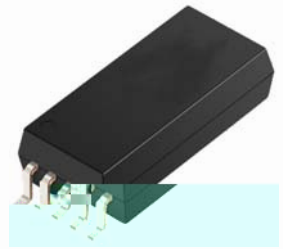
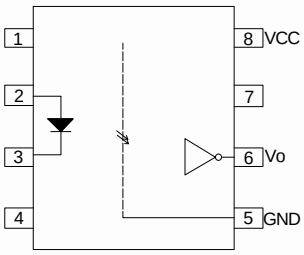
DESCRIPTION:

The products are 10MBd high-speed opto-couplers in a plastic WSOP8 package. The device consists of a high efficient AlGaAs Light Emitting Diode and a high speed optical detector. This design provides excellent AC and DC isolation between the input and output sides of the optocoupler. The output of the optical detector features an open collector Schottky clamped transistor. The enable function allows the optical detector to be strobed. A guaranteed common mode transient immunity is up to 10kV/μs at 3.3V. The optocoupler operational parameters are guaranteed over the temperature range from -40 ~+110 . The products are widely used in isolation in line receivers, digital isolation for A/D, D/A conversion, ground loop elimination, feedback element in switching mode power supplier, pulse transformer replacement, power transistor isolation in motor drives, interface between microprocessor system, computer and their peripheral.





MAIN FEATURES

High isolation 7500 VRMS
High speed – 10MBd typical
Operating temperature range -40°C to 110°C
REACH & RoHS compliance
HBM: H3A; MM: M4; CDM: C3
CQC approved
VDE approved
UL approved

Truth Table

INPUT	OUTPUT
H	L
L	H

ABSOLUTE MAXIMUM RATINGS (Temperature=25°C)

Input	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1	A
	Reverse Voltage	V_R	6	
	Input Power Dissipation	P_D	100	mW

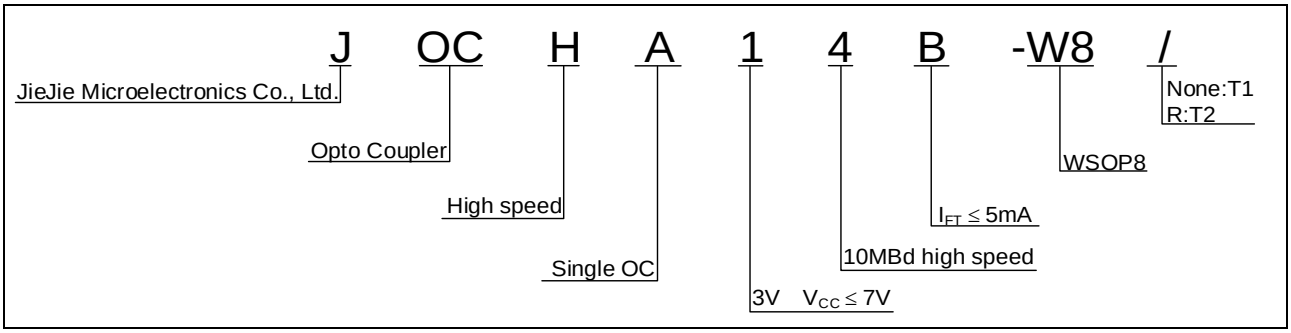
	Isolation Resistance	R_{ISO}	DC500V 40~60%R.H.	-	10^{12}	-	Ω
	Floating Capacitance	C_{IO}	V=0, f=1MHz	-	1	-	pF
Switching Characteristics	Trigger LED Current	I_{FT}	V_{CC}=5V V_O=V_{OL}	-	-	5	mA
	Propagation Delay Time to Logic Low	t_{PHL}	C_L=15pF, R_L=350Ω, I_F=7.5mA	-	-	60	ns
	Propagation Delay Time to Logic High	t_{PLH}		-	-	60	ns
	Pulse width distortion	$\|t_{PHL}-t_{PLH}\|$		-	-	35	ns
	Common Mode Transient Immunity at Logic High	CM_H	V_{CC}=3.3V, I_F=0mA, V_{CM}=1000V, R_L=350Ω	10	15	-	kV/μs
	Common Mode Transient Immunity at Logic Low	CM_L	V_{CC}=3.3V, I_F=10mA, V_{CM}=1000V, R_L=350Ω	10	15	-	kV/μs
	Rise Time	tr	C_L=15pF, R_L=350Ω, I_F=7.5mA	-	30	-	ns
	Fall Time	tf		-	30	-	ns

Recommended Operating Conditions

Operating Temperature	T_a	-40	-	85	
Supply Voltage	V_{CC}	2.7	-	3.6	V
		4.5	-	5.5	
Low Level Input Current	I_{FL}	0	-	250	μA
High Level Input Current	I_{FH}	7	-	15	mA

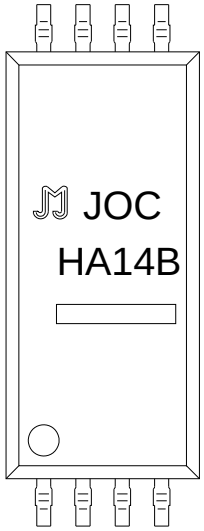
Output Pull-up Resistor	R_L	330	-	4k	Ω
Fan Out (at R_L=1kΩ per channel)	N	-	-	5	TTL Loads

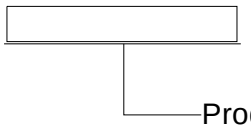
ORDERING INFORMATION



Packing Quantity			
Option	**Quantity**	**Quantity – Inner box**	**Quantity –Outer box**

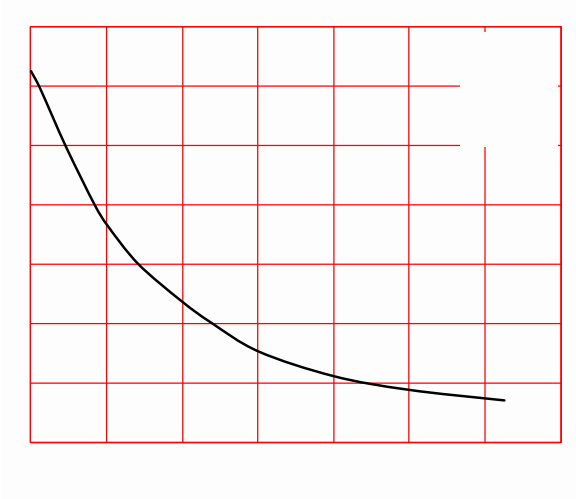
MARKING



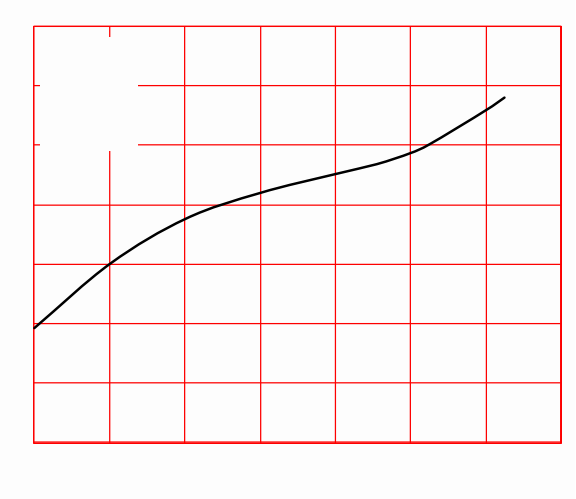


Characteristics Curves

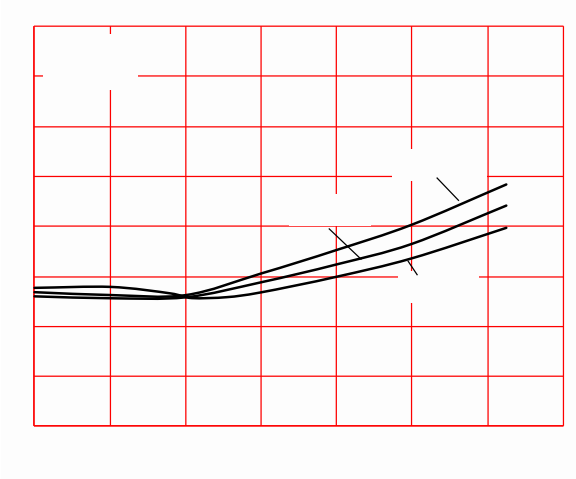
High Level Output Current vs. Ambient Temperature



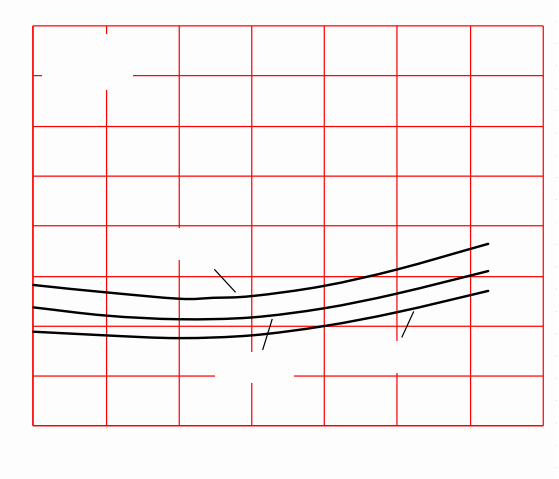
High Level Output Current vs. Ambient Temperature



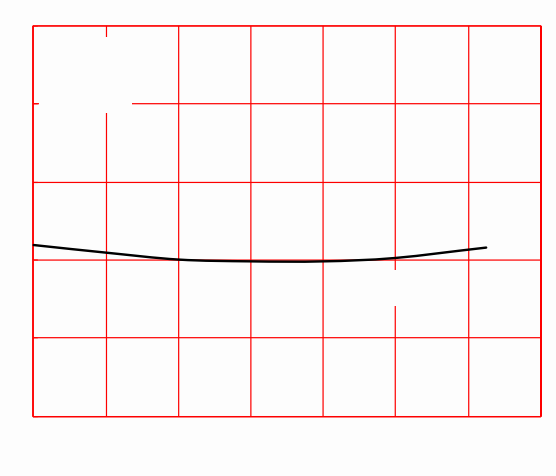
Input Threshold Current vs. Ambient Temperature



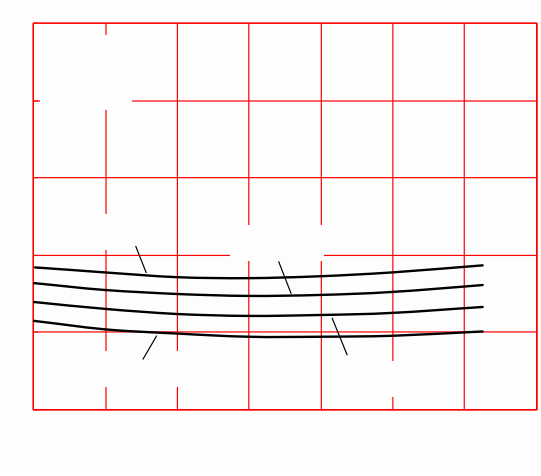
Input Threshold Current vs. Ambient Temperature



Low Level Output Voltage vs. Ambient Temperature



Low Level Output Voltage vs. Ambient Temperature



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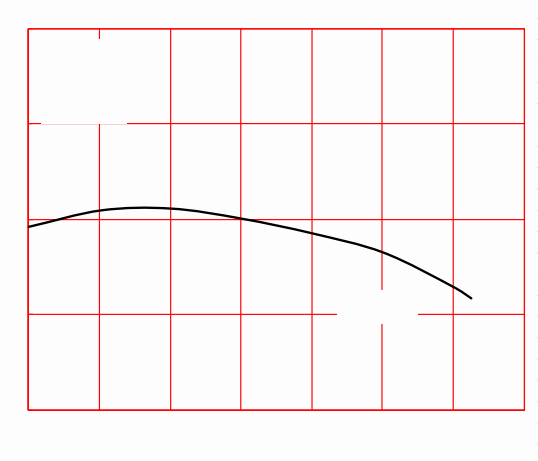
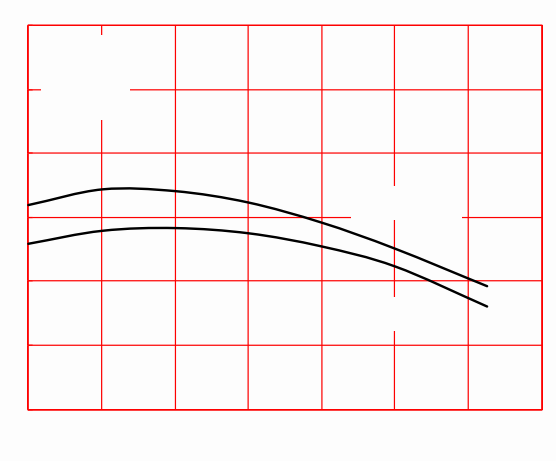
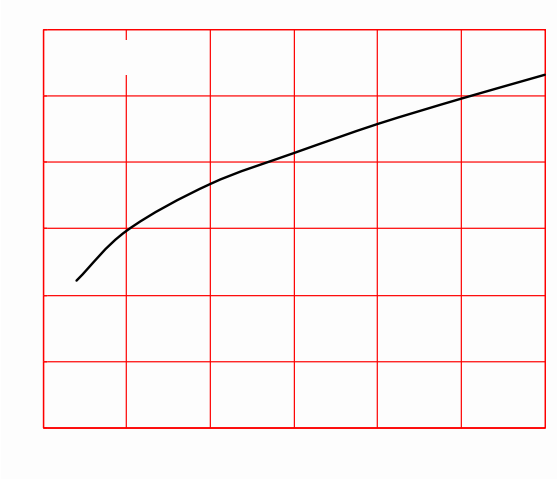


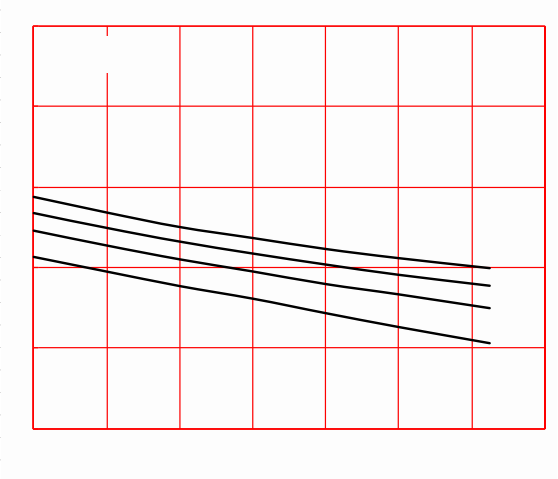
Low Level Output Current vs. Ambient Temperature



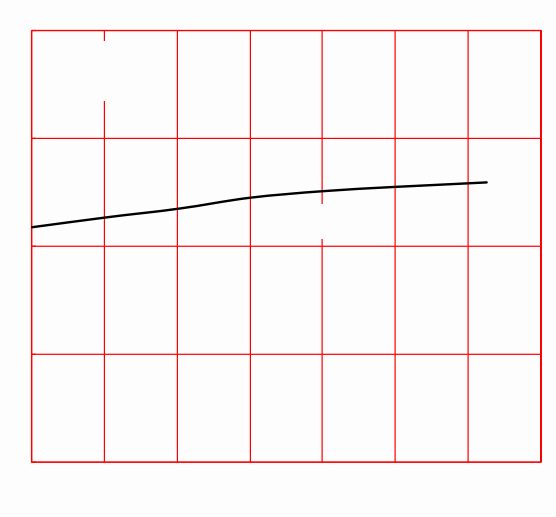
Input Forward Voltage vs. Input Forward Current



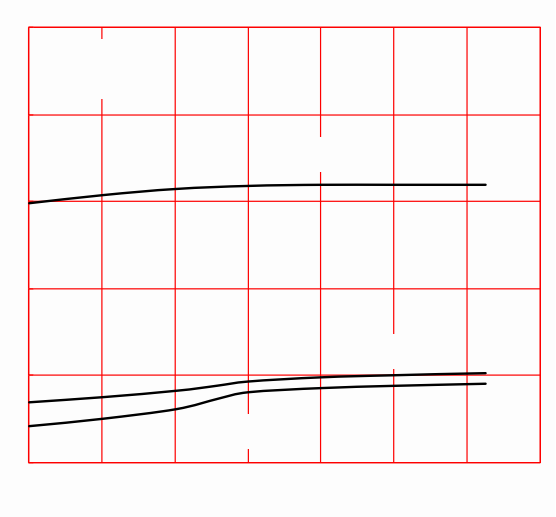
Forward Voltage vs. Ambient Temperature



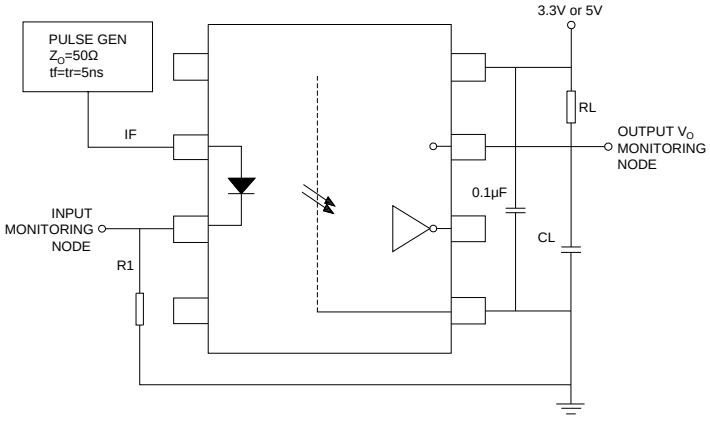
Pulse Width Distortion vs. Ambient Temperature

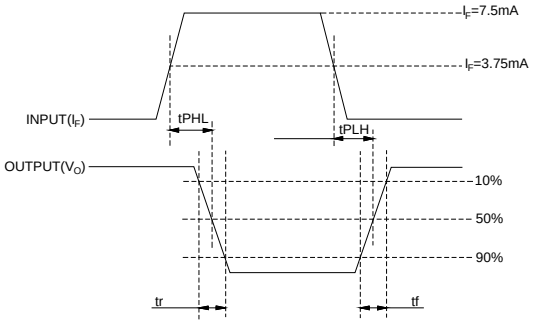


Pulse Width Distortion vs. Ambient Temperature



TEST CIRCUITS



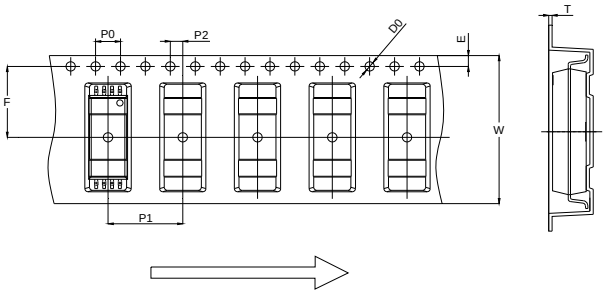


Package Dimension (Unit: mm)

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	13.50		13.70	0.531		0.539
B	6.15		6.35	0.2460.	4	0.250
C						
D	3.50		3.70			0.146
E	14.71		15.31			0.603
F	0.52			0.020		
G	16.36		16.86			0.664
H	0.10		0.40			0.016
I	3.65			0.144		
J			0.607	0.012		
K						

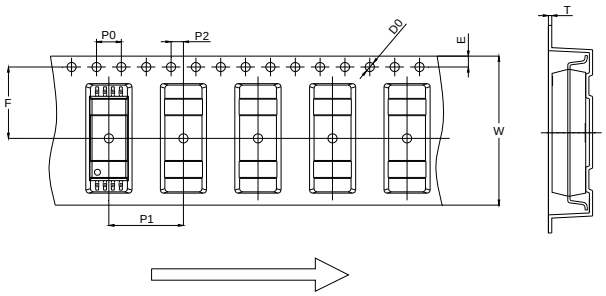
CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Option None



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0	1.40	1.50	1.60	0.055	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	11.40	11.50	11.60	0.449	0.453	0.457
T	0.35	0.40	0.45	0.014	0.016	0.018
W	23.70	24.00	24.30	0.933	0.945	0.957

Option R



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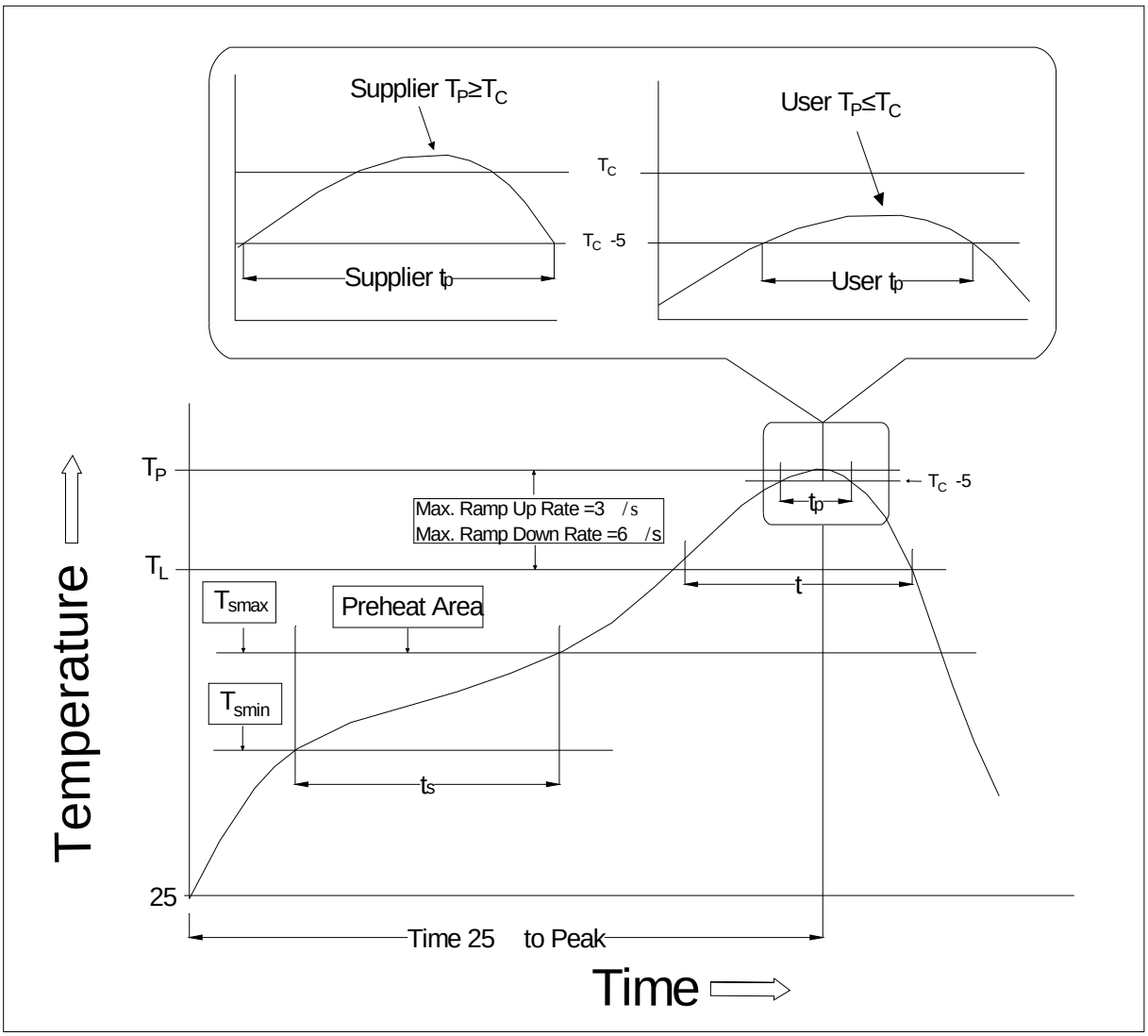
REFLOW INFORMATION



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.

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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