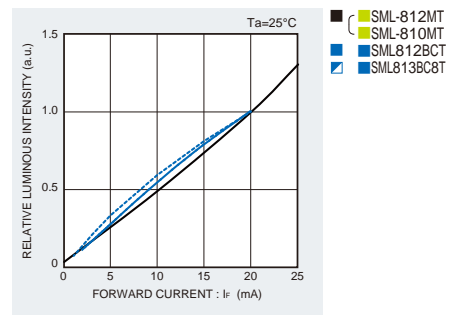
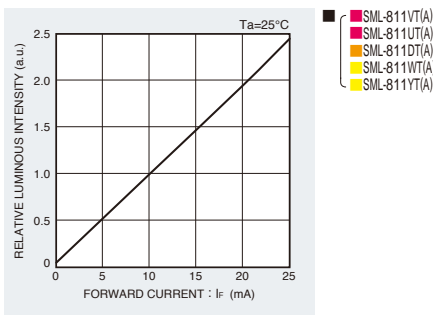
### Forward Current-Forward Voltage



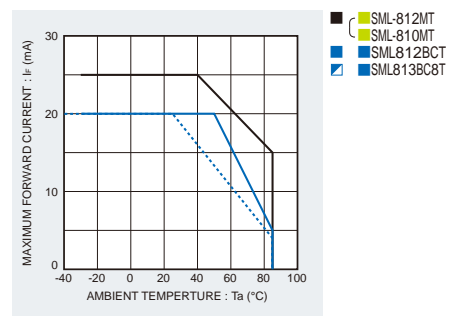
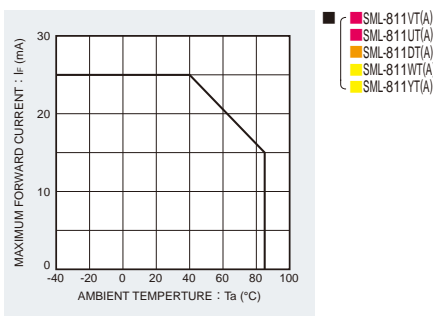
### Luminous Intensity-Atmosphere Temperature



### Luminous Intensity-Forward Current



### Derating



# SML-81 series

## Rank Reference of Brightness

### Red (V, U)

Package structure	Package size	Height (mm)	Luminous Intensity (mcd) I <sub>f</sub> (mA)	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX
				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
Reverse Mount	34125	1.1	10	SML-811VT(A)* SML-811UT(A)*															

### Orange (D)

Package structure	Package size	Height (mm)	Luminous Intensity (mcd) I <sub>f</sub> (mA)	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX
				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
Reverse Mount	34125	1.1	10	SML-811DT(A)*															

### Yellow (W, Y)

Package structure	Package size	Height (mm)	Luminous Intensity (mcd) I <sub>f</sub> (mA)	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX
				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
Reverse Mount	34125	1.1	10	SML-811WT(A)* SML-811YT(A)*															

### Green (M)

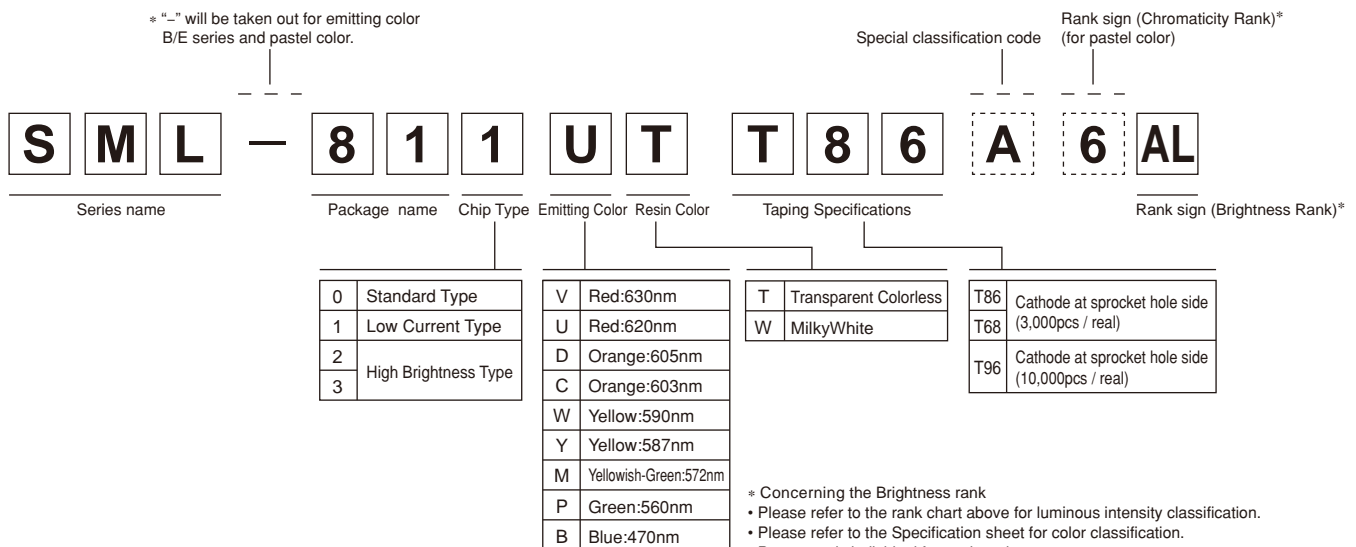
Package structure	Package size	Height (mm)	Luminous Intensity (mcd) I <sub>f</sub> (mA)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
				1.0 to 1.6	1.6 to 2.5	2.5 to 4.0	4.0 to 6.3	6.3 to 10	10 to 16	16 to 25	25 to 40	40 to 63	63 to 100	100 to 160	160 to 250	250 to 400	400 to 630	630 to 1000	1000 to 1600
Reverse Mount	34125	1.1	10	SML-810MT* SML-812MT*															

### Blue (B)

Package structure	Package size	Height (mm)	Luminous Intensity (mcd) I <sub>f</sub> (mA)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
				0.9 to 1.4	1.4 to 2.2	2.2 to 3.6	3.6 to 5.6	5.6 to 9	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	900 to 1400
Reverse Mount	34125	1.1	20	SML813BC8T SML812BCT															

\* Please note that the brightness of some products may fall between ranks (half rank).  
\*\* Brightness on specification sheet include tolerance of within ±10%.

## Part No. Construction



\* Concerning the Brightness rank  
 • Please refer to the rank chart above for luminous intensity classification.  
 • Please refer to the Specification sheet for color 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.  
 \* Please refer to the Specification sheet about Taping specification.

## 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.
- 9) Do not use our Products in applications requiring extremely high reliability, such as aerospace equipment, nuclear power control systems, and submarine repeaters.
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