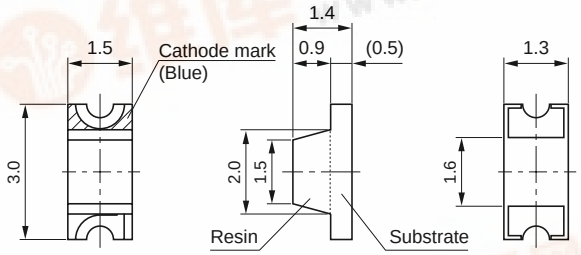
Chip LEDs

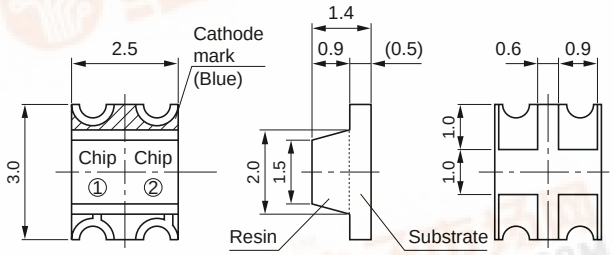
■SEC1001 series (Unicolor flat type)

Outline drawing Ⓐ

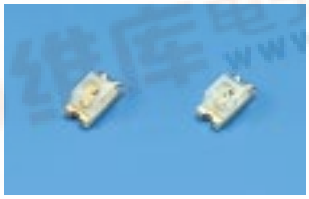


■SEC2002 series (Bicolor flat type)

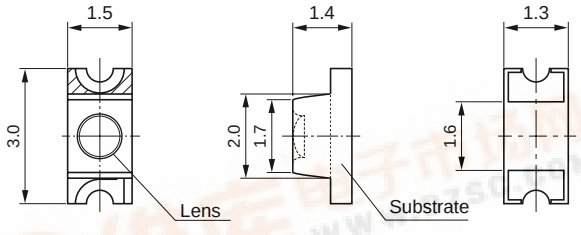
Outline drawing Ⓑ



■SEC1003 series (Unicolor inner lens type)

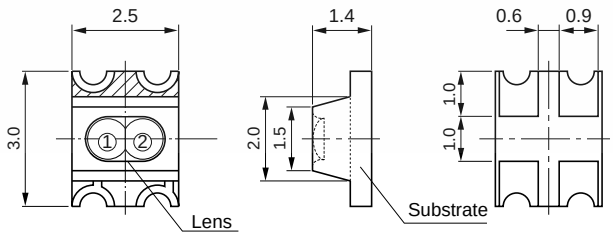


Outline drawing Ⓒ



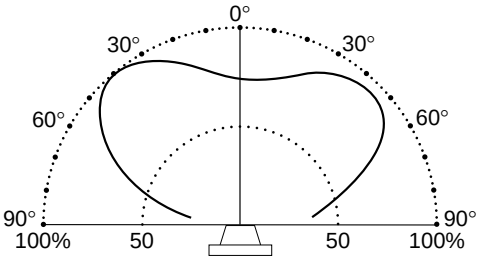
■SEC2004 series (Bicolor inner lens type)

Outline drawing Ⓓ



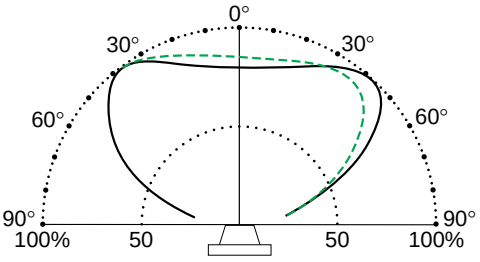
Viewing angle

SEC1001



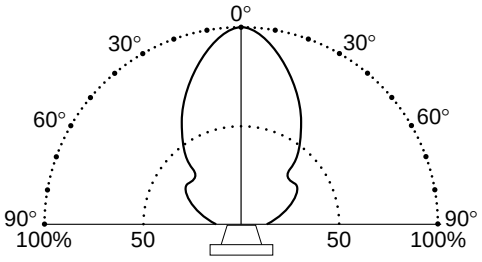
$\theta_{1/2} \fallingdotseq 72°$

SEC2002



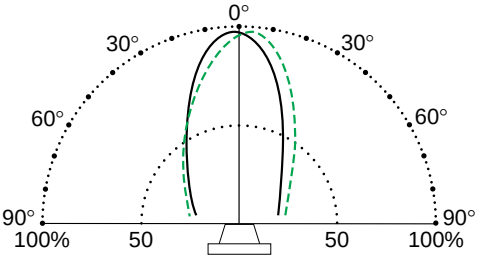
$\theta_{1/2} \fallingdotseq 70°$

SEC1003



$\theta_{1/2} \fallingdotseq 35°$

SEC2004



$\theta_{1/2} \fallingdotseq 30°$

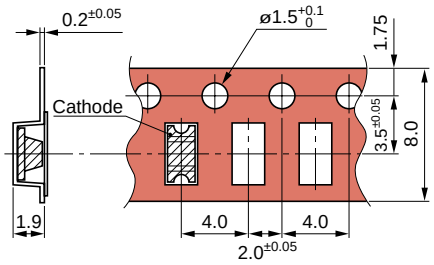
Absolute maximum ratings (Ta=25°C)

Symbol	Unit	Ratings
I_F	mA	30
I_{FP}	mA	70
V_R	V	4
Top	°C	–30 to +85
Tstg	°C	–30 to +90

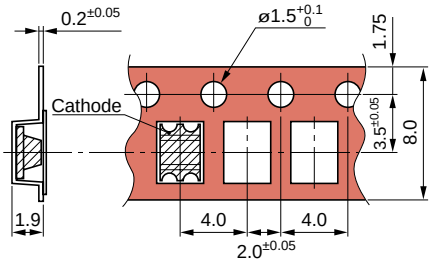
Type No.		Emitting color	Electro-optical characteristics (Ta=25°C)									Outline drawing
			V_F (V)		Condition I_F (mA)	I_R (μA)	Condition V_R (V)	I_V (mcd)	Condition I_F (mA)	λp	Δλ	
			typ	max		max		typ		(nm) typ		
FLAT TYPE	SEC1101C	Red	2.0	2.5	10	100	4	1.2	20	700	100	Ⓐ
	SEC1201C	High intensity red	1.9					7.0		630	35	
	SEC1601C	Ultra-high intensity red	1.7	2.2				60.0		660	30	
	SEC1401C	Green	2.0	2.5				15.0		560	20	
	SEC1501C	Pure green						6.5		555	20	
	SEC1801C	Amber	1.9	2.5				14.5		610	35	
	SEC1901C	Orange						10.0		587	33	
	SEC2422C	① Green	2.0	2.5	10	100	4	15.0	20	560	20	Ⓑ
		② High intensity red	1.9					9.0		630	35	
	SEC2462C	① Green	2.0					15.0		560	20	
		② Ultra-high intensity red	1.7	2.2				14.0		660	30	
INNER LENS TYP	SEC1203C	High intensity red	1.9	2.5	10	100	4	18.0	20	630	35	Ⓒ
	SEC1403C	Green	2.0					20.0		560	20	
	SEC1603C	Ultra-high intensity red	1.7	2.2				120.0		660	30	
	SEC1703C	High intensity yellow	2.0	2.5				30.0		570	40	
	SEC2424C	① Green	2.0	2.5	10	100	4	20.0	20	560	20	Ⓓ
		② High intensity red	1.9					20.0		630	35	
	SEC2464C	① Green	2.0					20.0		560	20	
		② Ultra-high intensity red	1.7	2.2				30.0		660	30	
	SEC2764C	① High intensity yellow	2.0	2.5				30.0		570	40	

■Taping specifications (Unit: mm)

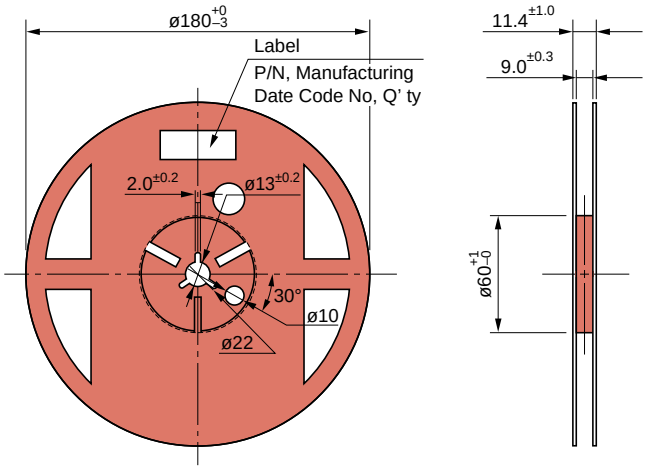
Unicolor SEC1001/ SEC1003 series



Bicolor SEC2002/SEC2004 series



Reel

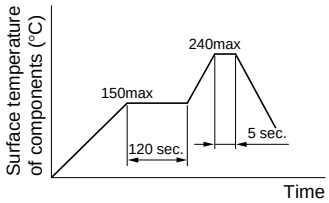


Tolerance ±0.2

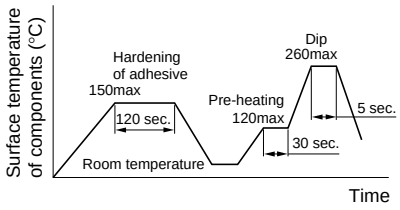
Quantity: 3,000 pcs./reel

Recommended soldering conditions

① Reflow soldering



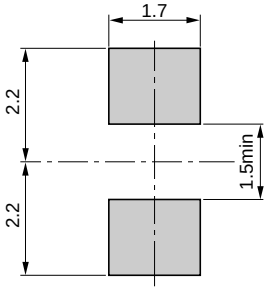
② Dip soldering



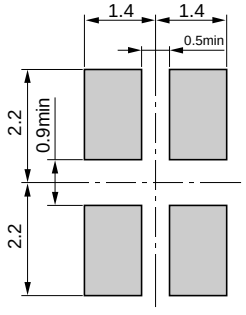
③ Manual Soldering: Not more than 3 seconds at MAX 300°C, under soldering iron.

Recommended land layout (Unit: mm)

Unicolor SEC 1001 1003 series



Bicolor SEC 2002 2004 series



■Moisture-proof packing of chip LEDs

1. Effects of moisture absorption

●Sanken chip LEDs are designed for surface mounting (SMD). However, interfacial separation may occur during dip soldering, depending on the moisture absorption of the resin. This phenomenon is commonly called “Popcorn effect.” It is caused by vaporization of the resin’s absorbed moisture due to sudden thermal change, and cause interfacial separation.

●Interfacial separation may affect the light transmission efficiency, causing the light intensity to drop.

2. Moisture-proof packing

●To minimize moisture absorption before use, Sanken bakes the chip LEDs and packs them in moisture-proof packing.

●Laminated aluminum, which has high moisture-resistance, is used for the moisture-proof packing.

●For additional protection against moisture absorption, silica gel is added to each packing.

3. Storage period after unpacking

●The chip LEDs must be dip-soldered within seven days after opening the moisture-proof packing.

4. Storage of unused chip LEDs

●Repack unused chip LEDs with their moisture-proof packing, fold to close any opening and then store in a dry place.