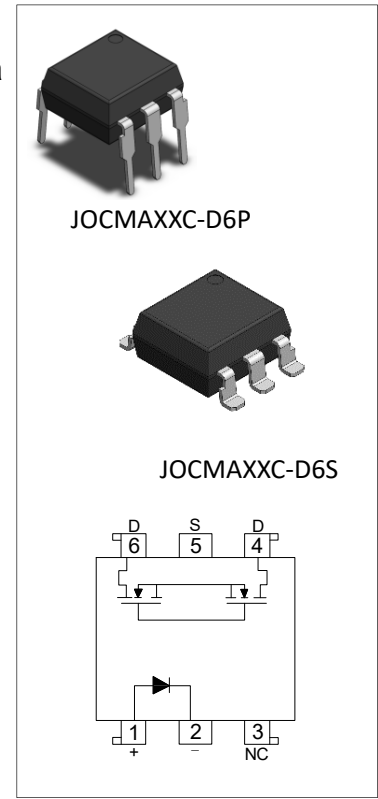




### DESCRIPTION:

The products are 6-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 DIP6 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 <sup>①</sup>	A
	Reverse Voltage	$V_R$	6	V
	Input Power Dissipation	$P_D$	75	mW
Output	Load Voltage	JOCMA39C	60	V
		JOCMA38C	60	
		JOCMA57C	100	
		JOCMA66C	200	
		JOCMA75C	400	
		JOCMA74C	400	
		JOCMA83C	600	
	Continuous load current	JOCMA39C	2	A
		JOCMA38C	1	
		JOCMA57C	0.5	
		JOCMA66C	0.3	
JOCMA75C		0.18		

	JOCMA74C		0.1	
	JOCMA83C		0.05	
	Output Power Dissipation		P <sub>O</sub>	300 mW
Total Power Dissipation		P <sub>tot</sub>	375	mW
Isolation Voltage		V <sub>iso</sub>	5000 <sup>②</sup>	V <sub>rms</sub>
Operating Temperature		T <sub>opr</sub>	-40~110	°C
Junction Temperature		T <sub>j</sub>	125	°C
Storage Temperature		T <sub>stg</sub>	-40~125	°C
Soldering Temperature		T <sub>sol</sub>	260	°C

**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 <sub>F</sub>	I <sub>F</sub> =10mA	-	1.2	1.5	V	
	Reverse Current	I <sub>R</sub>	V <sub>R</sub> =6V	-	-	1	μA	
	Action Current	I <sub>F(ON)</sub>	I <sub>L</sub> =I <sub>L(MAX)</sub>	-	0.9	3	mA	
	Reset Current	I <sub>F(OFF)</sub>	I <sub>L</sub> =I <sub>L(MAX)</sub>	0.4	0.8	-	mA	
Output	On Resistance	JOCMA39C	I <sub>F</sub> =5mA I <sub>L</sub> =Max. Within 1s on time	-	-	0.1	Ω	
		JOCMA38C		-	-	0.3		
		JOCMA57C		-	-	0.4		
		JOCMA66C		-	-	2.5		
		JOCMA75C		-	-	25		
		JOCMA74C		-	-	25		
		JOCMA83C		-	-	35		
	Off State Leakage Current	I <sub>Leak</sub>	I <sub>F</sub> =0mA, V <sub>L</sub> =Max.	-	-	1	μA	
Output Capacitance	C <sub>OFF</sub>	V <sub>OFF</sub> =0V, f <sub>o</sub> =1MHz	-	6	-	pF		
Switching Characteristics	Isolation Resistance	R <sub>ISO</sub>	DC500V 40~60%R.H.	10 <sup>12</sup>	-	-	Ω	
	Floating Capacitance	C <sub>IO</sub>	V=0, f=1MHz	-	-	1.5	pF	
	Turn On Time	JOCMA39C	t <sub>on</sub>	I <sub>F</sub> =5mA, I <sub>L</sub> =Max.	-	0.65	2	ms
		JOCMA38C			-	0.65	2	
		JOCMA57C			-	0.6	2	
		JOCMA66C			-	0.25	0.5	
		JOCMA75C			-	0.23	0.5	
		JOCMA74C			-	0.21	0.5	
JOCMA83C		-			0.18	0.5		

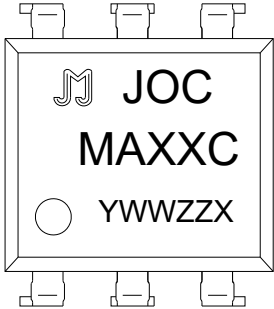
	Turn Off Time	JOCMA39C	$t_{off}$	$I_F=5mA,$ $I_L=Max.$	-	0.08	0.2	ms
		JOCMA38C			-	0.08	0.2	
		JOCMA57C			-	0.08	0.2	
		JOCMA66C			-	0.04	0.2	
		JOCMA75C			-	0.04	0.2	
		JOCMA74C			-	0.04	0.2	
		JOCMA83C			-	0.04	0.2	

**ORDERING INFORMATION**

J	OC	M	A	3	8	C	-D6P/S	/
JieJie Microelectronics Co., Ltd.	Opto Coupler	MOS	A:1NO	3:V <sub>O</sub> :60V 5:V <sub>O</sub> :100V 6:V <sub>O</sub> :200V 7:V <sub>O</sub> :400V 8:V <sub>O</sub> :600V	9:I <sub>O</sub> :2A 8:I <sub>O</sub> :1A 7:I <sub>O</sub> :0.5A 6:I <sub>O</sub> :0.3A 5:I <sub>O</sub> :0.18A 4:I <sub>O</sub> :0.1A 3:I <sub>O</sub> :0.05A	C:I <sub>FT</sub> ≤3mA	P:DIP6 S:SMD6	S:T3 L:T4

Packing Quantity	
Option	Quantity
DIP	60 Units/Tube
SMD	1200 Units/Reel

**MARKING**

	<p><u>YWWZZX</u></p> <p>———— LOT NO.</p>
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Characteristics Curves

FIG.1: LED Dropout Voltage vs. Ambient Temperature

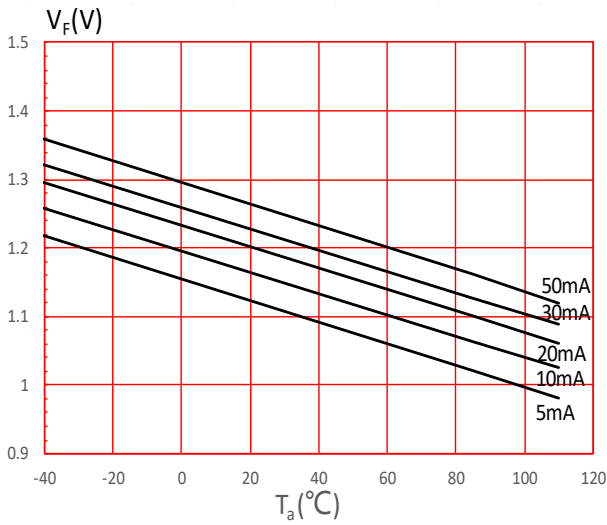


FIG.3: On Resistance vs. Ambient Temperature

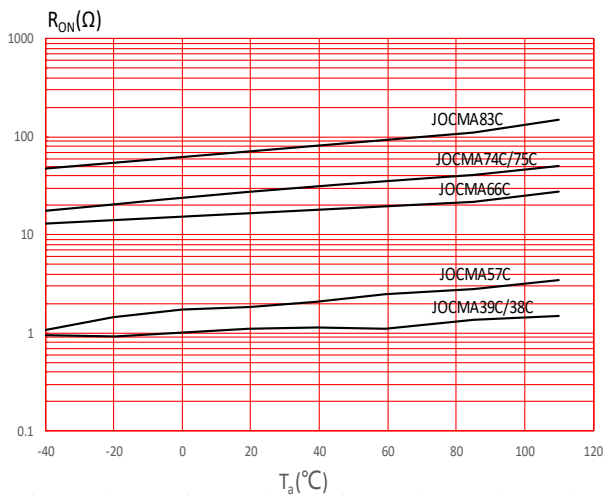


FIG.5: LED Operate Current vs. Ambient Temperature

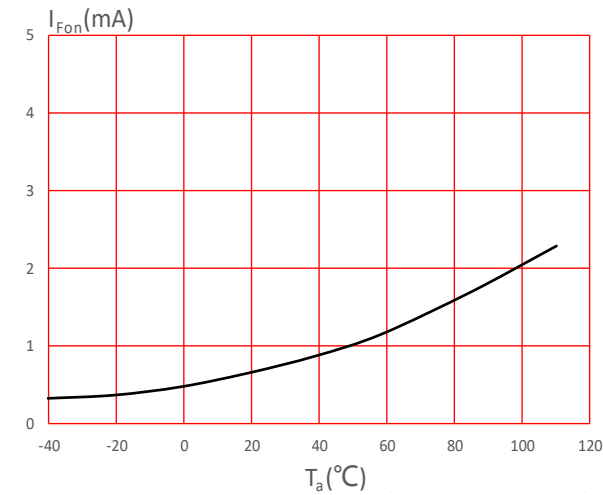


FIG.2: Output Current vs. Output Voltage

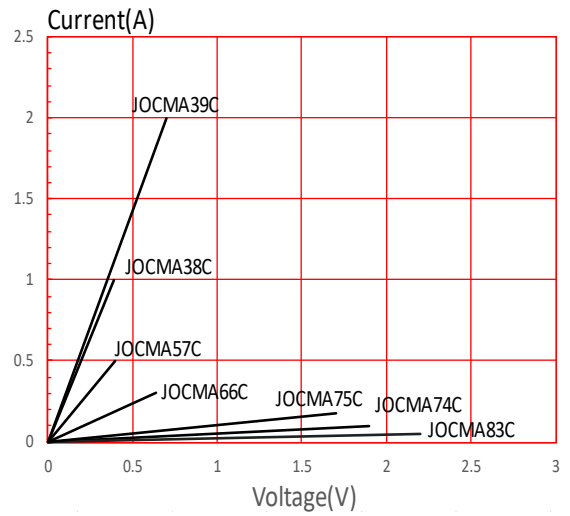


FIG.4: Load Current vs. Ambient Temperature

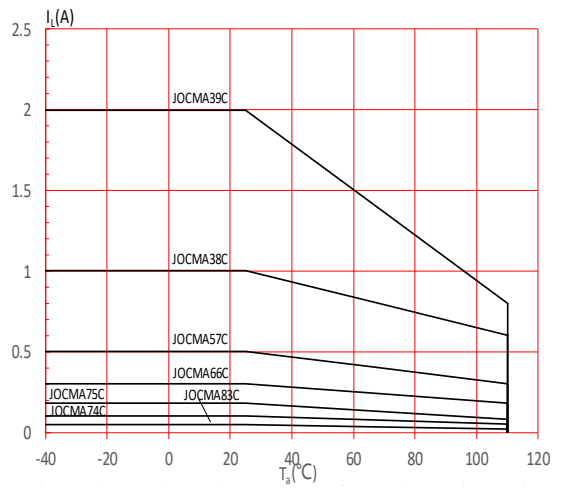


FIG.6: LED Turn Off Current vs. Ambient Temperature

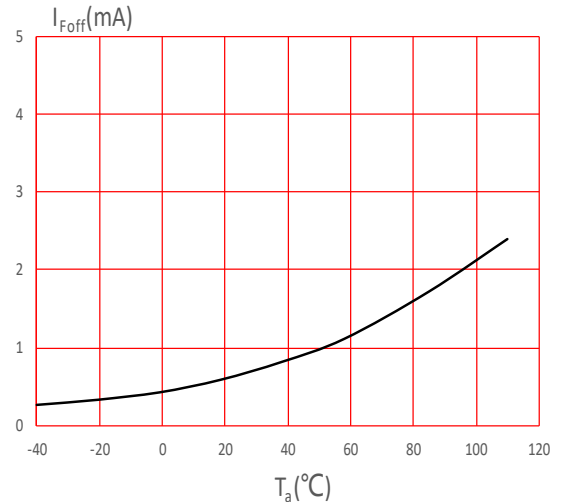


FIG.7: Turn On Time vs. Ambient Temperature

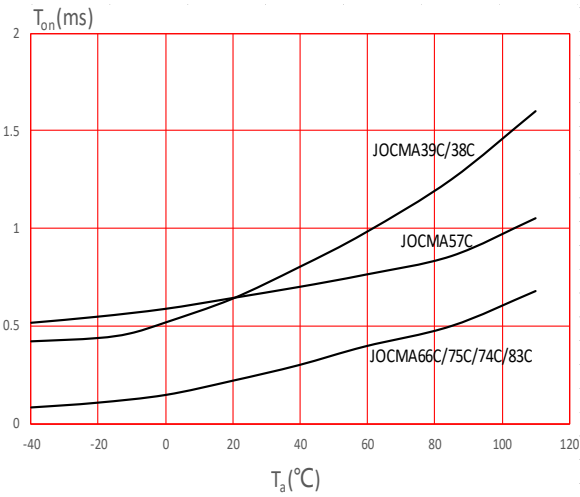


FIG.8: Turn Off Time vs. Ambient Temperature

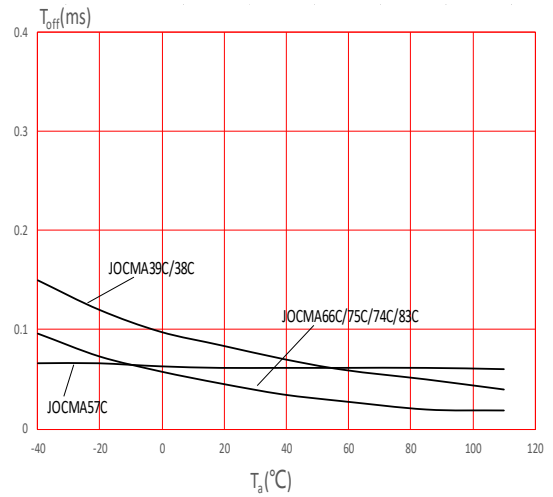


FIG.9: Turn On Time vs. LED Forward Current

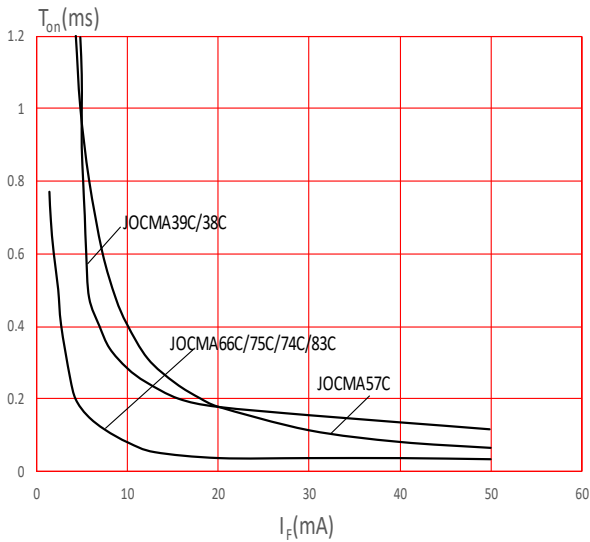


FIG.10: Turn Off Time vs. LED Forward Current

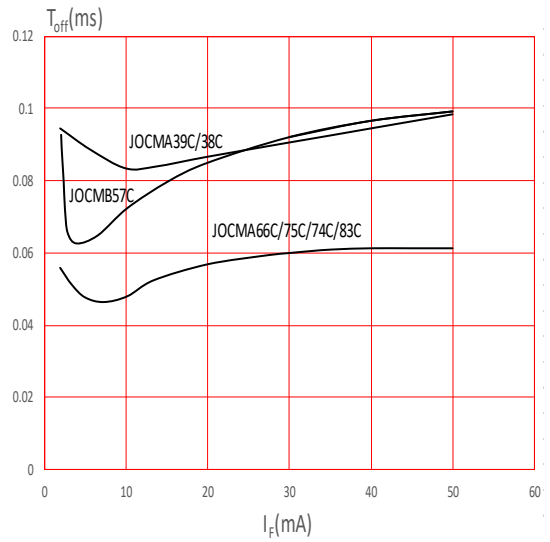


FIG.11: Off State Leakage Current vs. Load Voltage

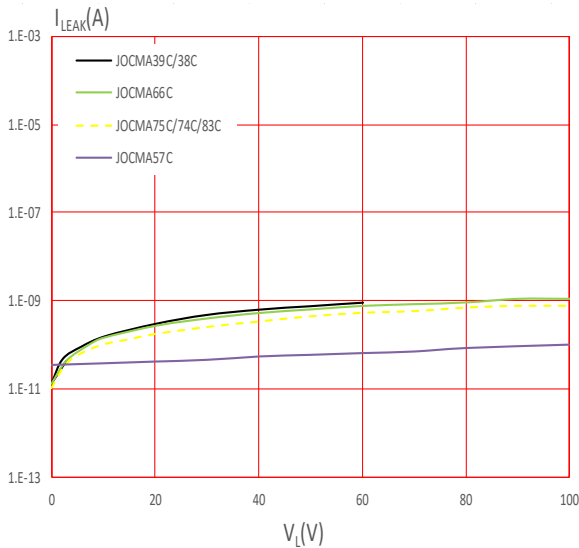
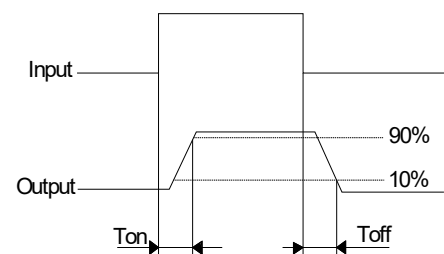
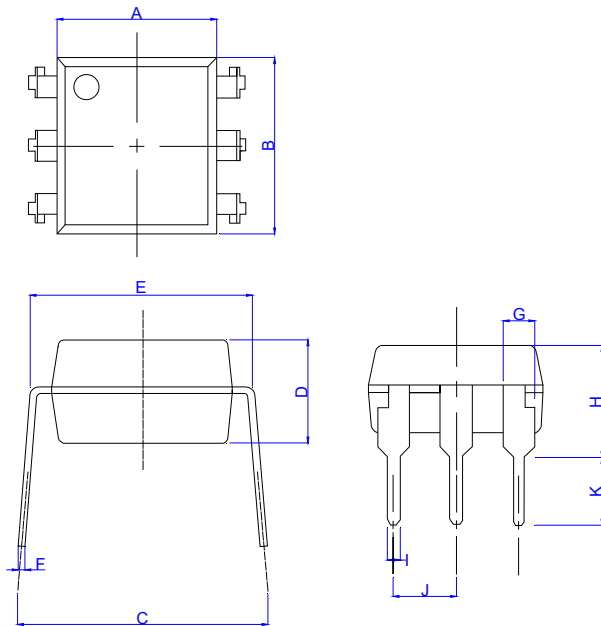


Fig.12: Turn on/Turn off time



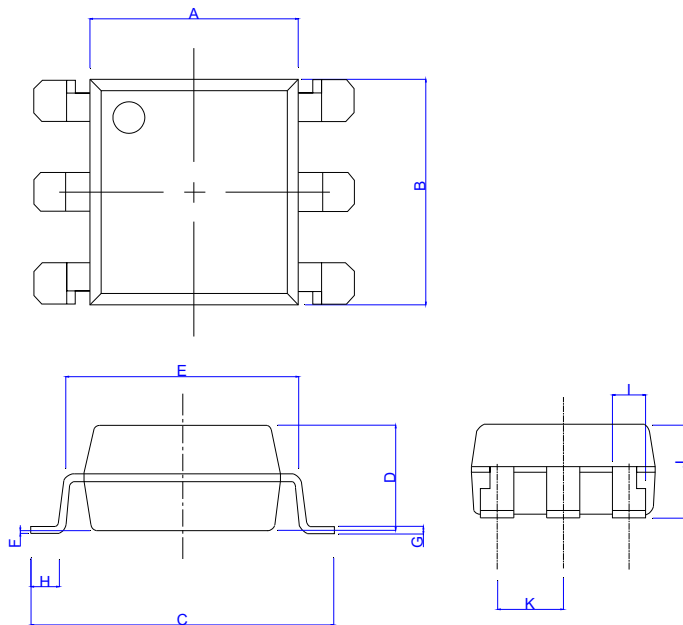
Package Dimension (Unit: mm)

Standard DIP Type:



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.20		6.60	0.244		0.260
B	6.92		7.32	0.272		0.288
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	1.15		1.35	0.045		0.053
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

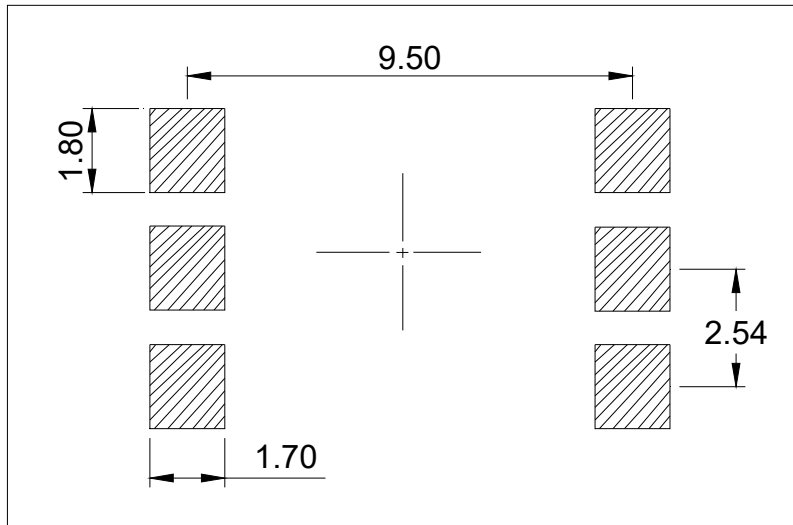
Option SMD Type:



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.20		6.60	0.244		0.260
B	6.92		7.32	0.272		0.288
C	9.50		10.50	0.375		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

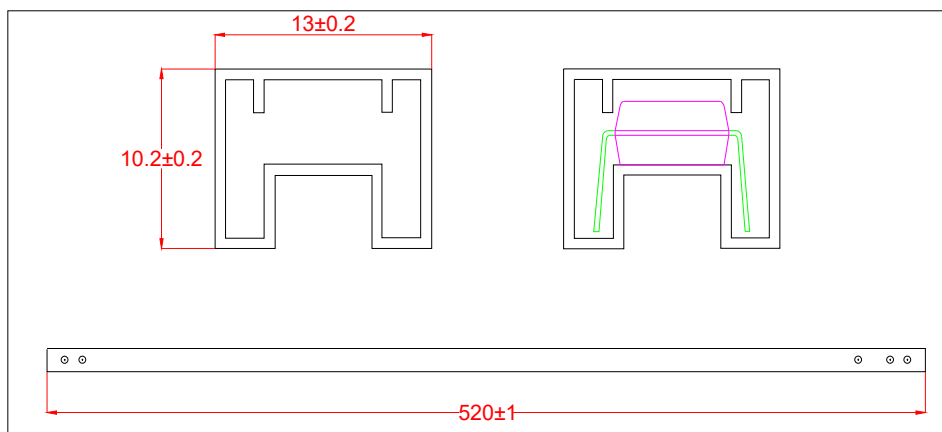
**RECOMMENDED SOLDER MASK (Dimensions in mm unless otherwise stated)**

Option SMD



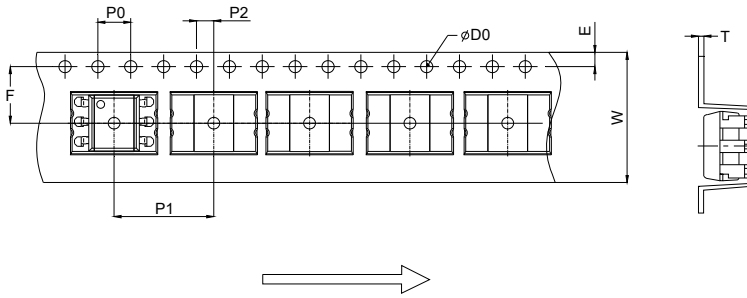
**TUBE SPECIFICATIONS (Dimensions in mm unless otherwise stated)**

Standard DIP



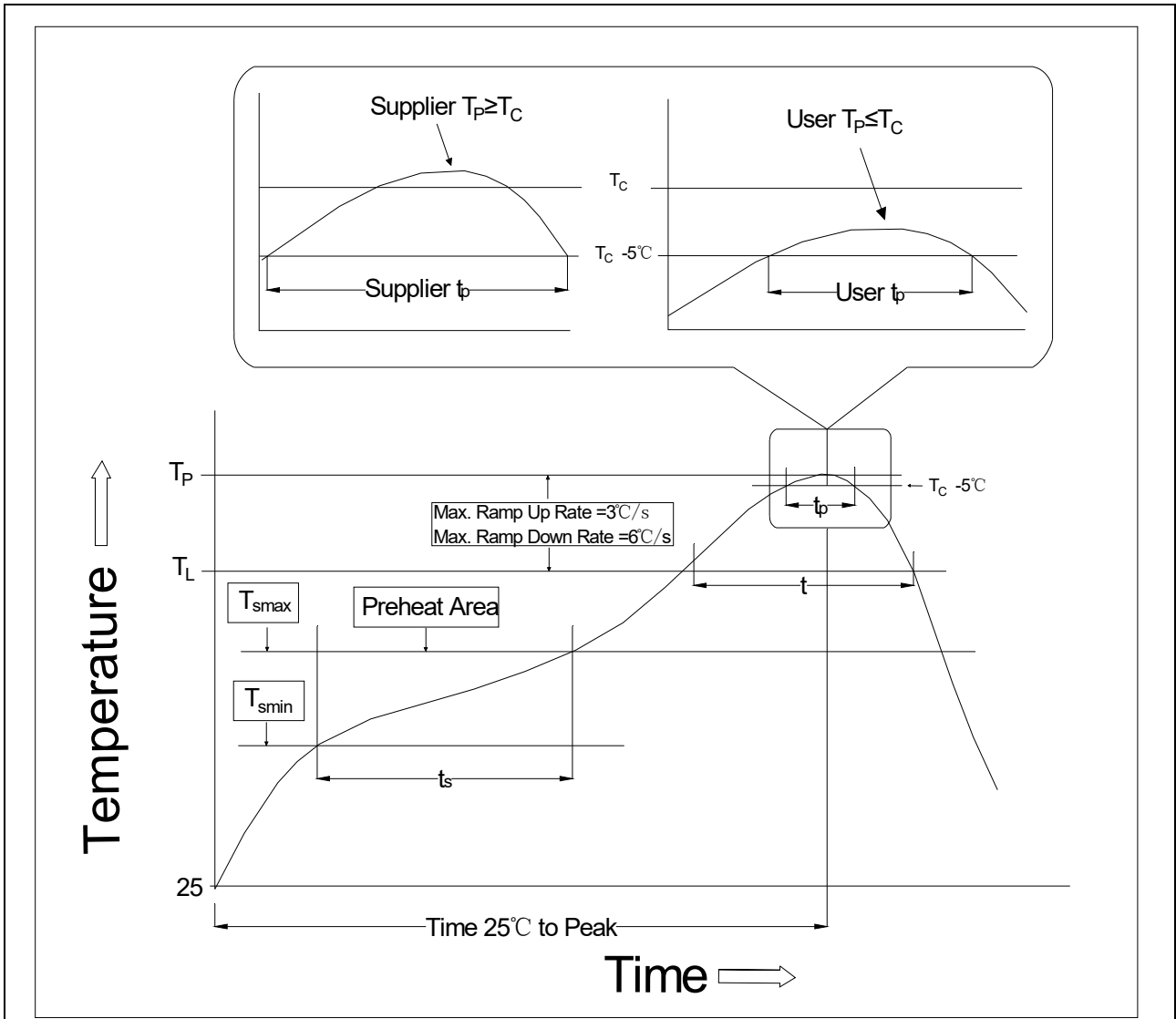
**CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)**

Option S/L



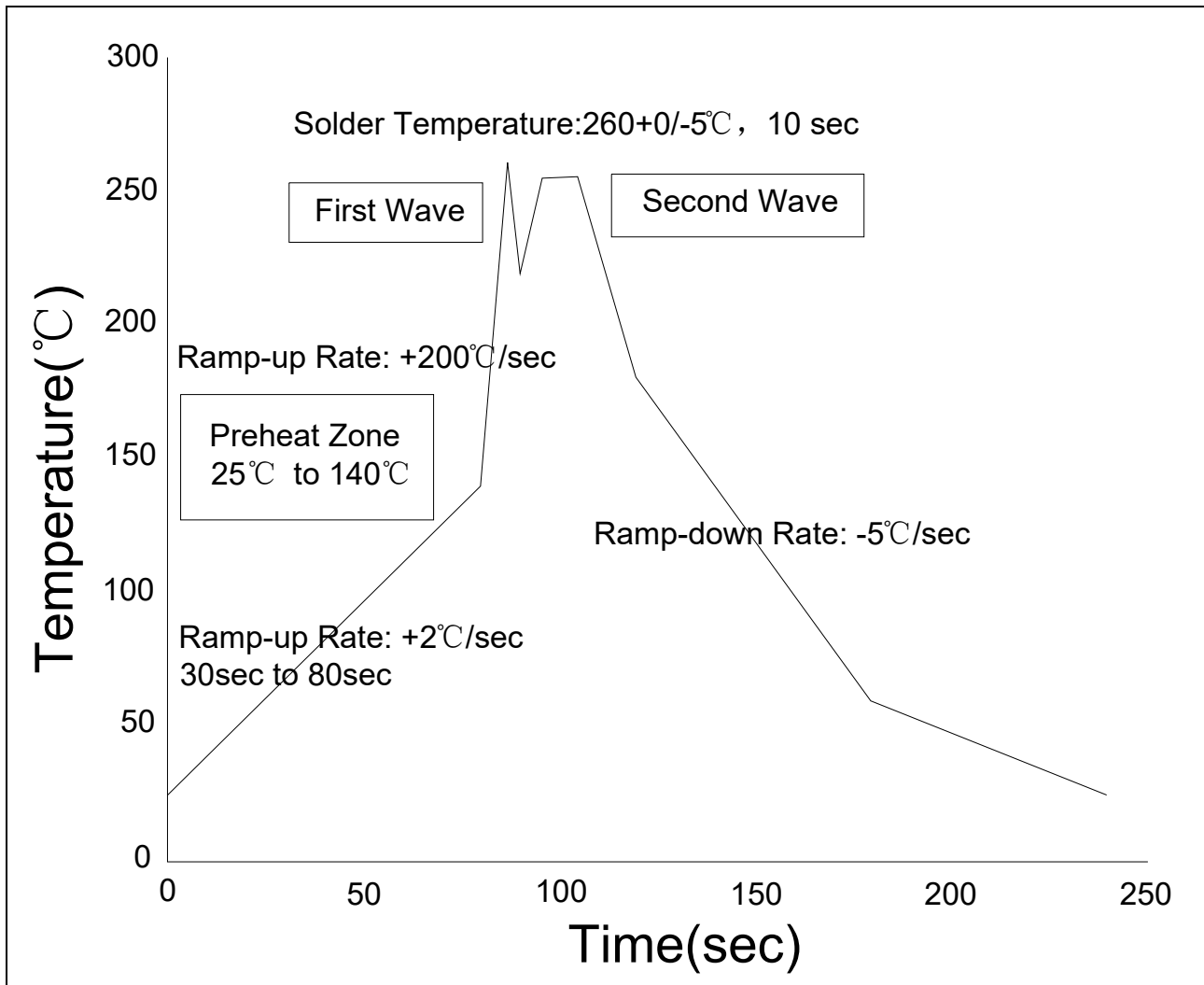
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0		1.50	1.60	0.059	0.063	
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	11.90	12.00	12.10	0.469	0.472	0.476
P2	1.90	2.00	2.10	0.075	0.079	0.083
E	1.65	1.75	1.85	0.065	0.069	0.073
F	7.40	7.50	7.60	0.291	0.295	0.299
T	0.35	0.40	0.45	0.014	0.016	0.018
W	15.70	16.00	16.30	0.618	0.630	0.642

REFLOW INFORMATION



Profile Feature	Sn-Pb Assembly Profile	Pb-Free Assembly Profile
Temperature Min. (T <sub>smin</sub> )	100	150°C
Temperature Max. (T <sub>smax</sub> )	150	200°C
Time (t <sub>s</sub> ) from (T <sub>smin</sub> to T <sub>smax</sub> )	60-120 seconds	60-120 seconds
Ramp-up Rate (t <sub>L</sub> to t <sub>P</sub> )	3°C/second max.	3°C/second max.
Liquidus Temperature (T <sub>L</sub> )	183°C	217°C
Time (t <sub>L</sub> ) Maintained Above (T <sub>L</sub> )	60-150 seconds	60-150 seconds
Peak Body Package Temperature	235°C+0°C/-5°C	260°C+0°C/-5°C
Time (t <sub>P</sub> ) within 5°C of 260°C	20 seconds	30 seconds
Ramp-down Rate (T <sub>P</sub> to T <sub>L</sub> )	6°C/second max.	6°C/second max.
Time 25°C to Peak Temperature	6 minutes max.	8 minutes max.

**WAVE SOLDERING**



**HAND SOLDERING BY SOLDERING IRON**

Soldering Temperature	$360 \pm 5^{\circ}\text{C}$
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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