

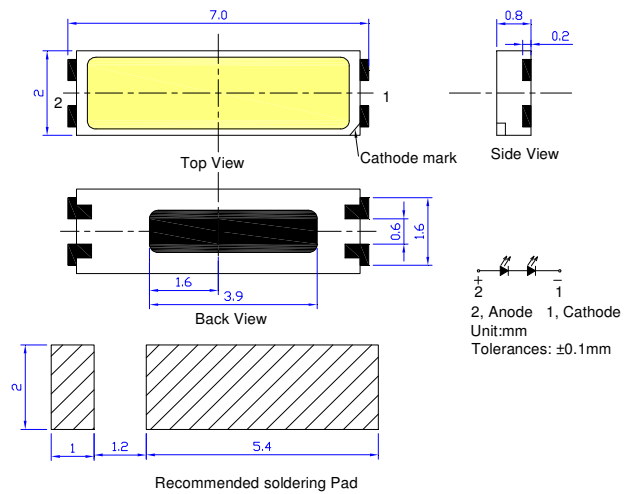
■Features

- Top view white LED (7.0 x 2.0 x 0.8mm)
- Super high brightness of surface mount LED
- Lead frame package with individual 2 pins
- Compatible to IR reflow soldering.
- 4000Pcs/Reel

■Applications

- General lighting
- Decoration lighting
- Indicator

■Outline Dimension

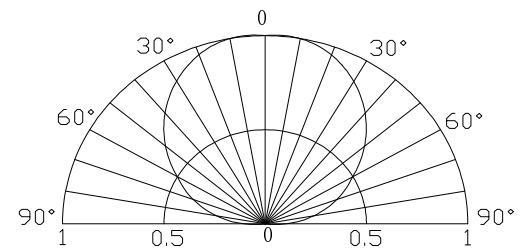


■Absolute Maximum Rating (Ta=25°C)

Item	Symbol	Value	Unit
DC Forward Current	I_F	75	mA
Pulse Forward Current*	I_{FP}	150	mA
Reverse Voltage	V_R	10	V
Power Dissipation	P_D	540	mW
Operating Temperature	T_{opr}	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +85	°C
Lead Soldering Temperature	T_{sol}	260°C/5sec	-

*Pulse width Max 0.1ms, Duty ratio max 1/10

■Directivity



■Electrical -Optical Characteristics (Ta=25°C)

Part Number	Color		V_F (V)			I_R (μ A)	Φ v(lm)*			CCT			2 θ 1/2(deg)
			Min.	Typ.	Max.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Typ.
			$I_F=75$ mA			$V_R=10$ V	$I_F=75$ mA						
OSW47020C1A	White	W	5.8	6.0	7.2	10	50	55	-	5500K	-	7000K	120
OSM57020C1A	Warm White	M	5.8	6.0	7.2	10	45	50	-	2800K	-	3500K	120

Note: * V_f tolerance: ±0.05V

* Luminous flux measurement allowance is: ±10%

RELIABILITY TEST REPORT

CLASSIFICATION	TEST ITEM	TEST CONDITON
ENDURANCE TEST	OPERATION LIFE	If:75mA Ta:25+5 TEST TIME=1000HRS(-24HRS,+72HRS)
	HIGH TEMPERTURE HIGH HUMIDITY STORAGE	R.H:90~95% Ta:65+5 °C TEST TIME=240HRS(+2HRS)
	HIGH TEMPERTURE STORAGE	Ta:105±5 °C TEST TIME=500HRS(-24HRS,+48HRS)
	LOW TEMPERTURE STORAGE	Ta:-55±5 °C TEST TIME=500HRS(-24HRS,+48HRS)
ENVIRONMENTAL TEST	TEMPERTURE CYCLING	105 °C ~ 25 °C ~ -55 °C ~ 25 °C 60min 10min 60min 10min 20cycles
	THERMAL SHOCK	105 °C ~ -55 °C 10min 10min 10cycles
	SOLDER RESISTANCE	Ta:260±5 °C TEST TIME=10±1sec
	SOLDERABILITY	Ta:230±5 °C TEST TIME=5±1sec

JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

MEASURING ITME	SYMBOL	CONDITIONS	FAILURE
LUMINOUS INTENSITY	IV	IF=75mA	IV<0.5*INITIAL VALUE
FORWARD VOLTAGE	VF	IF=75mA	VF>1.2*INITIAL VALUE
REVERSE CURRENT	IR	Vr=10V	IR>2*SPEC

■ Recommended Reflow Soldering Profile

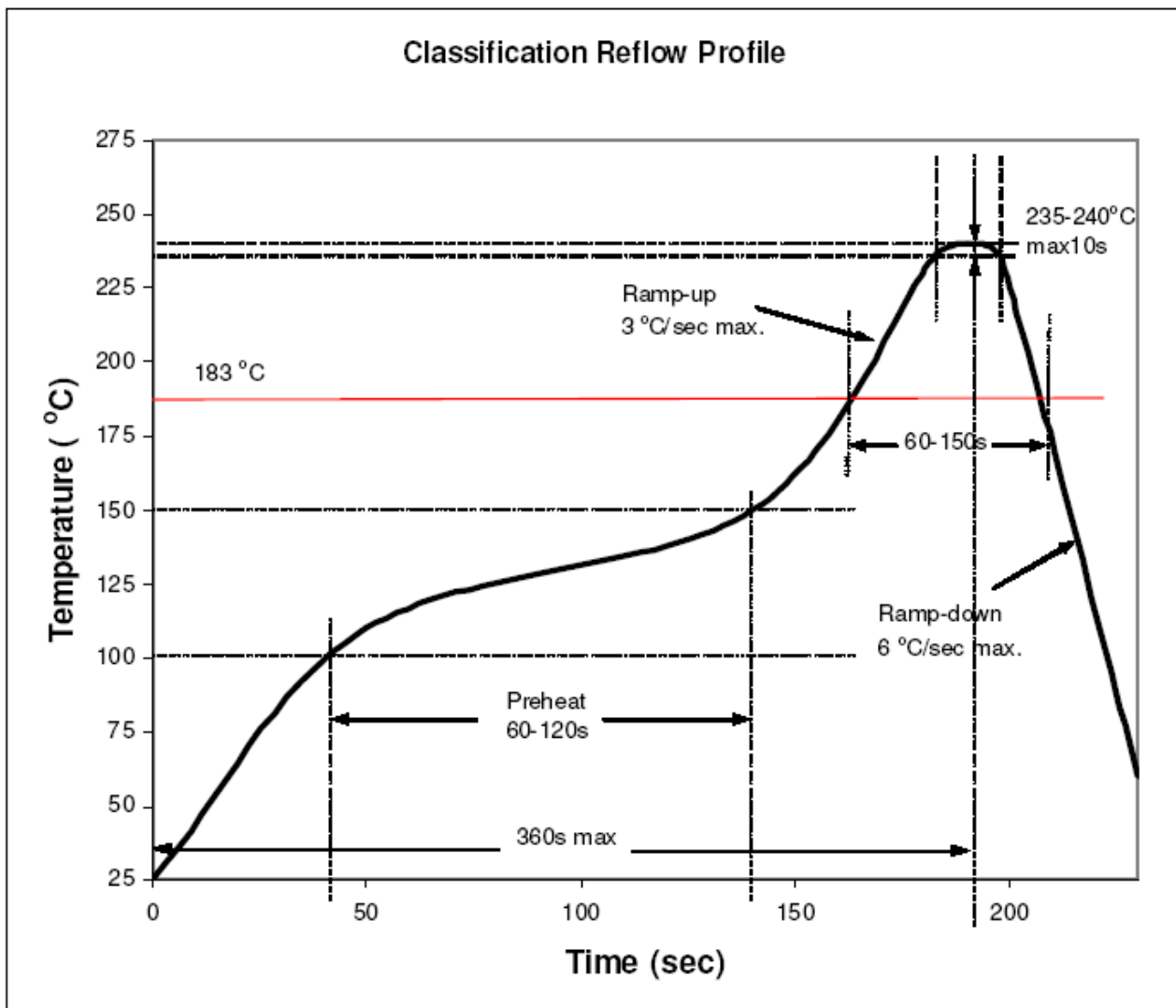
Surface mounting condition

In automatic mounting of the SMD LEDs on printed circuit boards, any bending, expanding and pulling forces or shock against the SMD LEDs should be kept min. to prevent them from electrical failures and mechanical damages of the devices.

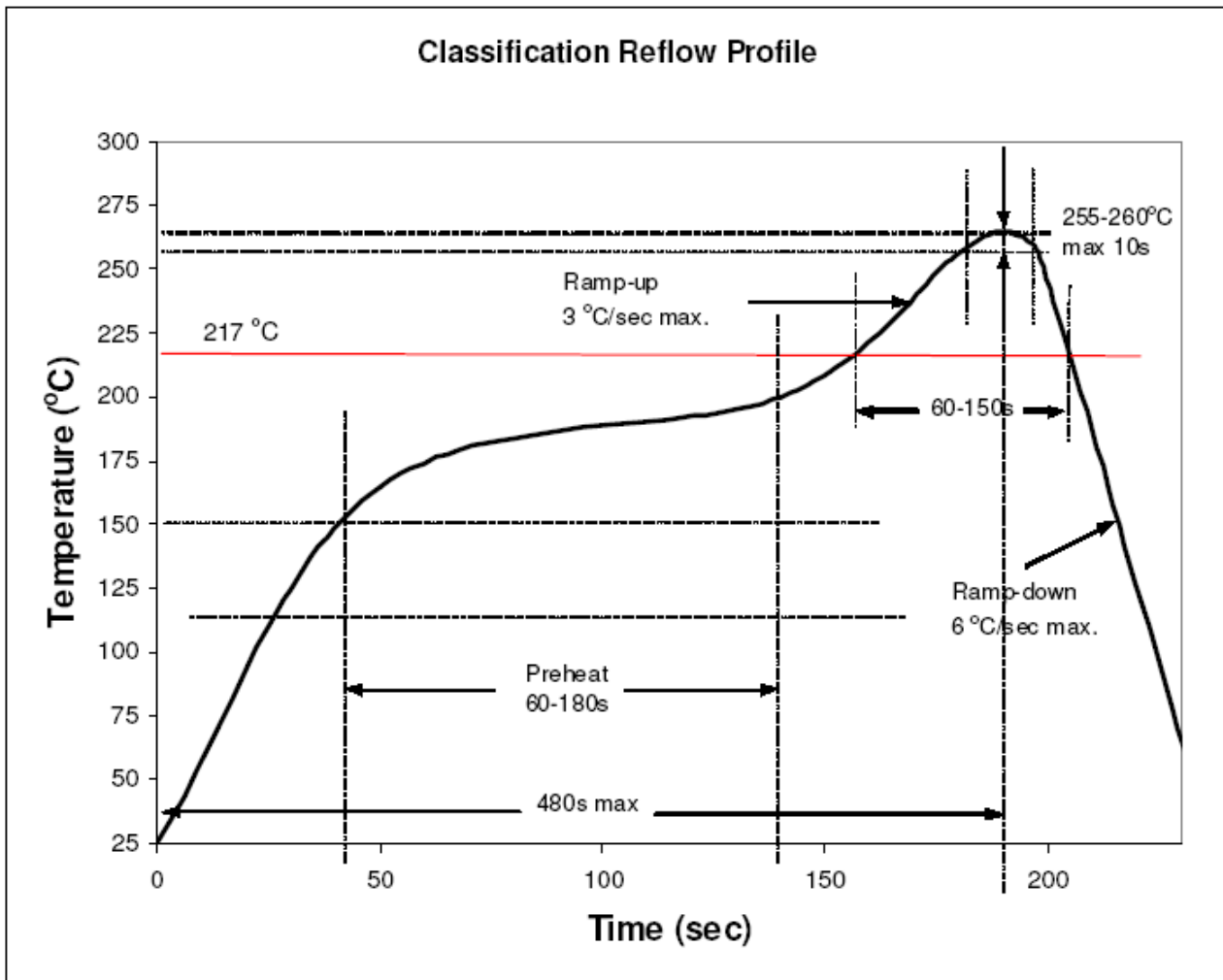
Soldering reflow

- Soldering of the SMD LEDs should conform to the soldering condition in the individual specifications.
- SMD LEDs are designed for reflow soldering.
- In the reflow soldering, too high temperature and too large temperature gradient such as rapid heating/cooling may cause electrical & optical failures and damages of the devices.
- Wellypower can't guarantee the LEDs after they have been assembled using the solder dipping method.

1) Lead solder



2) Lead-free solder



3) Manual soldering.

- Lead solder

Max. 300°C for max. 3sec, and only one time.

- Lead-free solder

Max. 350°C for max. 3sec, and only one time.

- There is possibility that the brightness of LEDs is decreased, which is influenced by heat or ambient atmosphere during reflow. It is recommended to use the nitrogen reflow method use the nitrogen reflow method.

- After LEDs have been soldered, repairs should not be done. As repair is unavoidable, a doublehead soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will be damaged by repairing or not.

- Reflow soldering should not be done more than two times.

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