



# SML-Z1 Series

3528(1411)  
3.5×2.8mm(t=1.9mm)

### Features

- High brightness
- 20/50mA guaranteed specifications
- PLCC2 package

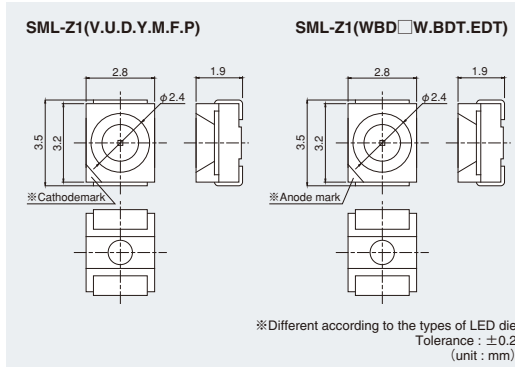


### Specifications

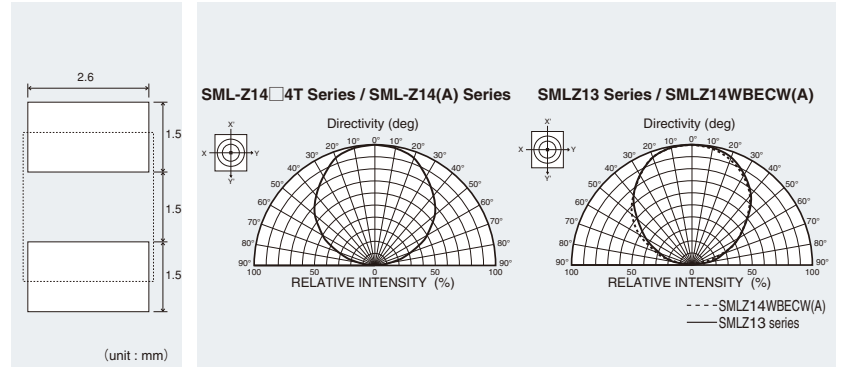
Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25°C)					Electrical and Optical Characteristics (Ta=25°C)																							
			Power Dissipation Pd(mW)	Forward Current If(mA)	Peak Forward Current I <sub>FP</sub> (mA)	Reverse Voltage Vr(V)	Operating Temperature Topr(°C)	Storage Temperature Tsig(°C)	Forward Voltage V <sub>F</sub> Typ.(V)	Forward Current I <sub>F</sub> (mA)	Reverse Current I <sub>R</sub> Max.(μA)	Reverse Voltage Vr(V)	Dominant Wavelength λ D Min.(nm)	Typ.(nm)	Max.(nm)	Luminous intensity I <sub>v</sub> Min.(mcd)	Typ.(mcd)	I <sub>F</sub> (mA)													
SML-Z14VT(A)	AlGaInP on GaAs	Red	175	70	-	12	-40 to +100	-40 to +100	1.9				625	630	635		56	112													
SML-Z14UT(A)													615	620	625					20	140	280	20								
SML-Z14DT(A)		Orange							2.0																						
SML-Z14YT(A)																				Yellow	586	589	592						20	45	90
SML-Z14MT(A)		Yellowish Green							2.0																						
SML-Z14FT(A)																				Green					561.5	564	566.5		22.4	45	
SML-Z14PT(A)		Green							2.0																						
SML-Z14V4T																				Red					2.0						
SML-Z14U4T		Orange							2.0																						
SML-Z14D4T																				Yellow					50	100	12				
SML-Z14Y4T		Yellowish Green							2.1																						
SML-Z14M4T																				Green					2.1						
SML-Z14F4T		Green							2.1																						
SML-Z14P4T																				Green					2.1						
SMLZ13EDT(A)	Bluish Green	120	30		5	-40 to +100	-40 to +100	3.3	20	10	5	519	527	536	20	355	710	20													
SMLZ13BDT(A)												Blue	120	30						5	-40 to +100	-40 to +100	3.2	20	10	5	464	470	476	20	140
SMLZ14WBECW(A)	InGaN on SiC	White	115	30	100*1	5	-40 to +100	-40 to +100	3.2	20	5																				
SMLZ13WBDAW												(x, y) (0.30, 0.28)	20	1400					2000												
SMLZ13WBDBW												(x, y) (0.36, 0.36)									20	360	700	20							
SMLZ13WBDCW(A)												(x, y) (0.44, 0.40)													20	900				1400	
SMLZ13WBDDW(A)												(x, y) (0.34, 0.34)																			

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

### Dimensions

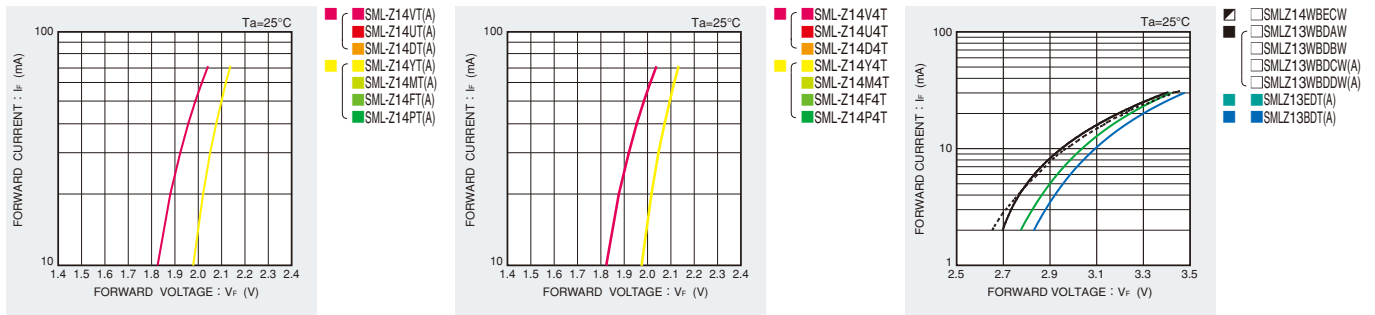


### Recommended Solder Pattern Viewing Angle

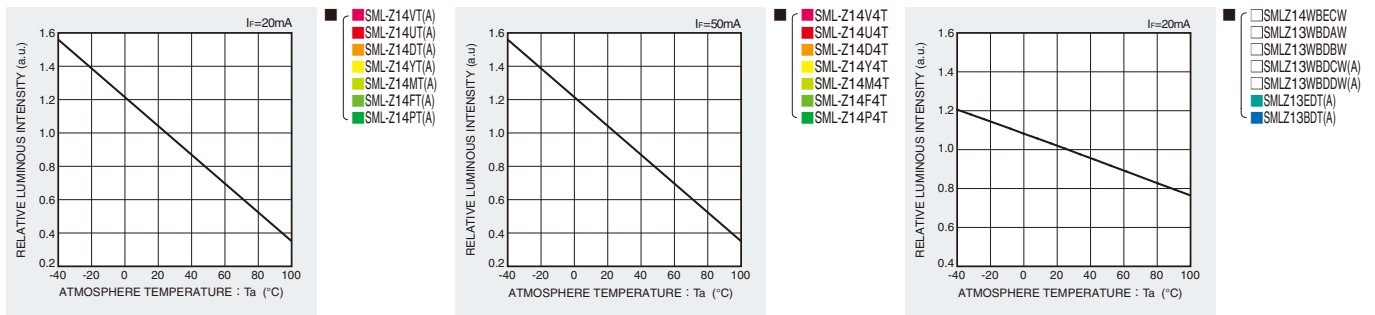


## Electrical Characteristics Curves

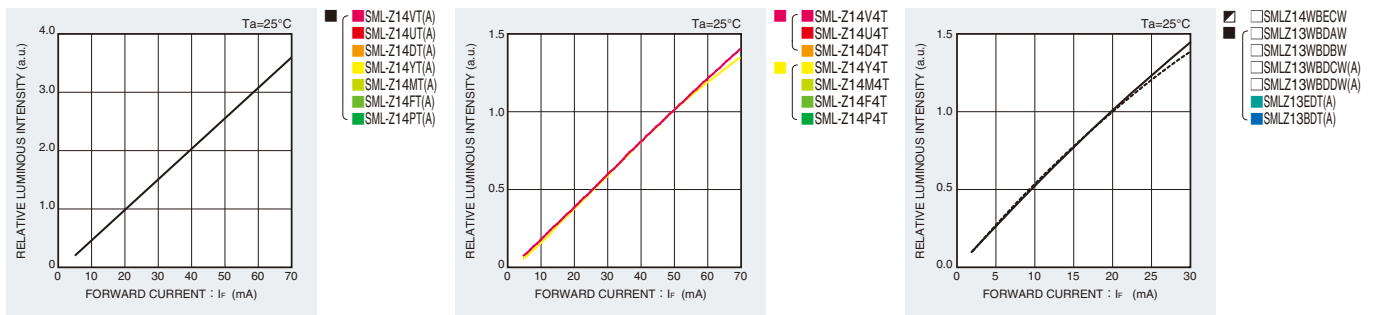
### Forward Current-Forward Voltage



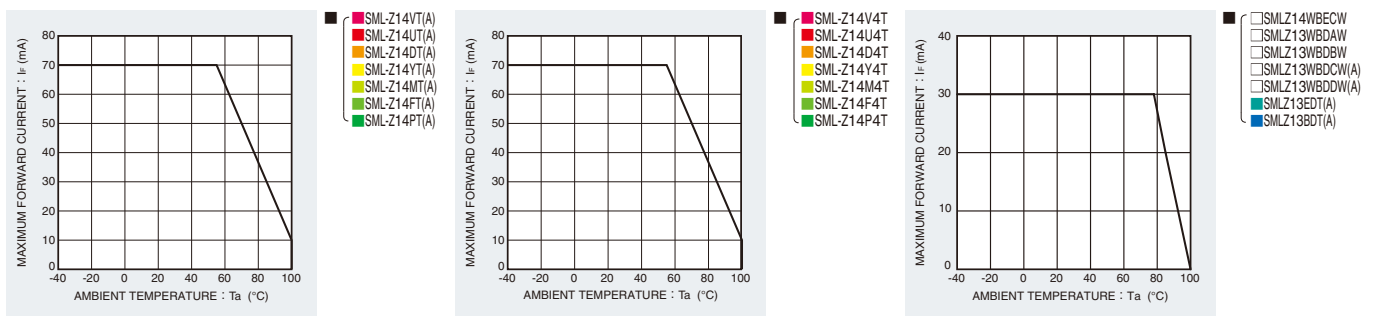
### Luminous Intensity-Atmosphere Temperature



### Luminous Intensity-Forward Current



### Derating



# SML-Z1 Series

## Rank Reference of Brightness

### SML-Z14 \* T(A) Series

#### Red (V, U)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	
			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	
PLCC2	3528	1.9	SML-Z14VT(A)										SML-Z14UT(A)						

#### Orange (D)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	
			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	
PLCC2	3528	1.9	SML-Z14DT(A)										SML-Z14DT(A)						

#### Yellow (Y)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	
			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	
PLCC2	3528	1.9	SML-Z14YT(A)										SML-Z14YT(A)						

#### Green (M, P, F)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	
			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	
PLCC2	3528	1.9	SML-Z14MT(A)										SML-Z14FT(A)						
			SML-Z14PT(A)										SML-Z14PT(A)						

### SML-Z14 \* 4T Series

#### Red (V, U)

(Ta=25°C, If=50mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD		
			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	560 to 710	710 to 900	900 to 1120	1120 to 1400		
PLCC2	3528	1.9	SML-Z14V4T										SML-Z14U4T									

#### Orange (D)

(Ta=25°C, If=50mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD		
			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	560 to 710	710 to 900	900 to 1120	1120 to 1400		
PLCC2	3528	1.9	SML-Z14D4T										SML-Z14D4T									

#### Yellow (Y)

(Ta=25°C, If=50mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD		
			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	560 to 710	710 to 900	900 to 1120	1120 to 1400		
PLCC2	3528	1.9	SML-Z14Y4T										SML-Z14Y4T									

#### Green (M, P, F)

(Ta=25°C, If=50mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD		
			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	560 to 710	710 to 900	900 to 1120	1120 to 1400		
PLCC2	3528	1.9	SML-Z14P4T										SML-Z14F4T									
			SML-Z14M4T										SML-Z14M4T									

### SMLZ13 \* T(A) Series

#### Green (E)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE
			140 to 180	180 to 224	224 to 280	280 to 355	355 to 450	450 to 560	560 to 710	710 to 900	900 to 1120	1120 to 1400	1400 to 1800
PLCC2	3528	1.9	SMLZ13EDT(A)										

#### Blue (B)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE
			140 to 180	180 to 224	224 to 280	280 to 355	355 to 450	450 to 560	560 to 710	710 to 900	900 to 1120	1120 to 1400	1400 to 1800
PLCC2	3528	1.9	SMLZ13BDT(A)										

### SMLZ1 \* (White Series)

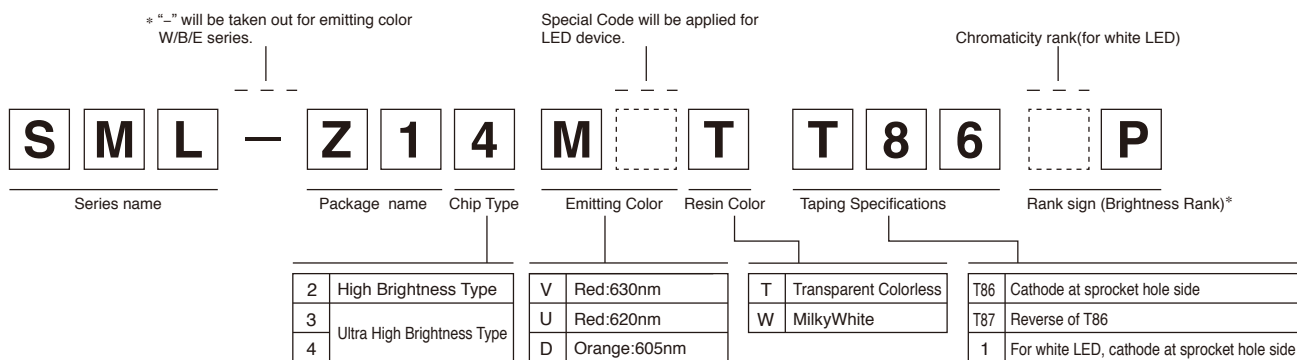
#### White (WB)

(Ta=25°C, If=20mA)

Package size(mm)	Height(mm)	Luminous Intensity (mcd)	V	W	X1	X2	Y1	Y2	Z1		
			360 to 560	560 to 900	900 to 1120	1120 to 1400	1400 to 1800	1800 to 2200	2200 to 2800		
PLCC2	3528	1.9	SMLZ14WBECW(A)							SMLZ13WBDAW	
			SMLZ13WBDBW							SMLZ13WBDCW(A)	
			SMLZ13WBDDW(A)							SMLZ13WBDDW(A)	

\* Please note that the brightness of some products may fall between ranks (half rank).

## 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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