



BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

Brighten Up The World With LED!



ISO/TS 16949:2009



BS EN ISO 14001:2004



QC 080000 IECQ HSPM

PRODUCT DATASHEET



- ▶ EMC Top View SMD
- ▶ 2720 0.6t Series
- ▶ Cool White 6000K

NOW51S95Z



Release Date: 18 March 2024 Version: A1.2



APPLICATIONS:

- Automotive Lighting
- Decorative Lighting

2720 0.6t Series



FEATURES:

- **Package:** EMC Top View SMD Package
- **Forward Current:** 350mA
- **Forward Voltage (typ.):** 3.3V
- **Luminous Flux (typ.):** 115lm@350mA
- **Colour:** Cool White
- **Colour Temperature (typ.):** 6000K
- **Viewing Angle:** 120°
- **Materials:**
 - Resin: Silicon (Yellow Diffused)
 - L/T Finish: Ag plated
- **Operating Temperature:** -40~+125°C
- **Storage Temperature:** -40~+125°C
- **Grouping Parameters:**
 - Forward Voltage
 - Luminous Flux
 - CIE Chromaticity
- **Soldering Methods:** Reflow
- **MSL Level:** MSL 2a according to J-STD020
- **Packing:** 8mm tape with max.2000pcs /reel, ø180mm (7")

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	I _F	450	mA
Pulse Forward Current Duty 1/10, Pulse Width 10mS	I _{PF}	700	mA
Reverse Voltage	V _R	5	V
Reverse Current @5V	I _R	10	μA
Junction Temperature	T _j	150	°C
Thermal Resistance Junction to Solder Point	R _{THJ-S}	23	°C/W
Electrostatic Discharge (HBM)	ESD	8000	V
Operating Temperature	T _{OPR}	-40~+125	°C
Storage Temperature	T _{STG}	-40~+125	°C
Colour Rendering Index	CRI	min. 70	---
Soldering Temperature	T _{SOL}	260	°C

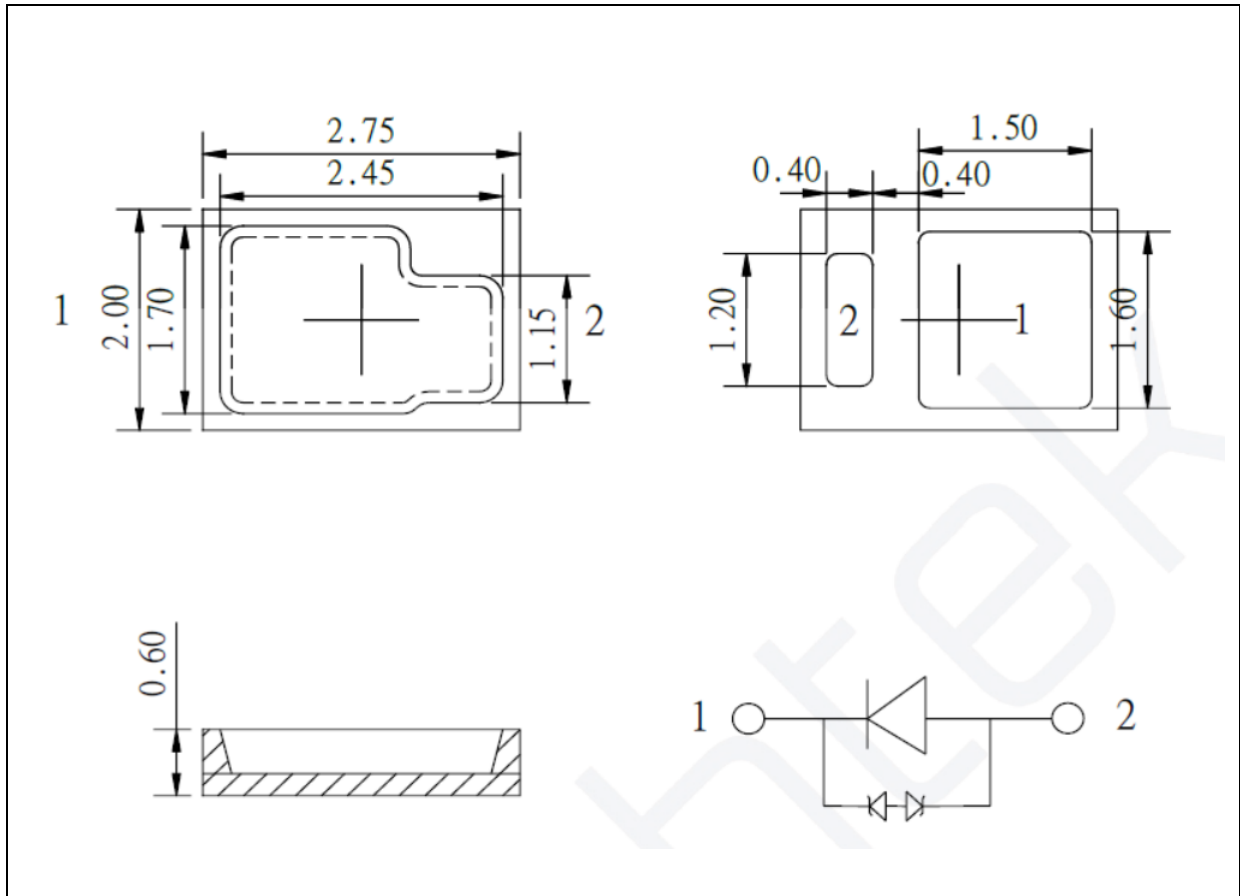
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V _F	2.8	3.3	3.8	V	I _F =350mA
Luminous Flux	Φ _v	---	115	---	lm	I _F =350mA
Chromaticity Coordinates	X	---	0.3220	---	---	I _F =350mA
	Y	---	0.3350	---		
Colour Temperature	CCT	---	6000	---	K	I _F =350mA
Viewing Angle	2θ _{1/2}	---	120	---	deg	I _F =350mA

1. Luminous intensity (I_v) ±10%, Forward Voltage (V_F) ±0.1V, Viewing angle(2θ_{1/2}) ±5°

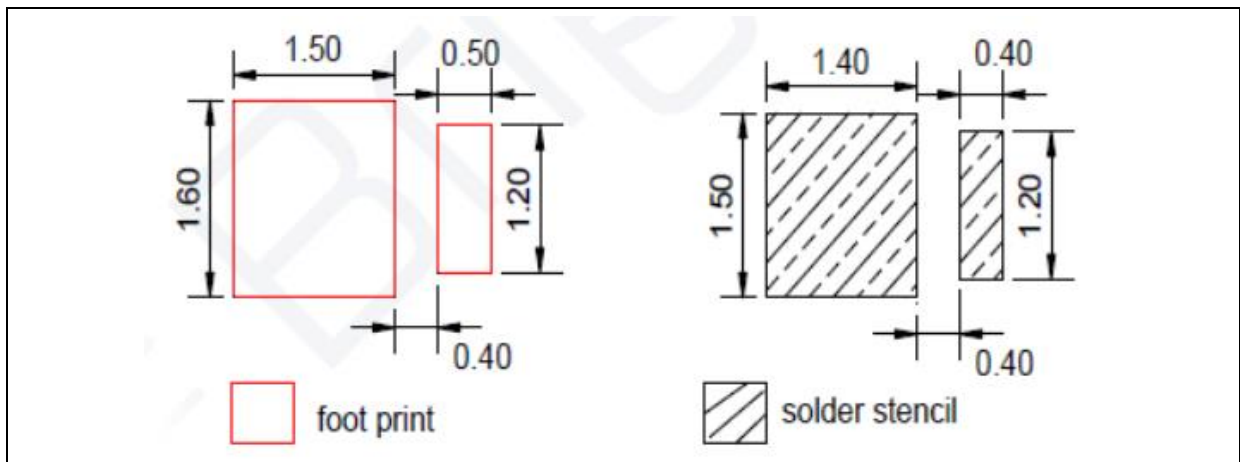
OUTLINE DIMENSION:

Package Dimension:



1. All dimensions are in millimetre (mm).
2. Tolerance $\pm 0.13\text{mm}$, unless otherwise noted.

Recommended Soldering Pad Dimension:



1. Dimensions are in millimetre (mm).
2. Tolerance $\pm 0.12\text{mm}$ with angle tolerance $\pm 0.5^\circ$.

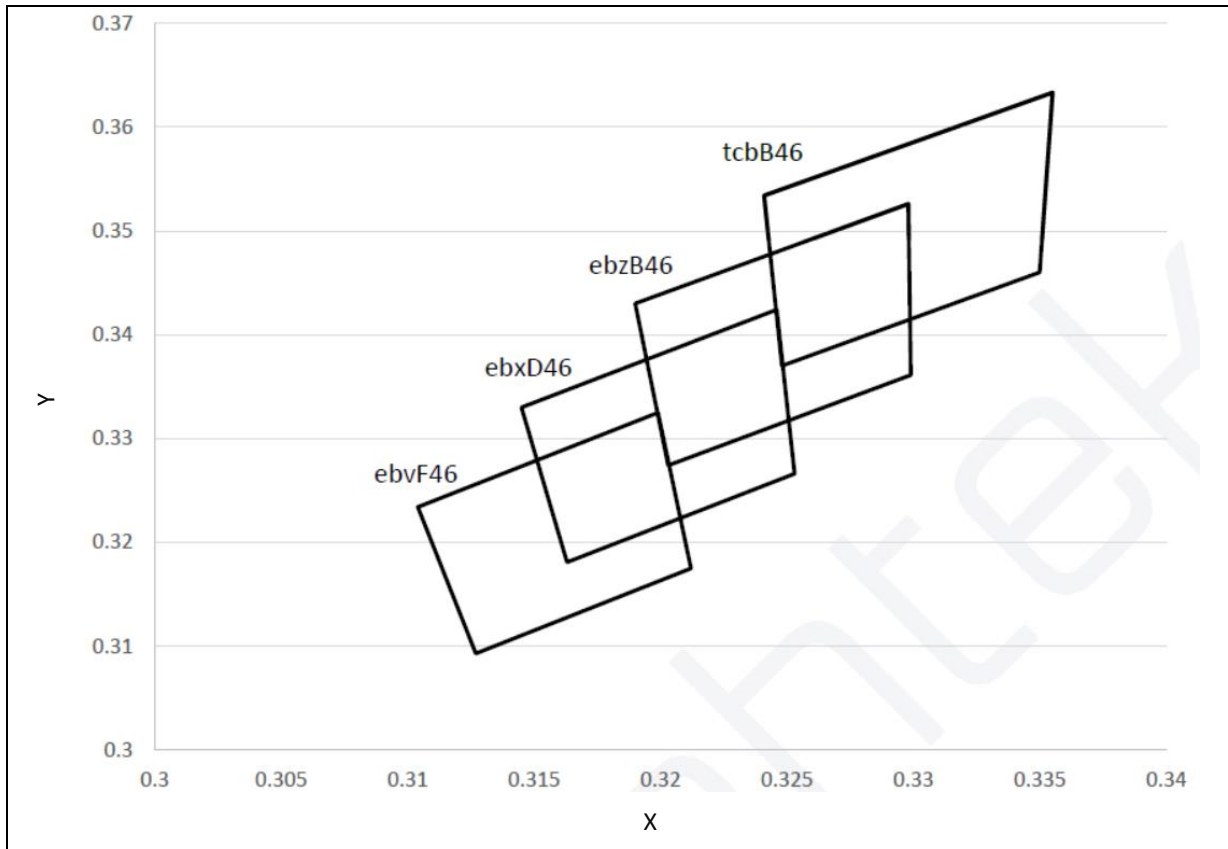
BINNING GROUPS:

 Forward Voltage Classifications ($I_F = 350\text{mA}$):

Code	Min.	Max.	Unit
K	2.8	3.0	V
L	3.0	3.2	
M	3.2	3.4	
N	3.4	3.6	
O	3.6	3.8	

 Luminous Flux Classifications ($I_F = 350\text{mA}$):

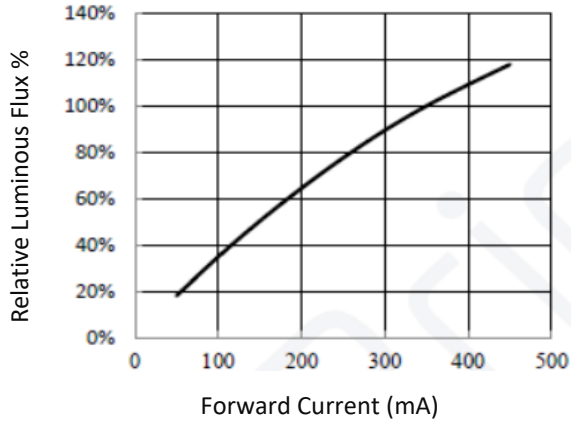
Code	Min.	Max.	Unit
25	87	100	mcd
26	100	115	
27	115	130	
28	130	150	

CIE CHROMATICITY DIAGRAM:

 Chromaticity Coordinates Classifications ($I_F = 350\text{mA}$):

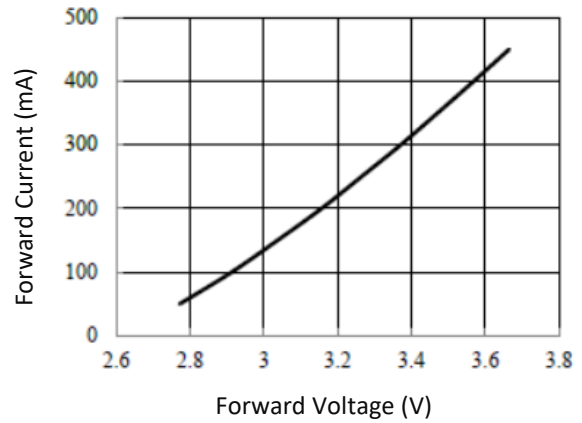
	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
ebvF46	0.3127	0.3093	0.3212	0.3175	0.3199	0.3325	0.3104	0.3234
ebxD46	0.3163	0.3181	0.3253	0.3266	0.3246	0.3424	0.3145	0.3330
ebzB46	0.3203	0.3274	0.3299	0.3361	0.3298	0.3526	0.3190	0.3430
tcbB46	0.3248	0.3370	0.3350	0.3460	0.3355	0.3633	0.3241	0.3534

ELECTRO-OPTICAL CHARACTERISTICS:

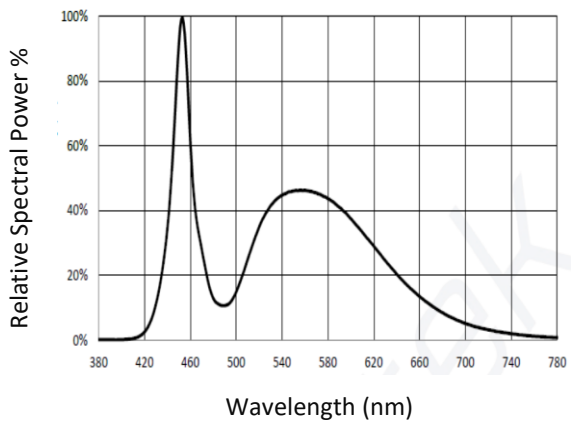
Relative Luminous Flux v.s. Forward Current



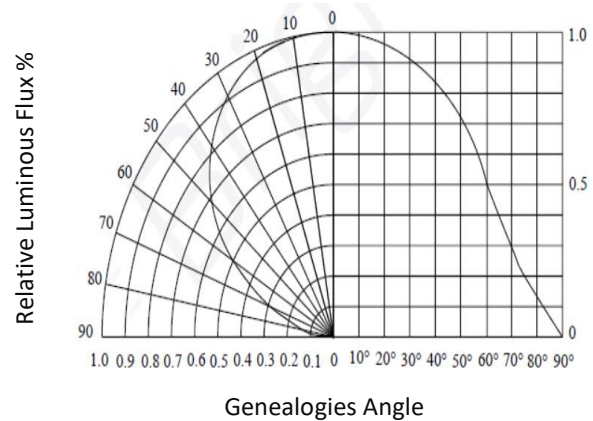
Forward Current v.s. Forward Voltage



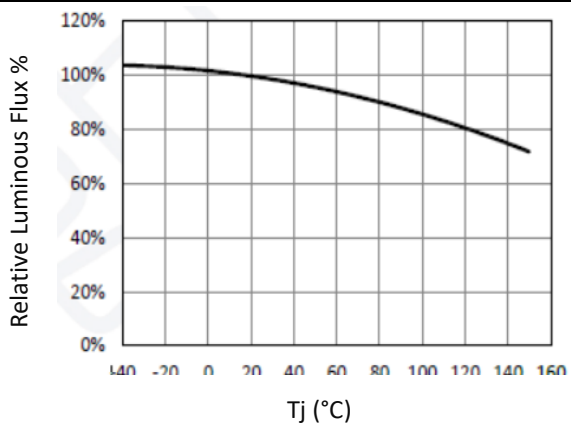
Relative Spectral Power v.s. Wavelength



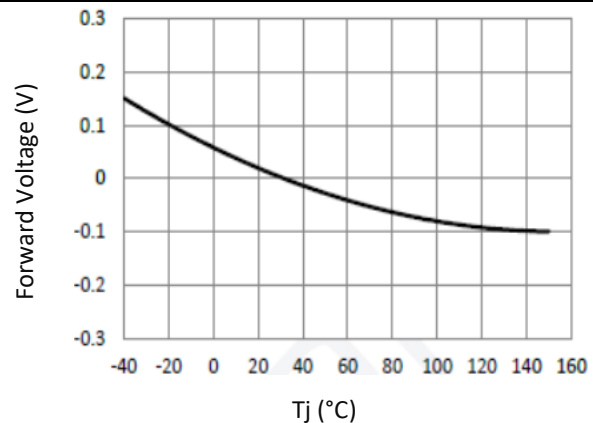
Directive Radiation



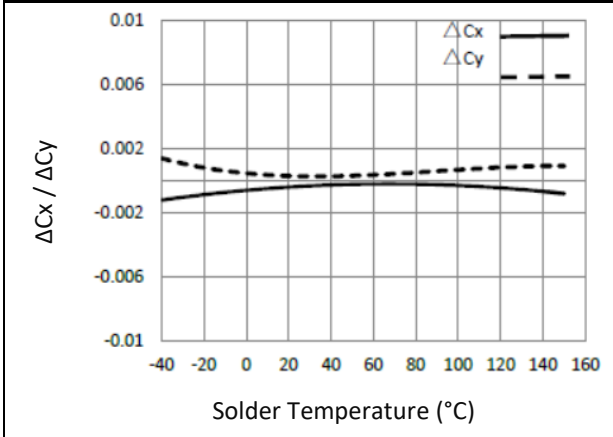
Relative Luminous Flux v.s. Junction Temp.



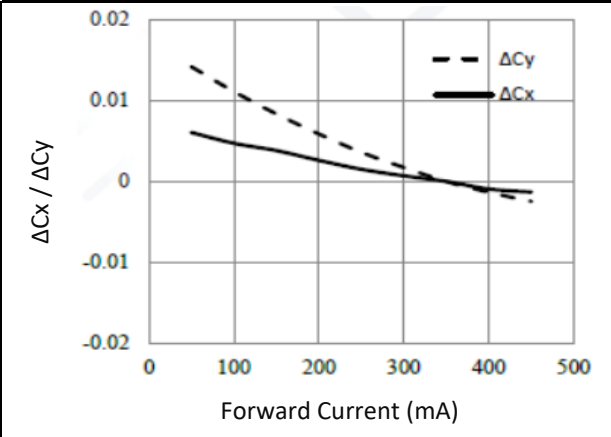
Forward Voltage v.s. Junction Temperature



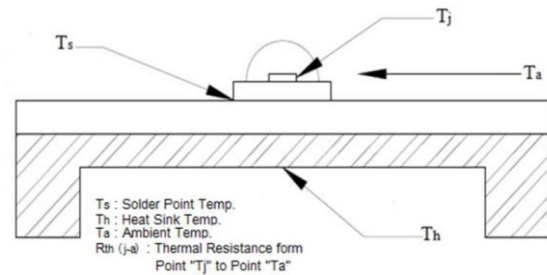
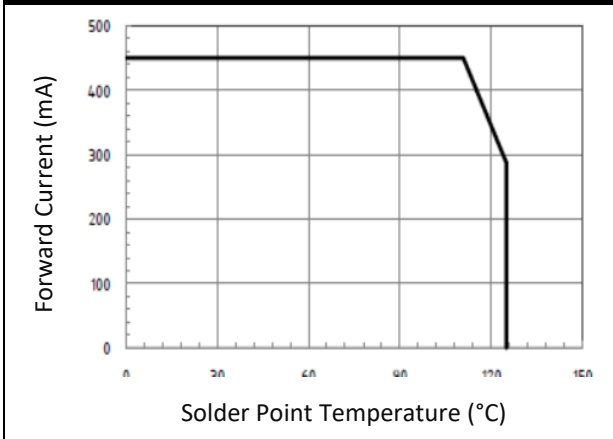
Chromatic Coordinate Shift v.s. Junction Temp.



Chromaticity Coordinate Shift v.s. Current

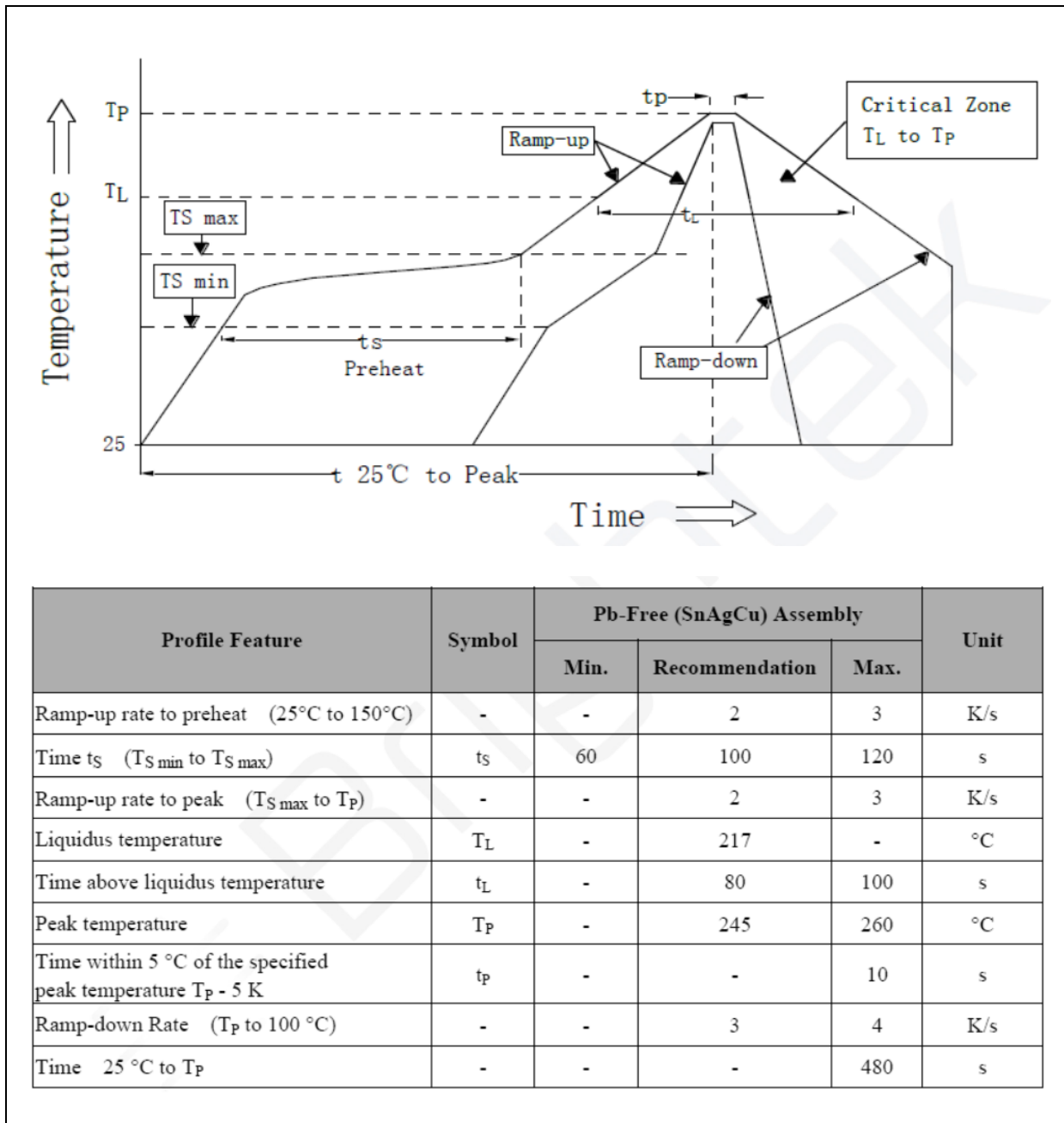


Forward Current Derating Curve



RECOMMENDED SOLDERING PROFILE:

Reflow Lead-free Solder:

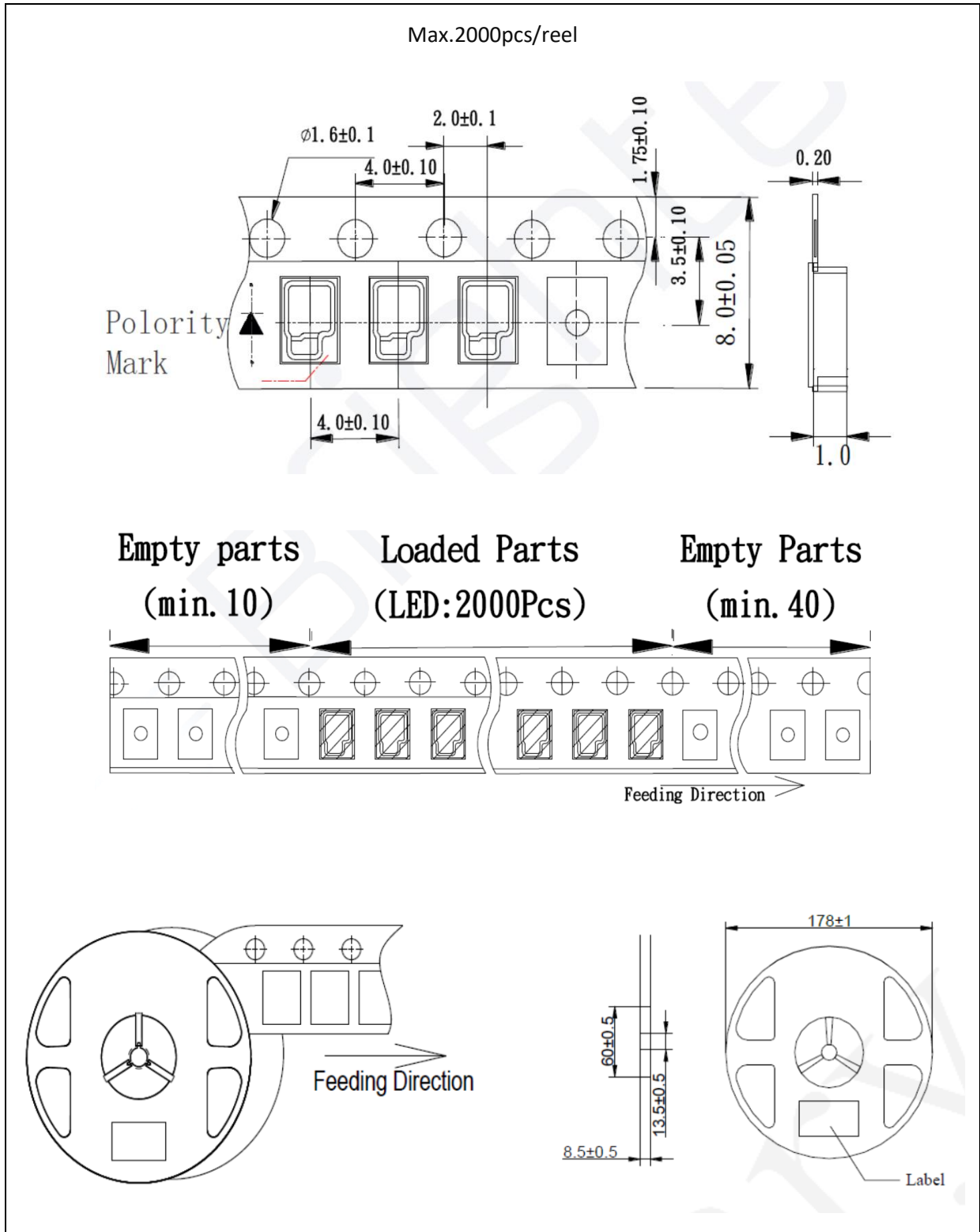


Note:

1. Maximum reflow soldering: 2 times.
2. The recommended reflow temperature is 240°C. The maximum soldering temperature should be limited to 260°C.
3. Before, during, and after soldering, should not apply stress on the components and PCB board.

PACKING SPECIFICATION:

Reel Dimension:



PRECAUTIONS OF USE:

Storage:

It is recommended to store the products in the following conditions:

- Humidity: 60% R.H. Max.
- Temperature: 5°C~30°C (41°F ~86°F).

Shelf life in sealed bag: 12 months at 5°C~30°C and <60% R.H.

Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp-proof box with desiccating agent <10% R.H. and apply baking before use.

Baking:

It is recommended to bake the LED before soldering if the pack has been unsealed for longer than 24hrs. The suggested baking conditions are as followings:

- 60±3°C x 6hrs and <5%RH, taped / reel package.

It's normal to see slight color fading of carrier (light yellow) after baking in process.

Testing Circuit:



Must apply resistor(s) for protection (over current proof).

Cleaning:

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED carrier / package. Avoid putting any stress force directly on to the LED lens.

ESD (Electrostatic Discharge):

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrosatic glove is recommended when handling the LED all time. All devices, equipment, machinery, work tables, and storage racks must be properly grounded.

In the events of manual working in process, make sure the devices are well protected from ESD at any time.

REVISION RECORD:

Version	Date	Summary of Revision
A1.0	27/04/2020	Datasheet set-up.
A1.1	23/04/2022	New datasheet format.
A1.1	18/03/2024	Update bin table.