

# 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

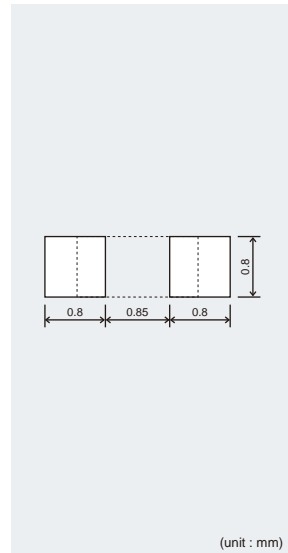
Part No.	LED chip	Emitting color	Absolute maximum ratings (Ta=25°C)					Electrical and optical characteristics (Ta=25°C)												
			Power dissipation PD (mW)	Forward current IF (mA)	Peak forward current IFP (mA)	Reverse voltage VR (V)	Operating temperature Topr (°C)	Storage temperature Tstg (°C)	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	2
<b>SML-311DT</b>		GaAsP on GaP	Orange											602	605	608		1.6	3.15	
<b>SML-310DT</b>				55						2	20						20	2.2	6.3	20
<b>SML-311WT</b>	AlGaInP on GaAs	Yellow			60 <sub>±1</sub>	4		-40 to +85				4	587	590	593		0.9	2.5	2	
<b>SML-311YT</b>				44						1.8	2						2	2.2	6.3	
<b>SML-310YT</b>	GaAsP on GaP			20			-30 to +85		2.1		100		584	587	590		2.2	6.3		
<b>SML-310MT</b>	GaP	Yellowish Green	55										567	570	573		3.6	16		
<b>SML-310PT</b>		Green							2.2					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		464	470	476		22	63	
<b>SML312BC4T</b>										3.2								46		

※1:Duty 1/5, 200Hz / ※2:Duty 1/10, 1kHz

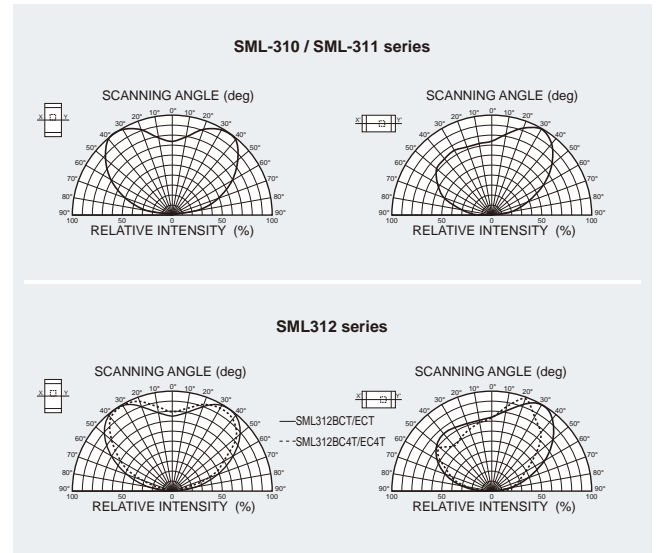
### Dimensions



### Recommended Solder Pattern

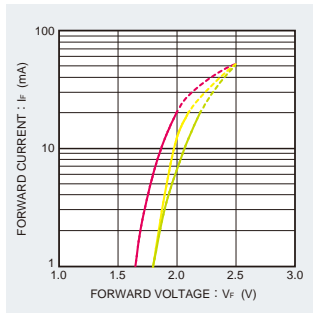


### Viewing Angle

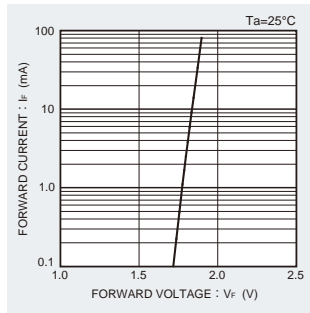


## Electrical Characteristics Curves

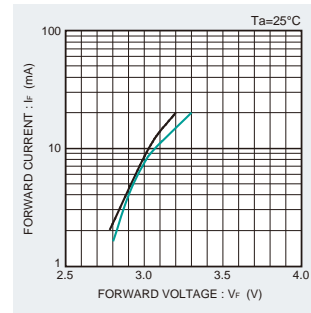
### Forward Current-Forward Voltage



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

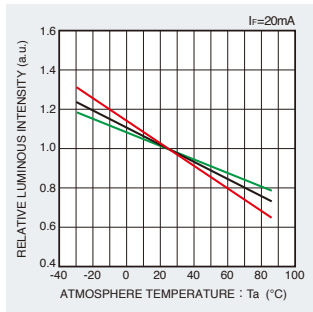


- SML-311UT
- SML-311DT
- SML-311WT
- SML-311YT

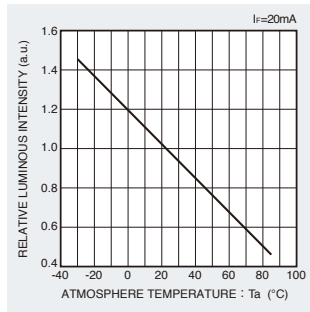


- SML312BC4T
- SML312EC4T
- SML312BCT
- SML312ECT

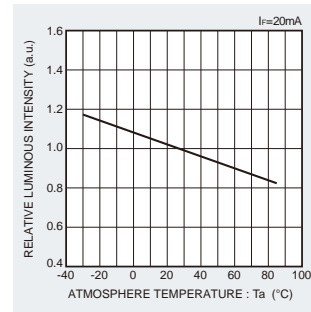
### Luminous Intensity-Atmosphere Temperature



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

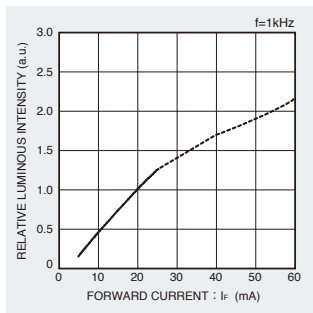


- SML-311UT
- SML-311DT
- SML-311WT
- SML-311YT

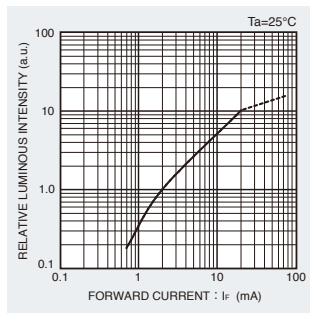


- SML312BC4T
- SML312EC4T
- SML312BCT
- SML312ECT

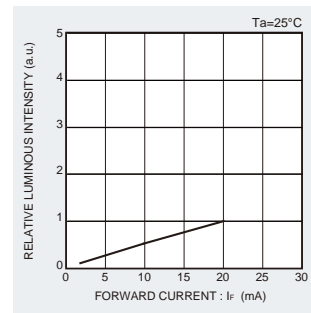
### Luminous Intensity-Forward Current



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

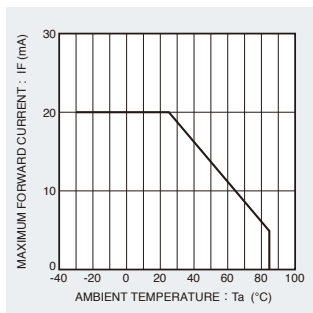


- SML-311UT
- SML-311DT
- SML-311WT
- SML-311YT

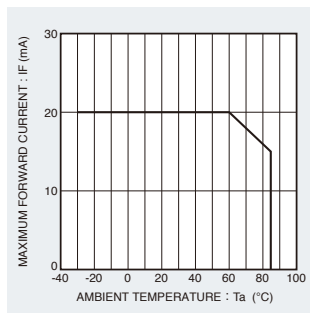


- SML312BC4T
- SML312EC4T
- SML312BCT
- SML312ECT

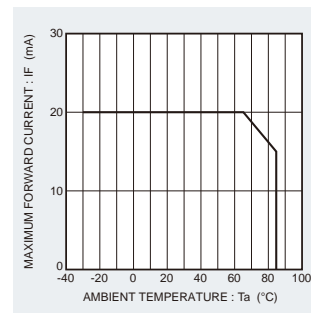
### Deratings



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



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



- SML312BC4T
- SML312EC4T
- SML312BCT
- SML312ECT

# 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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- 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.
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- 7) The Products specified in this document are not designed to be radiation tolerant.
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- 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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<http://www.rohm.com/contact/>

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С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

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- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

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Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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