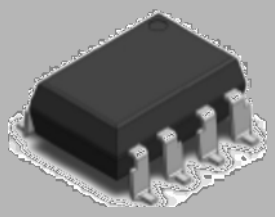
JOCHA22B-D8P/S Series

Rev.A.1.0

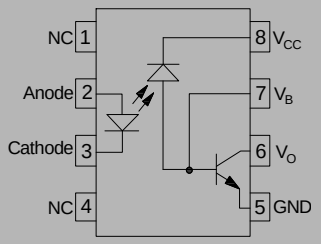
The products are 2MBd high-speed opto-couplers. The device is a small-outline coupler suitable for surface-mount assembly. It consists of a high-output-power infrared LED optically coupled to a high-speed photodiode-transistor chip. It is housed in a plastic DIP8 package with different lead forming options package and guarantees a creepage distance of ≥5 mm, a clearance of ≥5 mm and an insulation thickness of ≥0.4 mm. Therefore, it meets the reinforced insulation class requirements of international safety standards. The products are widely used in programmable controllers, industrial inverters and switching power supplies.



JOCHA22B-D8P



JOCHA22B-D8S



High isolation 5000 VRMS
High speed – 2MBd typical
Operating temperature range -40°C to 110°C
REACH & RoHS compliance
HBM: H3A; MM: M4; CDM: C3
CQC approved
VDE approved
UL approved

LED	Output
ON	L
OFF	H

(Temperature=25°C)

Parameter		Symbol	Value	Unit
Input	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1^{7}	A
	Reverse Voltage	V_R	6	V
	Input Power Dissipation	P_D	100	mW

Switching Characteristics	LED Trigger Current	I_{FT}	I_O=0.75mA, V_O Ø0.8V	-	-	5	mA
	Propagation Delay Time to Logic Low	TPHL	I_F=0 10mA, R_L=20kΩ, C_L=100pF	30	150	400	ns
			I_F=0 10mA, R_L=20kΩ, C_L=10pF	-	70	-	ns
	Propagation Delay Time to Logic High	TPLH	I_F=10 0mA, R_L=20kΩ, C_L=100pF	150	350	550	ns
			I_F=10 0mA, R_L=20kΩ, C_L=10pF	-	110	-	ns
	Common Mode Transient Immunity at Logic High	CM_H	I_F=0mA, V_{CM}=1500Vpp, R_L=20kΩ	±20	±25	-	kV/μs
	Common Mode Transient Immunity at Logic Low	CM_L	I_F=10mA, V_{CM}=1500Vpp, R_L=20kΩ	±20	±25	-	kV/μs

J OC H A 2 2 B -D8P/S /

FIG.1: Forward Current vs. Forward Voltage

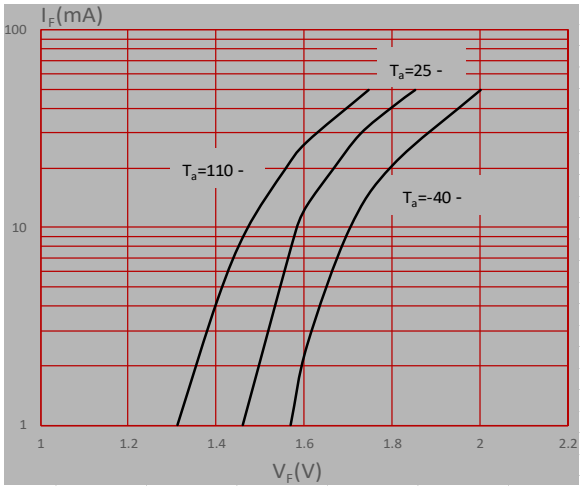


FIG.2: High Level Output Current vs. Ambient Temperature

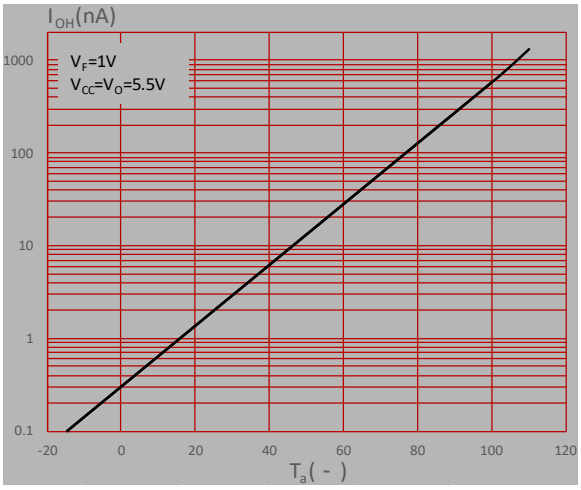


FIG.3: Output Current vs. Forward Current

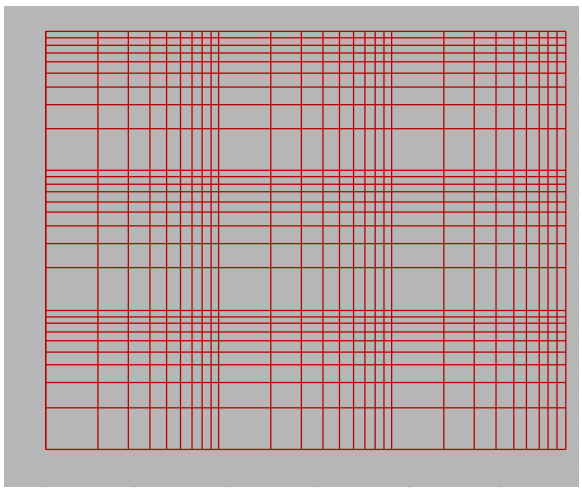


FIG.4: Threshold Input Current vs. Ambient Temperature

FIG.7: Propagation Delay vs. Load Resistance

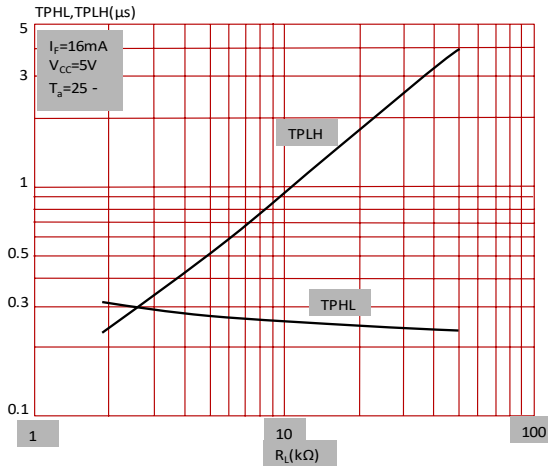


FIG.8: Propagation Delay vs. Ambient Temperature

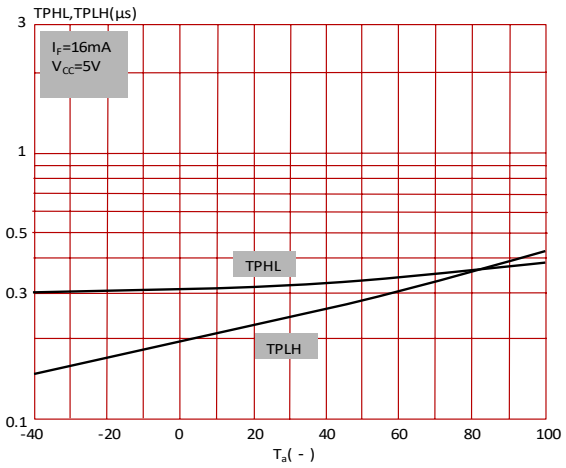
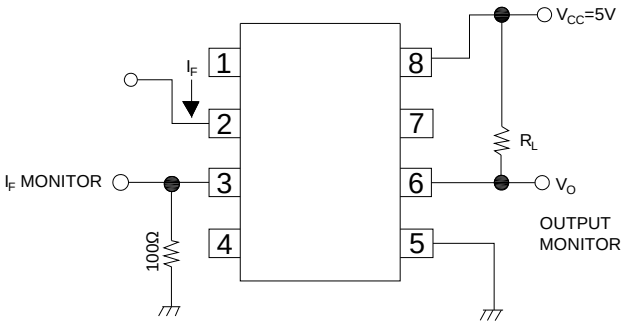


Fig.9: Switching Time Test Circuit and Waveform



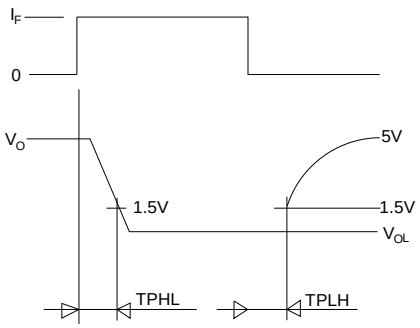
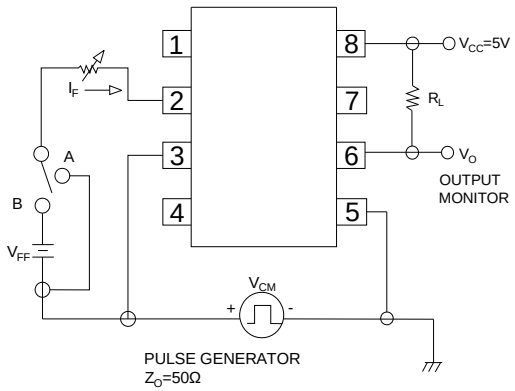
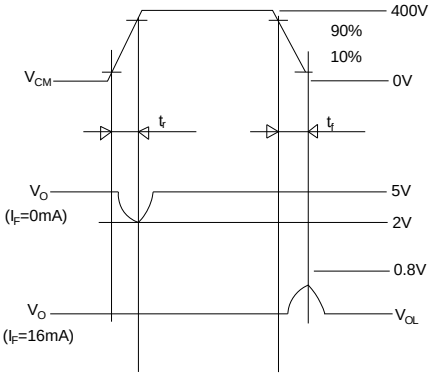
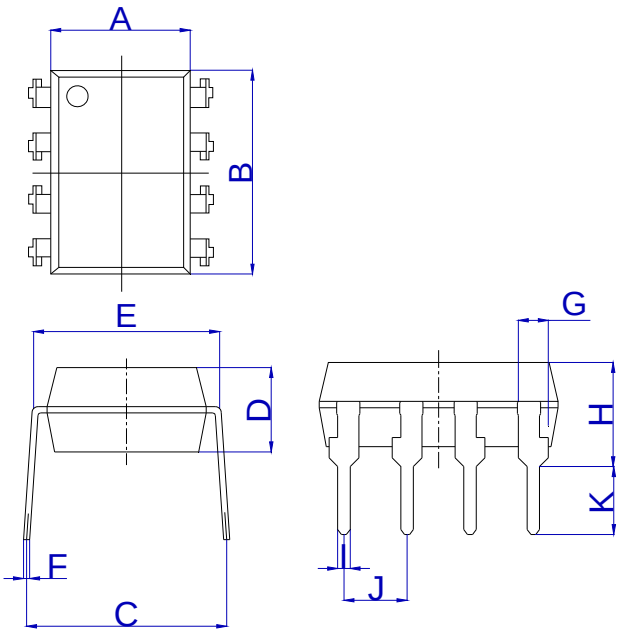


Fig.10: CMTI Test Circuit and Waveform



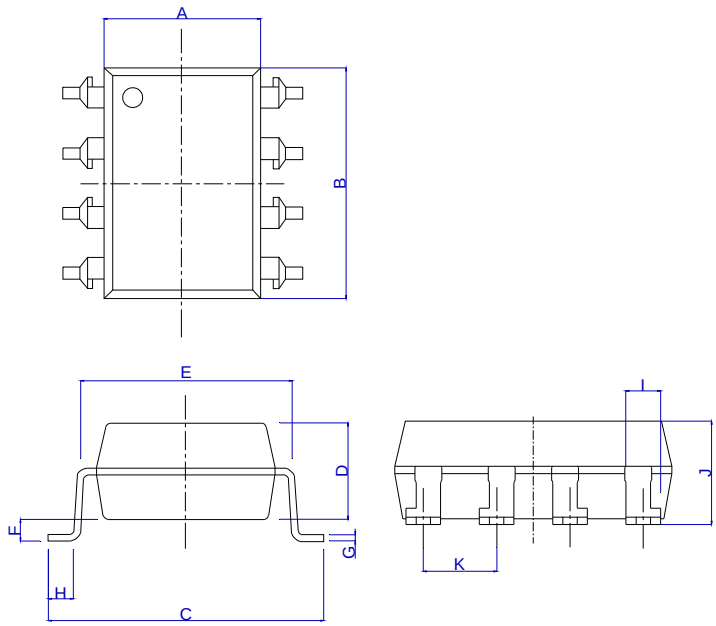


Standard DIP Type:

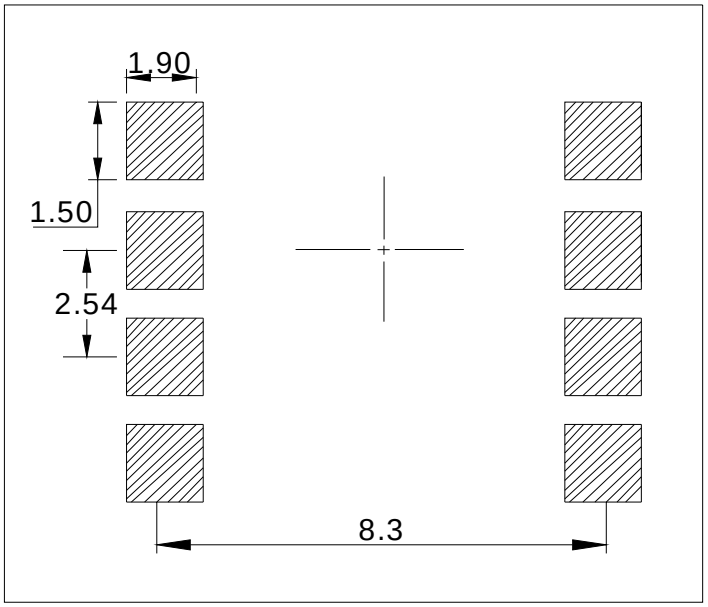


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.20		6.60	0.244		0.260
B	9.40		9.80	0.370		0.386
C	7.15		8.95	0.281		0.352
D	3.20		3.60	0.126		0.142
E	7.32		7.92	0.288		0.312
F	0.15		0.35	0.006		0.014
G	0.90		1.50	0.035		0.059
H	3.90		4.50	0.154		0.177
I	0.40		0.60	0.016		0.024
J	2.29		2.79	0.090		0.110
K	2.24		3.24	0.088		0.128

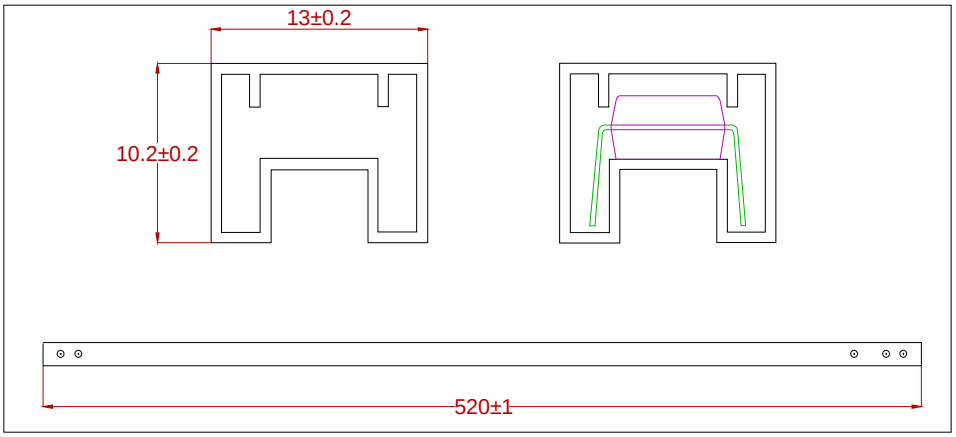
Option SMD Type:



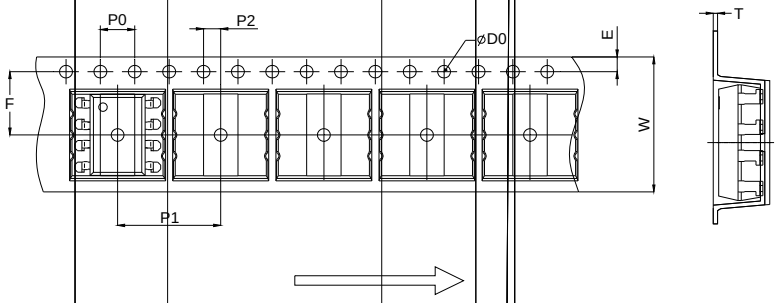
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.20		6.60	0.244		0.260
B	9.40		9.80	0.370		0.386
C	9.50		10.50	0.374		0.413
D	3.20		3.60	0.126		0.142
E	7.32		7.92	0.288		0.312
F	0.05		0.35	0.002		0.014
G	0.16		0.36	0.006		0.014
H	0.60		1.40	0.024		0.055
I	0.90		1.50	0.035		0.059
J	3.30		3.90	0.130		0.154
K	2.29		2.79	0.090		0.110



Standard DIP

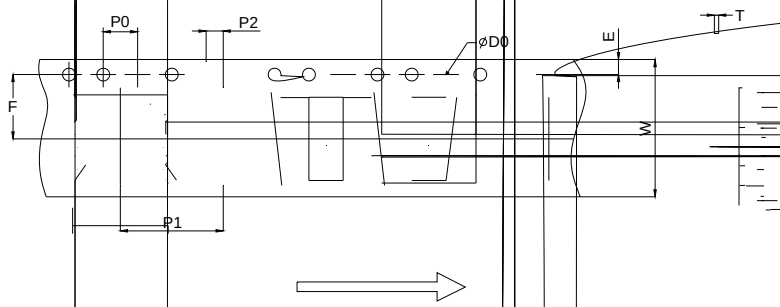


Option S

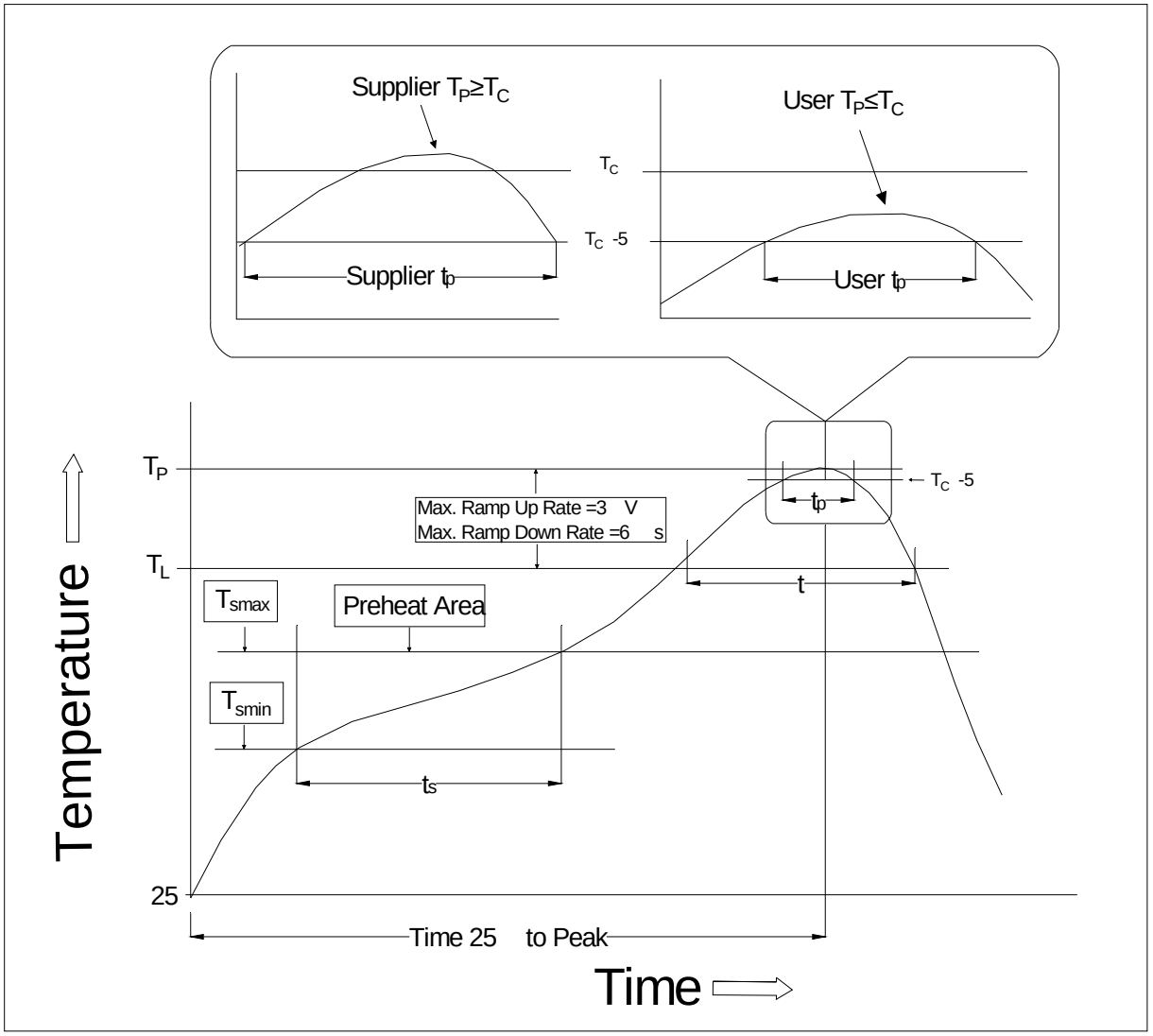


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0		1.50	1.60		0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	11.90	12.00	12.10	0.469	0.472	0.476
P2	1.90	2.00	2.10	0.075	0.079	0.083
E	1.65	1.75	1.85	0.065	0.069	0.073
F	7.40	7.50	7.60	0.291	0.295	0.299
T	0.35	0.40	0.45	0.014	0.016	0.018
W	15.90	16.00	16.20	0.626	0.630	0.638

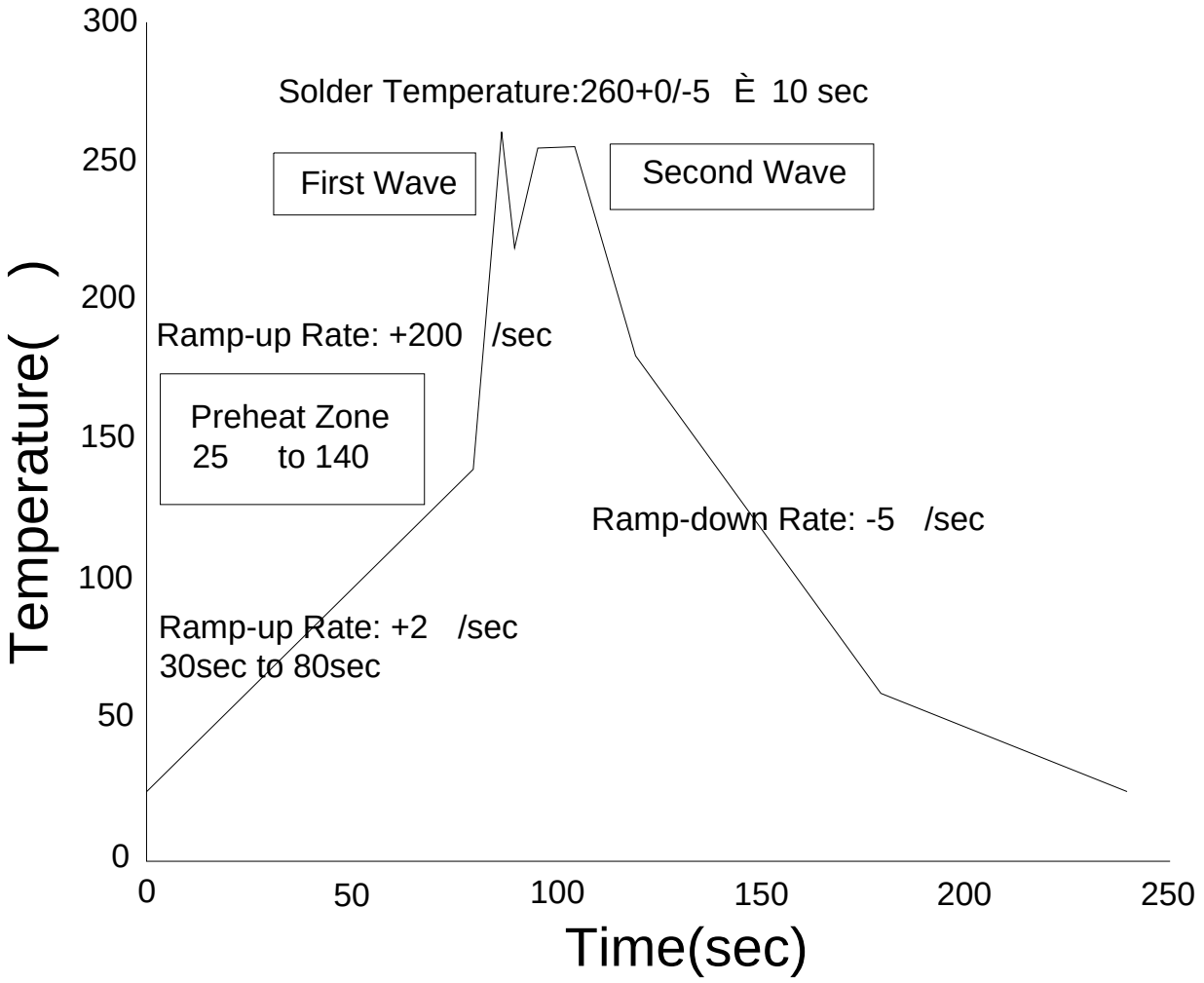
Option L



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0		1.50	1.60		0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	11.90	12.00	12.10	0.469	0.472	0.476
P2	1.90	2.00	2.10	0.075	0.079	0.083
E	1.65	1.75	1.85	0.065	0.069	0.073
F	7.40	7.50	7.60	0.291	0.295	0.299
T	0.35	0.40	0.45	0.014	0.016	0.018
W	15.90	16.00	16.20	0.626	0.630	0.638



Profile Feature	Sn-Pb Assembly Profile	Pb-Free Assembly Profile
Temperature Min. (Tsmin)	100	150
Temperature Max. (Tsmax)	150	200
Time (ts) from (Tsmin to Tsmax)	60-120 seconds	60-120 seconds
Ramp-up Rate (tL to tP)	3 /second max.	3 /second max.
Liquidus Temperature (TL)	183	217
Time (tL) Maintained Above (TL)	60-150 seconds	60-150 seconds
Peak Body Package Temperature	235 +0 /-5	260 +0 /-5
Time (tP) within 5 of 260	10 seconds	10 seconds
Ramp-down Rate (TP to TL)	3-6 /second	3-6 /second
Time 25 to Peak Temperature	6 minutes max.	8 minutes max.



Soldering Temperature	360 f5
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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