



DESCRIPTION:

The products are 4-pin optical relays. The device consists of an AlGaAs infrared emitting diode input stage optically coupled to a high-voltage output detector circuit in a plastic DIP4 package with different lead forming options. The detector consists of a high-speed photovoltaic diode array and driver circuitry. The products are widely used in measuring and testing equipment, security and disaster prevention market, industrial machinery and equipment.

MAIN FEATURES

High isolation 5000 Vrms

Wide variation of load voltage 60V to 600V

Operating temperature range -40°C to 110°C

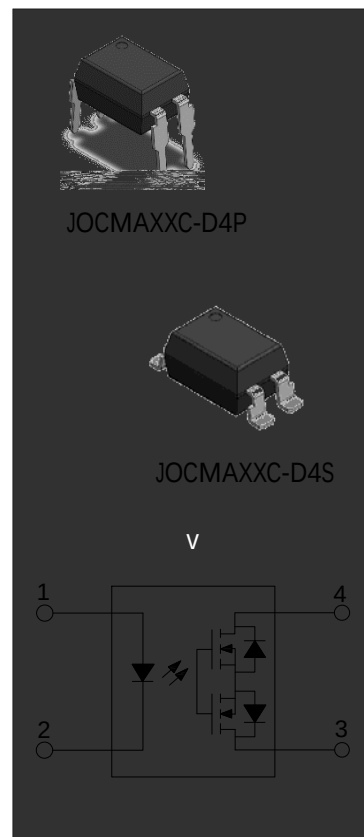
REACH & RoHS compliance

HBM: H3A; MM: M4; CDM: C3

CQC approved

VDE approved

UL approved



ABSOLUTE MAXIMUM RATINGS (Temperature=25°C)

Parameter		Symbol	Value	Unit
Input	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1	A
	Reverse Voltage	V_R	6	V
	Input Power Dissipation	P_D	75	mW
Output	Load Voltage	JOCMA39C	60	V
		JOCMA38C	60	
		JOCMA58C	100	
		JOCMA66C	200	
		JOCMA75C	400	
		JOCMA74C	400	
		JOCMA83C	600	
	Continuous load current	JOCMA39C	2	A
		JOCMA38C	1.25	
		JOCMA58C	1.25	
		JOCMA66C	0.3	
		JOCMA75C	0.18	



		JOCMA74C		0.1	
		JOCMA83C		0.05	
	Output Power Dissipation		P _O	300	mW
Total Power Dissipation			P _{tot}	375	mW
Isolation Voltage			V _{iso}	5000	V _{rms}
Operating Temperature			T _{opr}	-40~110	
Junction Temperature			T _j	125	
Storage Temperature			T _{stg}	-40~125	
Soldering Temperature			T _{sol}	260	

NOTE1 100μs pulse, 100Hz frequency

NOTE2 AC for 1minute, R.H.=40~60%

ELECTRICAL CHARACTERISTICS (Temperature=25°C)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V _F	I _F =10mA	-	1.3	1.5	V
	Reverse Current	I _R	V _R =6V	-	-	1	μA
	Action Current	I _{F(ON)}	I _O =I _{O(MAX)}	-	1.5	3	mA
	Reset Current	I _{F(OFF)}	I _O =I _{O(MAX)}	0.4	0.8	-	R mA DO(MA) i Õ N



JOCMA39C

Turn Off
Time

$$t_{off} \leq 2 \times 10^{-9} \text{ s}$$

Characteristics Curves

FIG.1: LED Dropout Voltage vs. Ambient Temperature

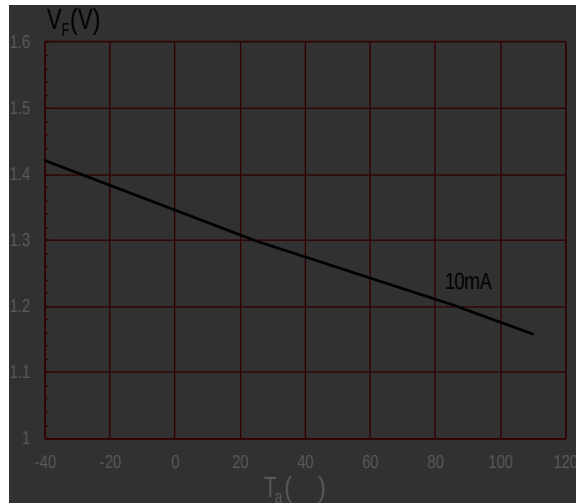


FIG.3: On Resistance vs. Ambient Temperature

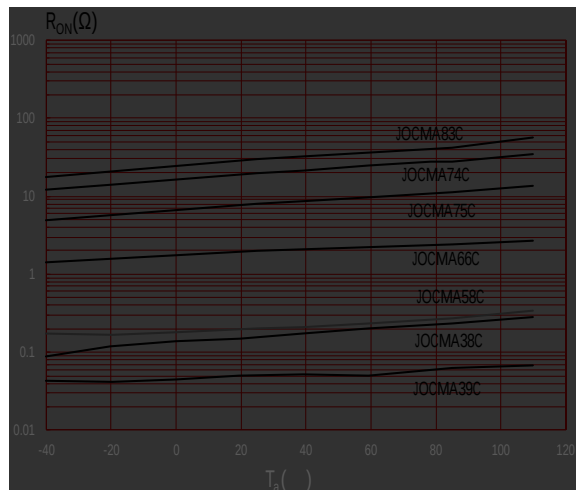


FIG.5: LED Operate Current vs. Ambient Temperature

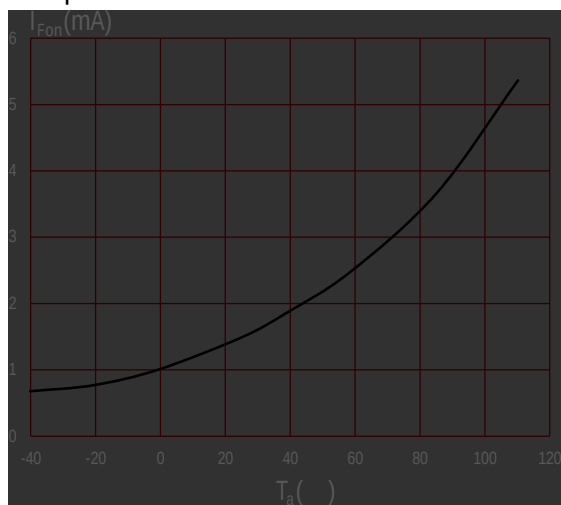


FIG.2: Output Current vs. Output Voltage

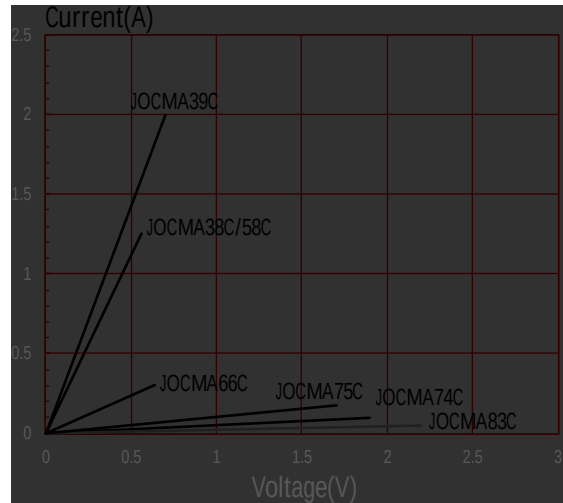


FIG.4: Load Current vs. Ambient Temperature

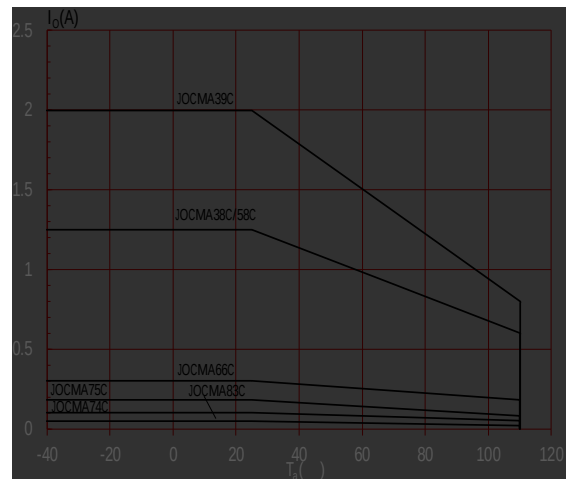


FIG.6: LED Turn Off Current vs. Ambient Temperature

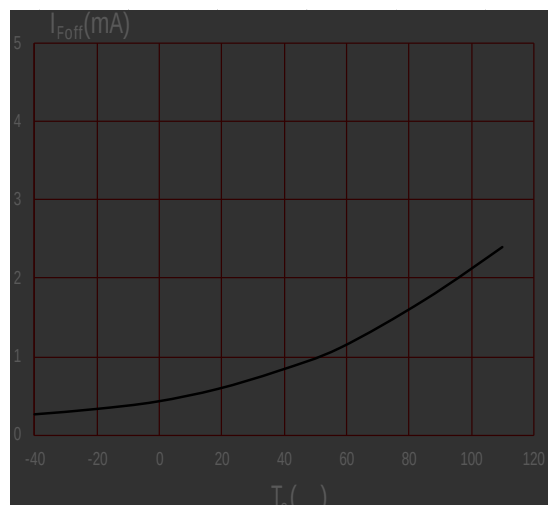




FIG.7: Turn On Time vs. Ambient Temperature

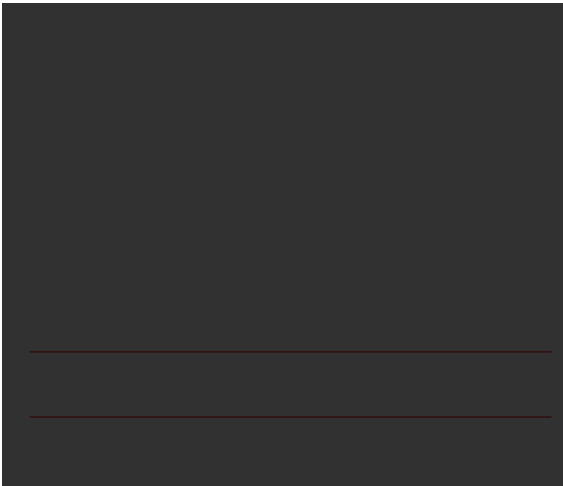
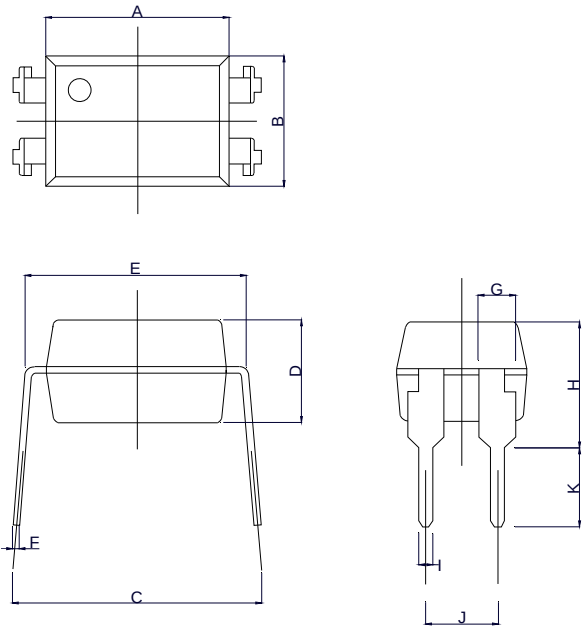


FIG.8: Turn Off Time vs. Ambient Temperature



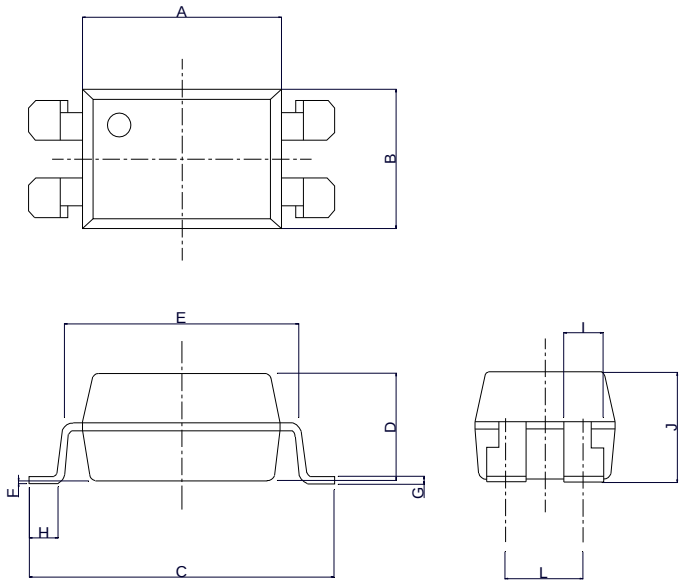
Package Dimension (Unit: mm)

Standard DIP Type:

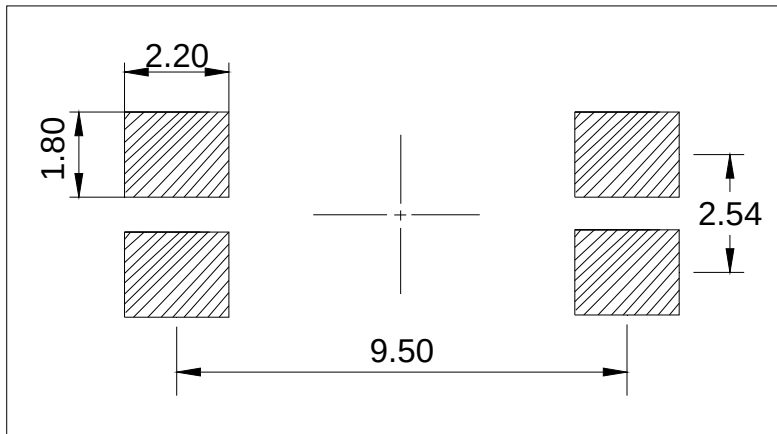
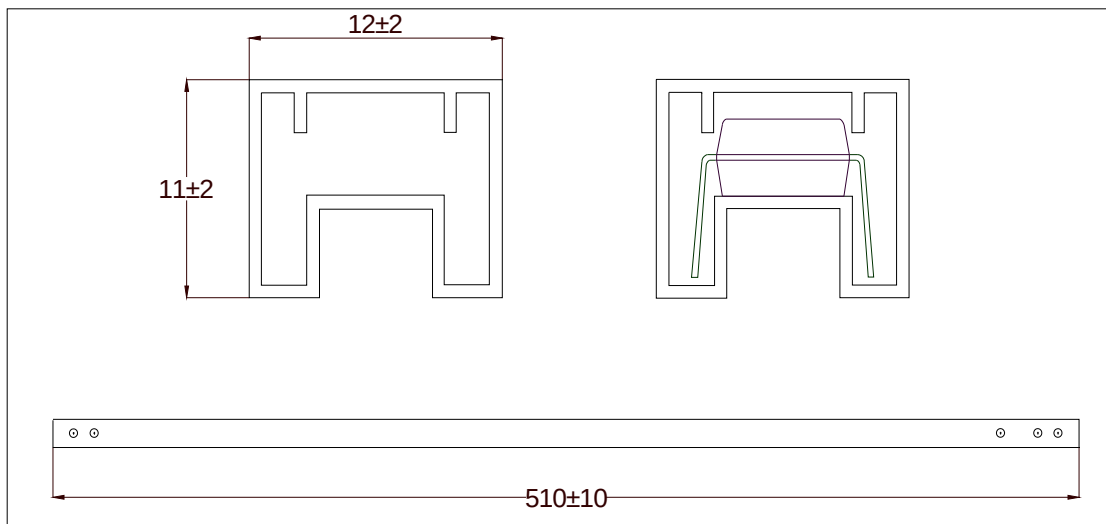


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.20		6.80	0.244		0.268
B	4.30		4.90	0.169		0.193
C	7.10		9.50	0.280		0.374
D	3.20		3.80	0.126		0.150
E	7.32		7.92	0.288		0.312
F	0.20		0.30	0.008		0.012
G	1.10		1.50	0.043		0.059
H	4.20		4.80	0.165		0.189
I	0.40		0.60	0.016		0.024
J	2.34		2.74	0.092		0.108
K	2.45		3.10	0.096		0.122

Option SMD Type:



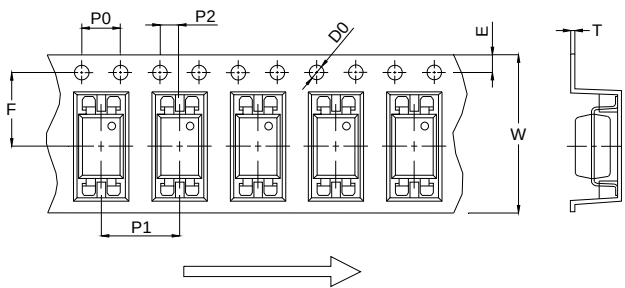
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.20		6.80	0.244		0.268
B	4.30		4.90	0.169		0.193
C	9.85		10.50	0.388		0.413
D	3.20		3.80	0.126		0.150
E	7.32		7.92	0.288		0.312
F	0.00		0.30	0.000		0.012
G	0.15		0.35	0.006		0.014
H	0.50		1.10	0.020		0.043
I	1.10		1.50	0.043		0.059
J	3.20		4.10	0.126		0.161
L	2.44		2.64	0.096		0.104

RECOMMENDED SOLDER MASK (Dimensions in mm unless otherwise stated)**Option SMD****TUBE SPECIFICATIONS (Dimensions in mm unless otherwise stated)****Standard DIP**



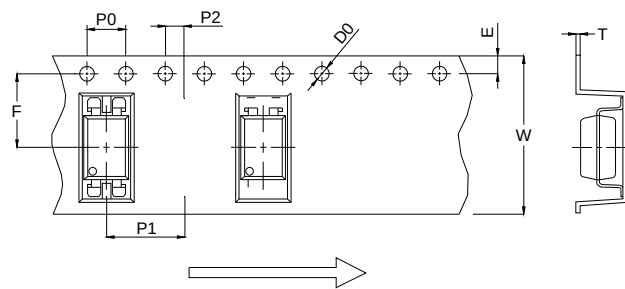
CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Option None

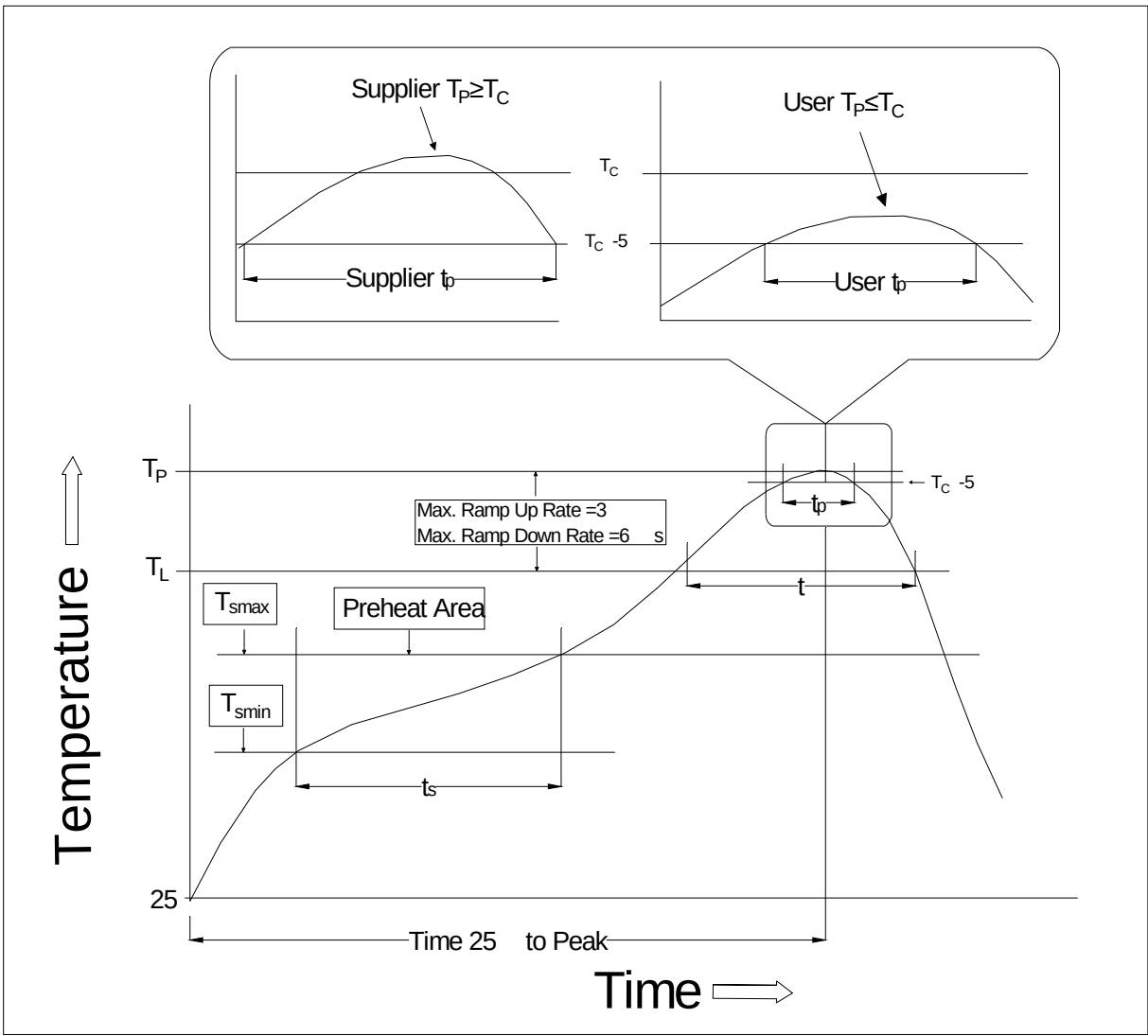


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0		1.50			0.059	
P0		4.00			0.157	
P1		8.00			0.315	
P2		2.00			0.079	
E		1.75			0.069	
F		7.50			0.295	
T		0.40			0.016	
W		16.00			0.630	

Option R



REFLOW INFORMATION

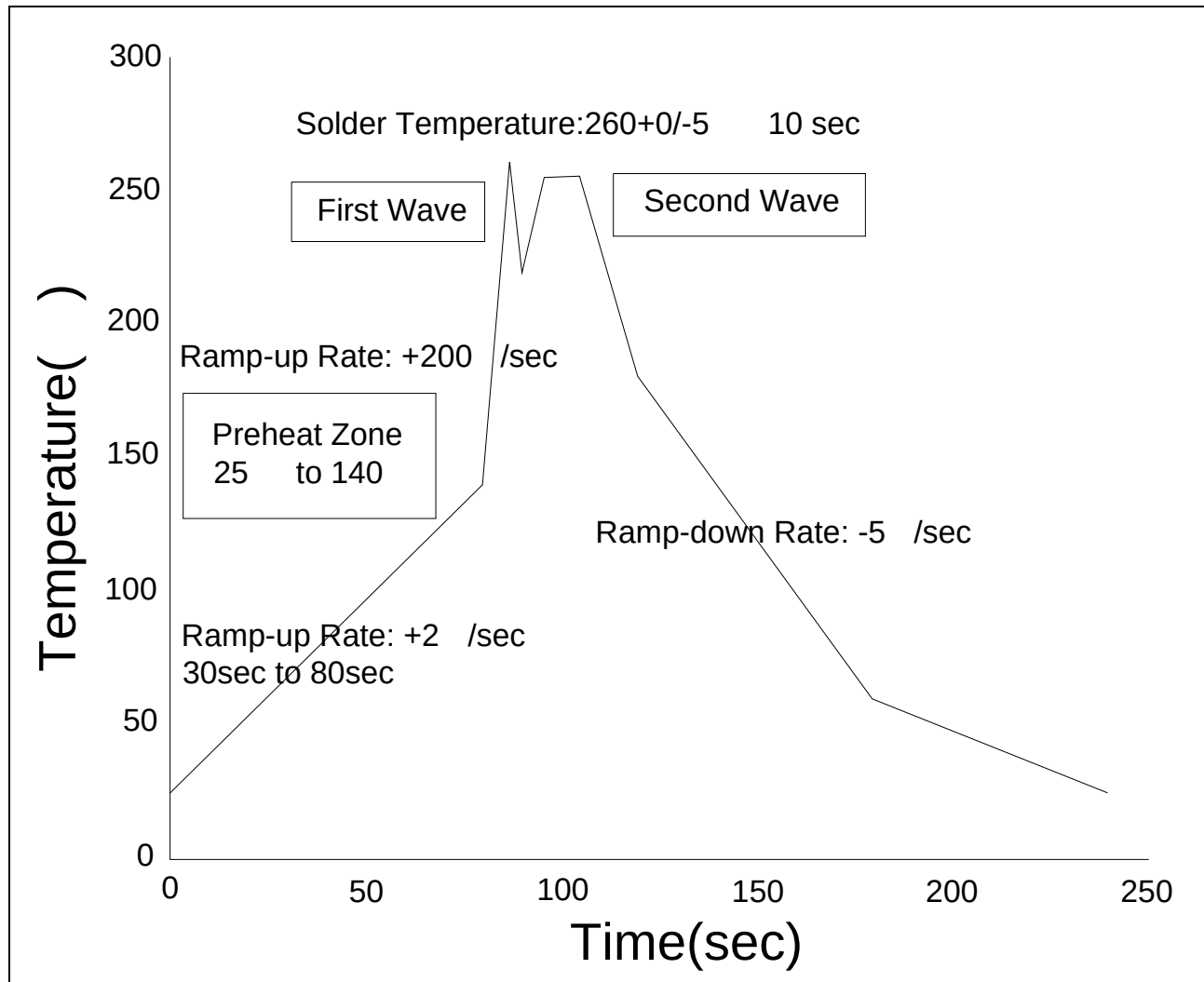


Profile Feature	Sn-Pb Assembly Profile	Pb-Free Assembly Profile
Temperature Min. (T_{smin})	100	150
Temperature Max. (T_{smax})	150	200
Time (t_s) from (T_{smin} to T_{smax})	60-120 seconds	60-120 seconds
Ramp-up Rate (t_L to t_P)	3 /second max.	3 /second max.
Liquidus Temperature (T_L)	183	217

Time (t Profi # ' N 183] ä M g 2 9



WAVE SOLDERING



HAND SOLDERING BY SOLDERING IRON

Soldering Temperature	360 ± 5
Soldering Time	3s max.



Note:

1. Reflow soldering is recommended at the temperatures and times shown, no more than three times.
2. Avoid direct contact between the epoxy body and any tools or surfaces exceeding its maximum storage temperature.
3. Application of pressure on the epoxy body is prohibited at elevated temperatures. In specific scenarios, any applied force must not exceed 2.5N.
4. Ensure the component has cooled to ambient temperature before proceeding with any subsequent manufacturing steps.
5. The component has a shelf life of one year when stored under standard conditions.
6. Recommend storage Temp.: 0~40°C;
Recommend storage humidity: <60%;
MSL level: MSL 1

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