No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Lextar

High Power UV LED

Product Specification

Updated on 2018/01/15

Approval Sheet

PU88S01 UV Emitter
Product Specification

No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

RoHS

Product	UV 3535 Emitter
Part Number	PU88S01
Customer	
Issue Date	2015/6/1

Feature

- ✓ 3W UV LED Emitter
- ✓ Compact dimensions: 3.45 mm × 3.45 mm × 2.10 mm
- ✓ Dice Technology : AlGaN
- ✓ View angle: θ = 125°
- ✓ High power operation
- ✓ Low thermal resistance
- ✓ Environmental friendly ; RoHS compliance

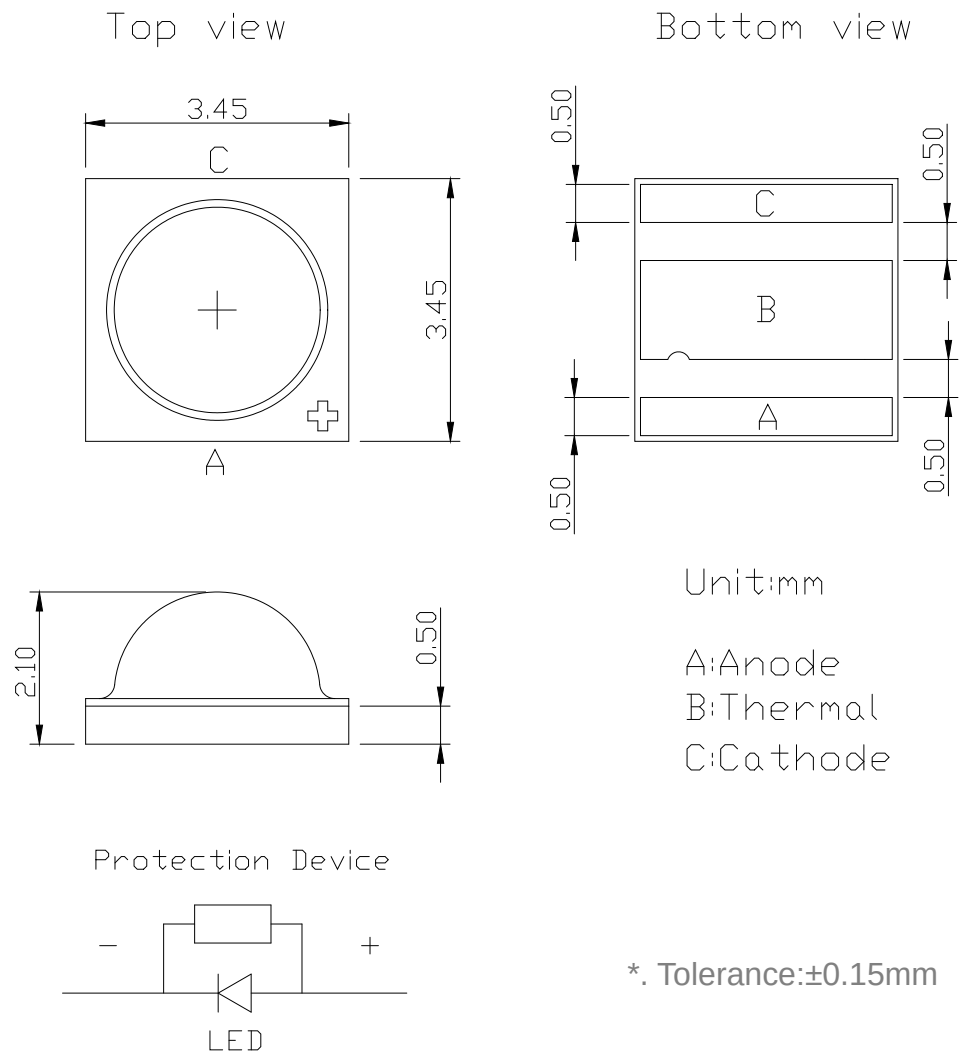
Applications

- ✓ UV curing
- ✓ Counterfeit banknote detection
- ✓ Photo catalytic purification

MAKER			CUSTOMER			
Prepared	**Checked**	**Approved**				
Taichi Wang	Vincent Chuang	KH Shen				

No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Outline Dimension



*. Tolerance:±0.15mm

No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Opto-Electrical Characteristics

Parameter	Symbol	Condition		Min.	Typ.	Max.	Unit
Forward Voltage*(1)	V_F	I_F = 500mA		3.4	3.6	4.4	V
Wavelength*(2)	W_P	I_F = 500mA		365	--	410	nm
Thermal Resistance*(3)	R_{th}	I_F = 500mA		6	--	10	℃/W
View Angle	θ	I_F = 500mA		--	125	--	deg
Reverse Current	I_R	V_R = 5V				10	μ A
Radiant Power*(4)	P_O	I_F = 500mA	365nm	--	750	--	mW
			385nm	--	880	--	
			395nm	--	950	--	
			405nm	--	950	--	

(1).The Forward Voltage tolerance is ±0.1V

(2).Peak Wavelength tolerance is ±3nm

(3).Thermal resistance is calculated from junction to solder

(4).The Radiant Power tolerance ±10%

Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
DC Forward Current	I_F	700	mA
Surge Forward Current*(1)	I_{FS}	1000	mA
ESD	V_{ESD}	8000	V
Power Dissipation	P_d	3.10	W
Soldering Temperature*(2)	T_S	260	^oC
Junction Temperature	T_J	120	^oC
Storage Temperature	T_{Stg}	-40~+100	^oC
Operation Temperature	T_{Op}	-30~+85	^oC

(1) Frequency Duty<10%, t_p=100μ s.

(2) JEDEC STD-020 latest version compliant.

(3) Proper current rating must be observed to maintain junction temperature below Tj max.

No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Binning

Wavelength Rank (Ta=25℃)

W_P Rank	Min.	Max.	Unit	Condition
U0365	365	370	nm	I_F=500mA
U0385	380	390	nm	I_F=500mA
U0395	390	400	nm	I_F=500mA
U0405	400	410	nm	I_F=500mA

Radiant Power Rank (Ta=25℃)

P_O Rank	Min.	Max.	Unit	Condition
01	550	600	mW	I_F=500mA
02	600	650	mW	I_F=500mA
03	650	700	mW	I_F=500mA
04	700	750	mW	I_F=500mA
05	750	800	mW	I_F=500mA
06	800	850	mW	I_F=500mA
07	850	900	mW	I_F=500mA
08	900	950	mW	I_F=500mA
09	950	1000	mW	I_F=500mA
10	1000	1050	mW	I_F=500mA

Forward Voltage Rank (Ta=25℃)

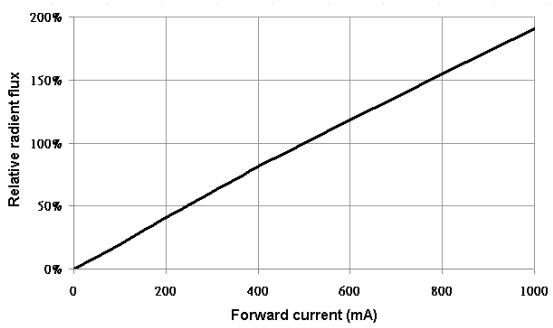
V_F Rank	Min.	Max.	Unit	Condition
01	3.4	3.6	V	I_F=500mA
02	3.6	3.8	V	I_F=500mA
03	3.8	4.0	V	I_F=500mA
04	4.0	4.2	V	I_F=500mA
05	4.2	4.4	V	I_F=500mA

Bin code definition (for example)

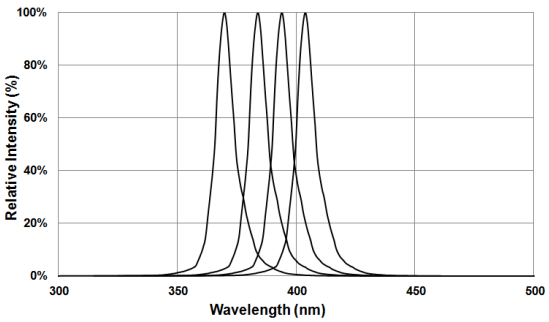
Wp Rank	P_O Rank	V_F Rank
U0365	02	01

No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

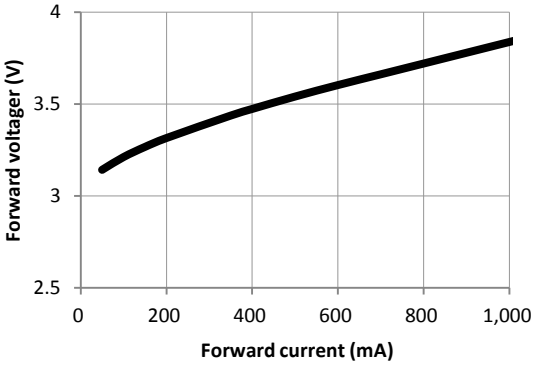
Relative Radiant Flux vs. Forward Current



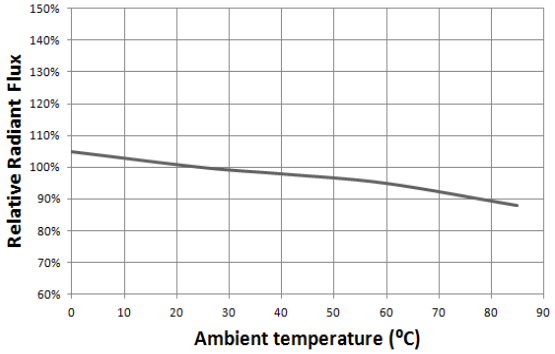
Relative Spectral Distribution vs. Wavelength at 25℃, I_F=500mA



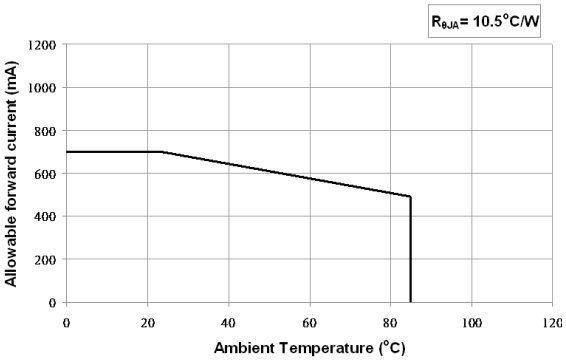
Forward Current vs. Forward Voltage at 25℃



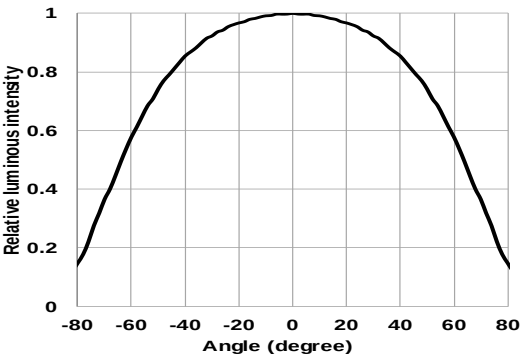
Relative radiant flux vs. Ambient Temperature



Ambient Temperature vs. Allowable forward current

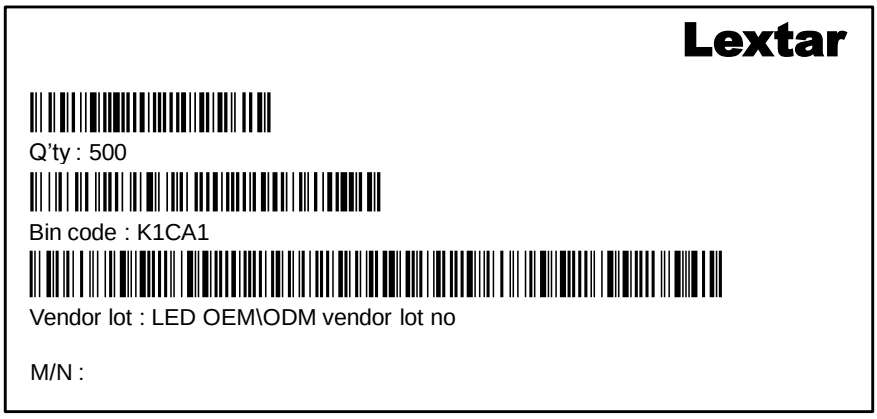


Directivity

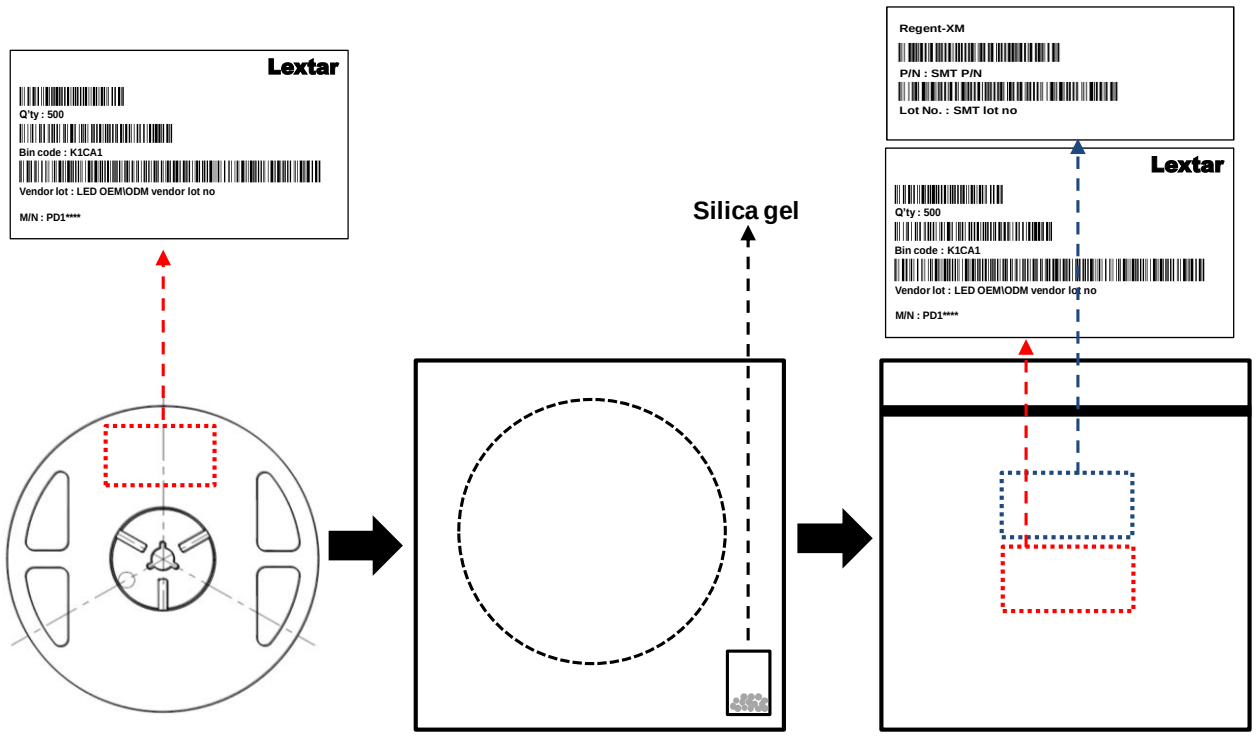


No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Label

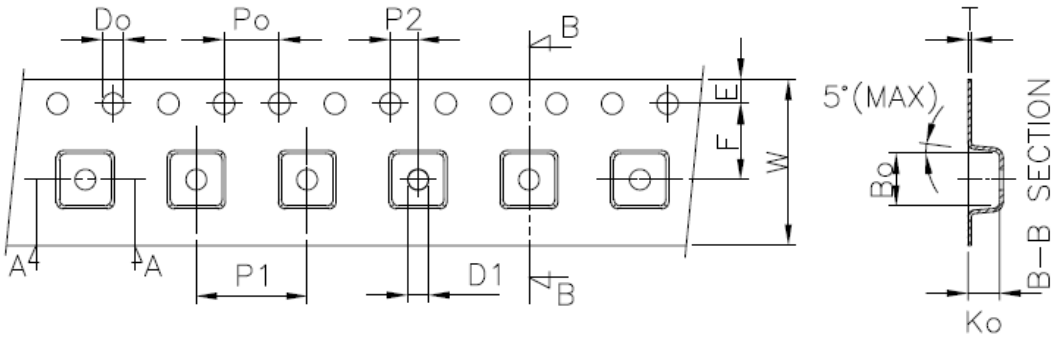


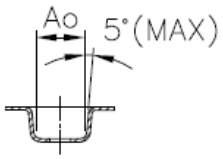
Packing process



No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

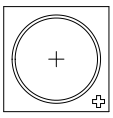
Carrier dimensions





A—A SECTION

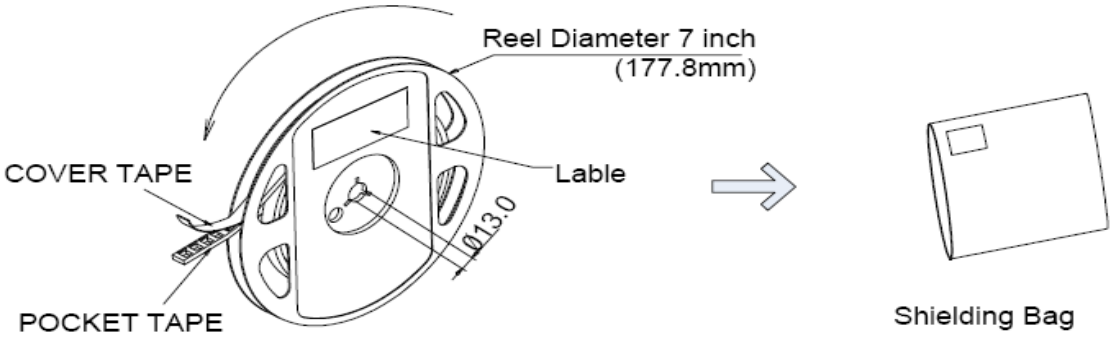
Orientation:



UNIT:mm

Symbol	Ao	Bo	Ko	Po	P1	P2	T
Spec	3.72±0.10	3.72±0.10	2.7±0.10	4.00±0.10	8.00±0.10	2.00±0.10	0.25±0.10
Symbol	E	F	Do	D1	W	10Po	--
Spec	1.75±0.10	5.5.±0.05	1.55±0.05	1.50±0.10	12.0±0.30	40.0±0.20	--

USER REEL DIRECTION



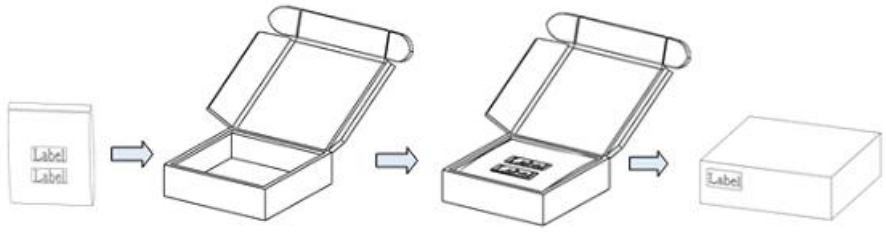
7 inch Anti-Static Reel

Max 500pcs/reel

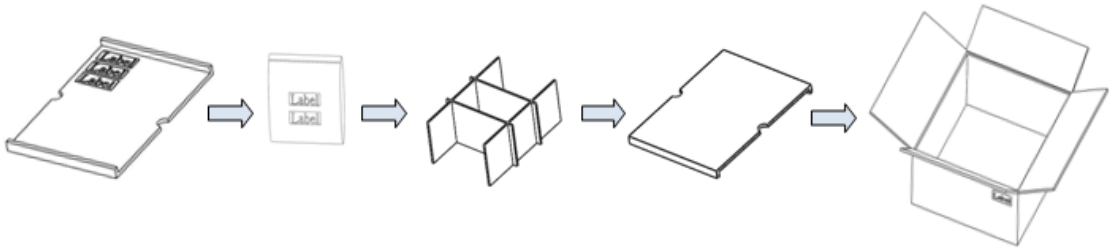
Min 200pcs/reel

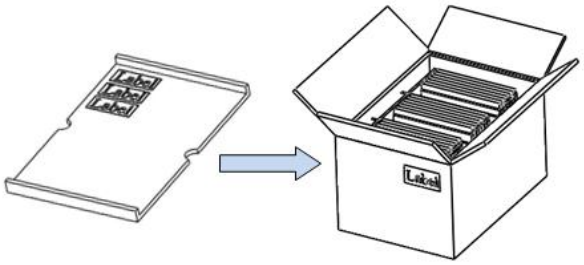
No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

■ Small Box

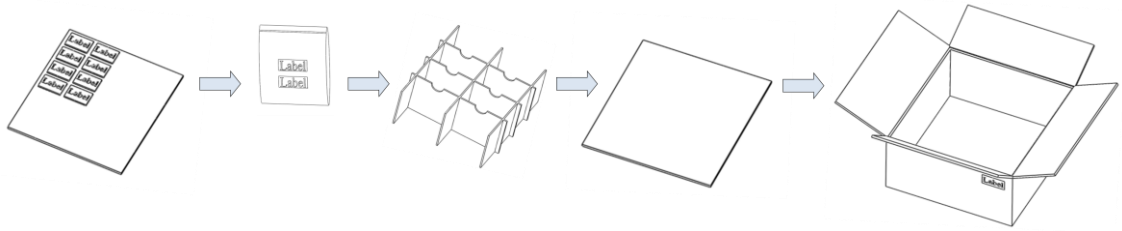


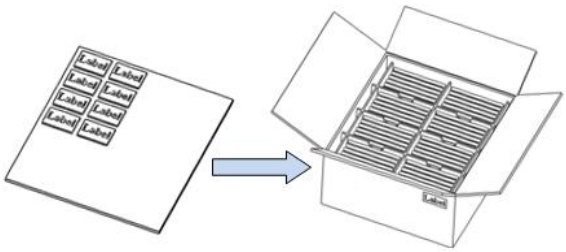
■ Medium Box





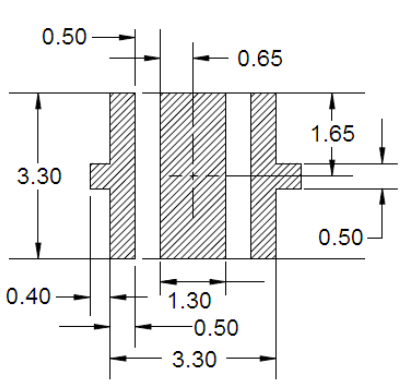
■ Large Box



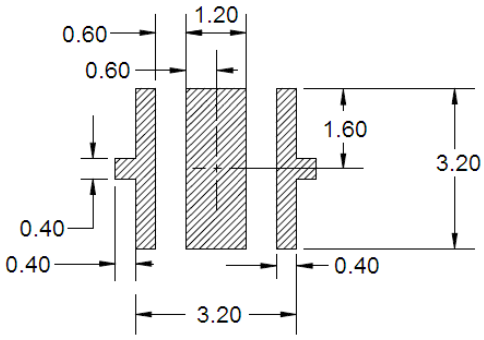


No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Soldering PAD Design

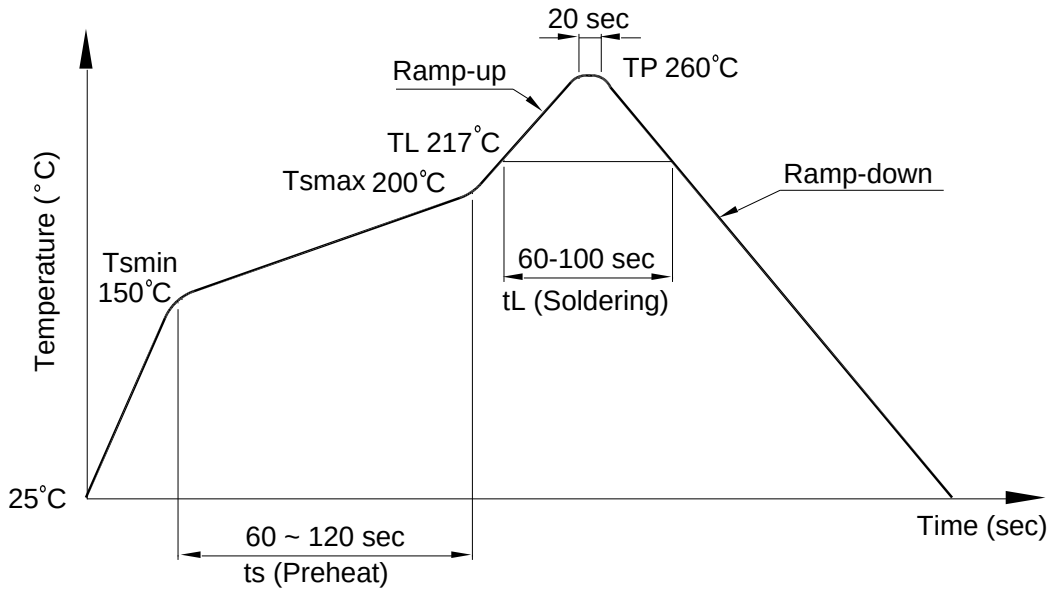


Recommended Solder Pad



Recommended Stencil pattern

Recommended Reflow Soldering Profile (JEDEC-STD-020 latest version compliant)



Profile Items	Conditions
Preheat	
-Temperature Min.(T_{Smin})	150˚C
-Temperature Max.(T_{Smax})	200˚C
-Time(Min. to Max.)(t_S)	90±30 sec
Soldering Zone	
-Temperature(T_L)	217˚C
-Time	60~100 sec
Peak Temperature(T_P)	260˚C
Ramp-up rate	3˚C / sec max.
Ramp-down rate	3~6˚C / sec

Note:

1. One time soldering is recommended; do not exceed 3 times reflow process.
2. The recommended peak temperature is 245˚C. The maximum soldering temperature should be controlled under 260˚C.