

# SML-31 series

1608(0603)  
1.6 × 0.8mm(t=0.8mm)

### Features

- 1608 standard size(1.6 × 0.8mm, t=0.8mm)
- Abundant color variations with diverse luminous intensity types

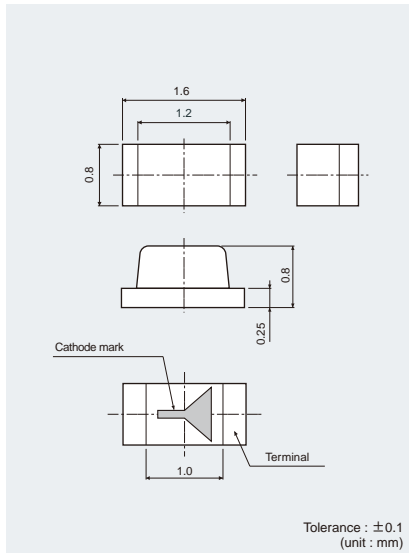


## Product Specifications

Part No.	LED chip	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)			
<b>SML-310VT</b>	GaAsP on GaP	Red	55						2	20			625	630	635	20	1.4	4	20
<b>SML-311UT</b>	AlGaInP on GaAs			44						1.8	2			615	620	625	2	0.9	2.5
<b>SML-311DT</b>			Orange											602	605	608		1.6	3.15
<b>SML-310DT</b>	GaAsP on GaP			55						2	20						20	2.2	6.3
<b>SML-311WT</b>	AlGaInP on GaAs	Yellow	44		60 <sub>±1</sub>	4		-40 to +85	1.8	2		4	587	590	593	2	0.9	2.5	2
<b>SML-311YT</b>														584	587	590		2.2	6.3
<b>SML-310YT</b>	GaAsP on GaP			20			-30 to +85	2.1		100									
<b>SML-310MT</b>	GaP	Yellowish Green	55						2.2				567	570	573		3.6	16	
<b>SML-310PT</b>		Green											557	560	563		1.4	4	
<b>SML312ECT</b>	InGaN	Bluish Green							3.3	20			520	527	535	20	90	200	20
<b>SML312EC4T</b>									3.2				525				36	90	
<b>SML312BCT</b>		Blue		84		100 <sub>±2</sub>	5		-40 to +100	3.3		5							63
<b>SML312BC4T</b>										3.2				464	470	476		22	

※1:Duty1/5, 200Hz / ※2:Duty1/10, 1kHz

## Dimensions



## Recommended Solder Pattern

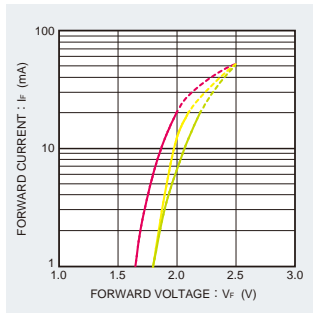


## Viewing Angle

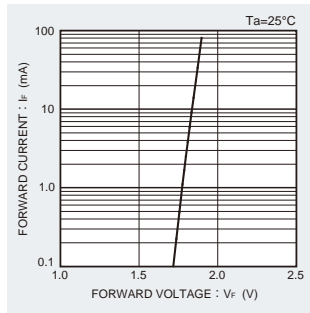


## Electrical Characteristics Curves

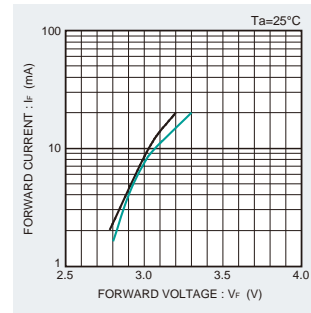
### Forward Current-Forward Voltage



- SML-310VT
- SML-310DT
- SML-310YT
- SML-310MT
- SML-310PT

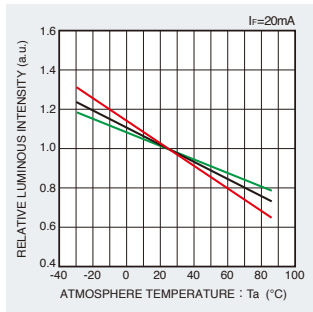


- SML-311UT
- SML-311DT
- SML-311YT
- SML-311WT
- SML-311YT

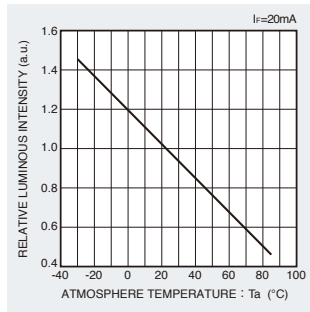


- SML-312BC4T
- SML-312EC4T
- SML-312BCT
- SML-312ECT

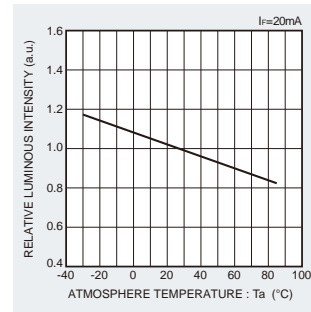
### Luminous Intensity-Atmosphere Temperature



- SML-310VT
- SML-310DT
- SML-310YT
- SML-310MT
- SML-310PT

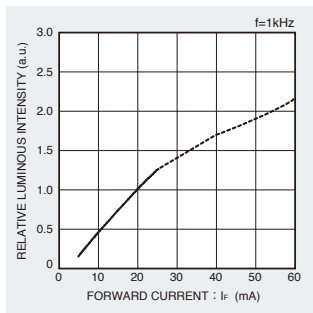


- SML-311UT
- SML-311DT
- SML-311YT
- SML-311WT
- SML-311YT

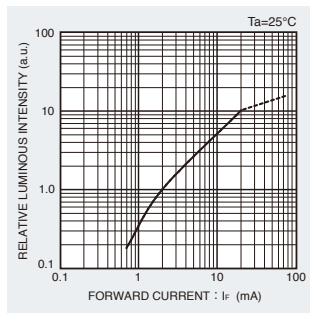


- SML-312BC4T
- SML-312EC4T
- SML-312BCT
- SML-312ECT

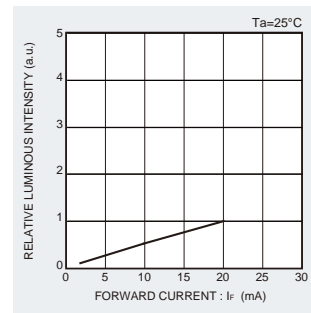
### Luminous Intensity-Forward Current



- SML-310VT
- SML-310DT
- SML-310YT
- SML-310MT
- SML-310PT

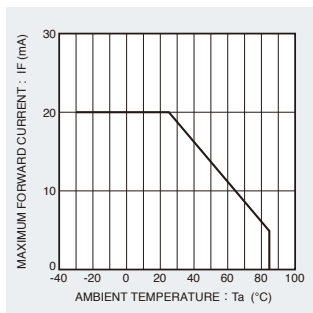


- SML-311UT
- SML-311DT
- SML-311YT
- SML-311WT
- SML-311YT

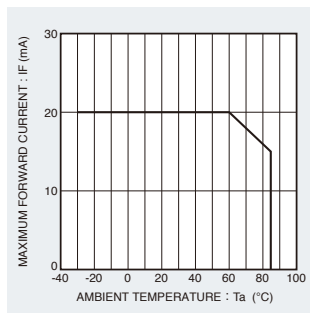


- SML-312BC4T
- SML-312EC4T
- SML-312BCT
- SML-312ECT

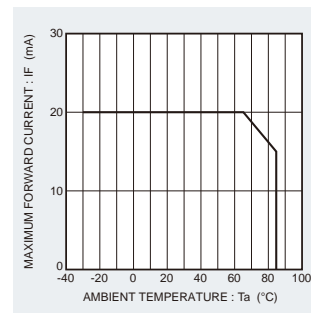
### Deratings



- SML-310VT
- SML-310DT
- SML-310YT
- SML-310MT
- SML-310PT



- SML-311UT
- SML-311DT
- SML-311YT
- SML-311WT
- SML-311YT



- SML-312BC4T
- SML-312EC4T
- SML-312BCT
- SML-312ECT

# SML-31 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		
Mini-mold Chip LEDs	1608	0.8	SML-311UT <sup>※1</sup>																	
			SML-310VT <sup>※</sup>																	

### Orange (D)

(Ta=25°C, If=2mA)

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	
Mini-mold Chip LEDs	1608	0.8	SML-311DT																

### Yellow (Y, W)

(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	
Mini-mold Chip LEDs	1608	0.8	SML-311YT <sup>※1</sup>																
			SML-311WT <sup>※1</sup>																
			SML-310YT <sup>※</sup>																

### Green (M, P, E)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
			0.63 to 1.0	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
Mini-mold Chip LEDs	1608	0.8	SML-310MT <sup>※</sup>												SML312ECT <sup>※</sup>				
			SML-310PT <sup>※</sup>								SML312EC4T <sup>※</sup>								

### 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	
Mini-mold Chip LEDs	1608	0.8										SML312BC4T						
												SML312BCT						

※Brightness on specification sheet include tolerance of within ±10%. ※1:If=2mA

## Part No. Construction

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

Special Code will be applied for Emitting color B/E series.



- \* 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.

## 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.  
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