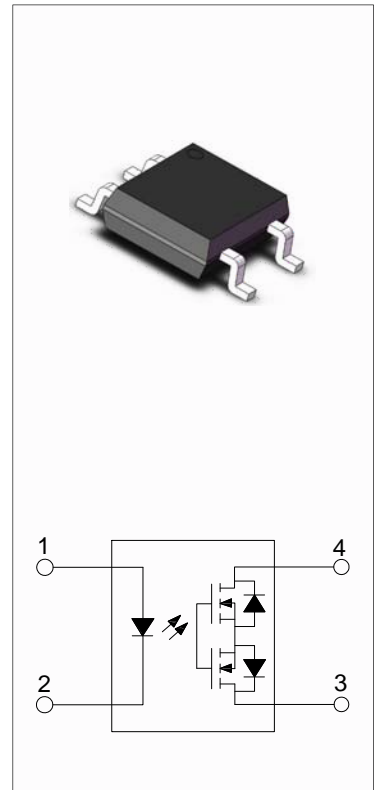




## DESCRIPTION:

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 SOP4 package. 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 3750 Vrms

LOW C; LOW R

Operating temperature range -40°C to 110°C

REACH & RoHS compliance

HBM: H3A; MM: M2; CDM: C3

CQC approved

VDE approved

UL approved

## 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	V
	Input Power Dissipation	$P_D$	75	mW
Output	Load Voltage	$V_O$	60	V
	Continuous load current	$I_O$	0.18	A
	Output Power Dissipation	$P_O$	300	mW
Total Power Dissipation		$P_{tot}$	375	mW
Isolation Voltage		$V_{iso}$	3750	Vrms
Operating Temperature		$T_{opr}$	-40~110	
Junction Temperature		$T_j$	125	
Storage Temperature		$T_{stg}$	-55~125	
Soldering Temperature		$T_{sol}$	260	



NOTE1: 100 $\mu$ s pulse, 100Hz frequency

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

**ELECTRICAL CHARACTERISTICS** (Temperature=25°C)

Input	Forward Voltage	$V_F$	$I_F=10\text{mA}$	-	1.2	1.5	V
	Reverse Current	$I_R$	$V_R=6\text{V}$	-	-	1	$\mu\text{A}$
	Action Current	$I_{F(ON)}$	$I_L=I_{L(MAX)}$	-	0.9	3	mA
	Reset Current	$I_{F(OFF)}$	$I_L=I_{L(MAX)}$	0.4	0.8	-	mA
Output	On Resistance	$R_{on}$	$I_F=5\text{mA}$ $I_L=Max.$ Within 1s on time	-	-	5	
	Off State Leakage Current	$I_{Leak}$	$I_F=0\text{mA}$ , $V_L=Max.$	-	-	1	$\mu\text{A}$
	Off State Capacitance	$C_{off}$	$I_F=0\text{mA}$	-	6	-	pF
Switching Characteristics	Isolation Resistance	$R_{iso}$	DC500V 40~60%R.H.	$10^{12}$	-	-	
	Floating Capacitance	$C_{io}$	$V=0$ , $f=1\text{MHz}$	-	-	1.5	pF
	Turn On Time	$t_{on}$	$I_F=5\text{mA}$ , $I_L=Max.$	-	10	100	$\mu\text{s}$
	Turn Off Time	$t_{off}$	$I_F=5\text{mA}$ , $I_L=Max.$	-	0.2	0.4	ms

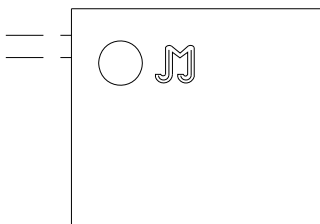


## ORDERING INFORMATION

<b>J</b>	<b>OC</b>	<b>M</b>	<b>A</b>	<b>3</b>	<b>5</b>	<b>C</b>	<b>L</b>	<b>-M4</b>	<b>/</b>
JieJie Microelectronics Co., Ltd.	Opto Coupler	MOS	A:1NO	3:Vo: 60V	5:I <sub>O</sub> :0.18A	I <sub>FT</sub> 3mA	L:LRC	SOP4	None:T1 R:T2

Packing Quantity	
Option	Quantity
None/R	3000 Units/Reel

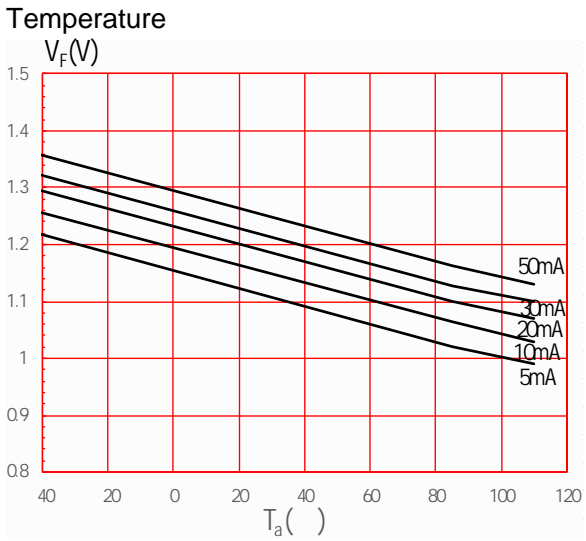
## MARKING



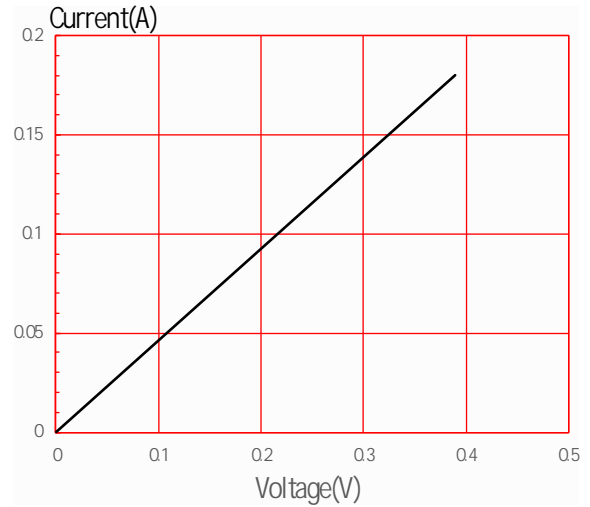


## Characteristics Curves

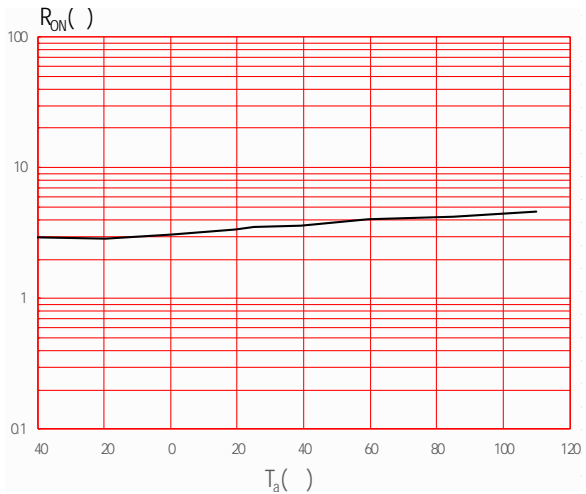
### LED Dropout Voltage vs. Ambient



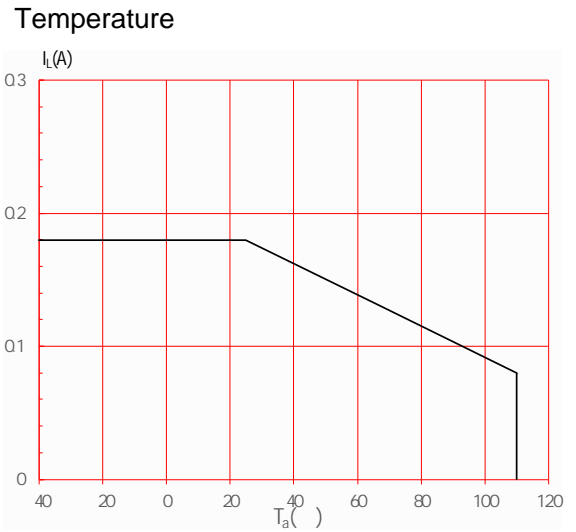
### Output Current vs. Output Voltage



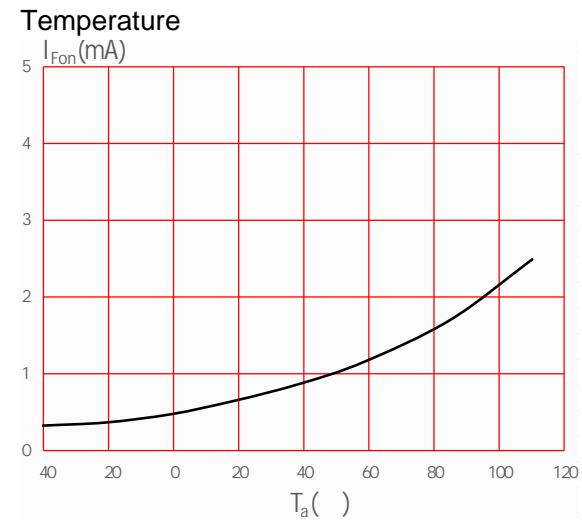
### On Resistance vs. Ambient Temperature



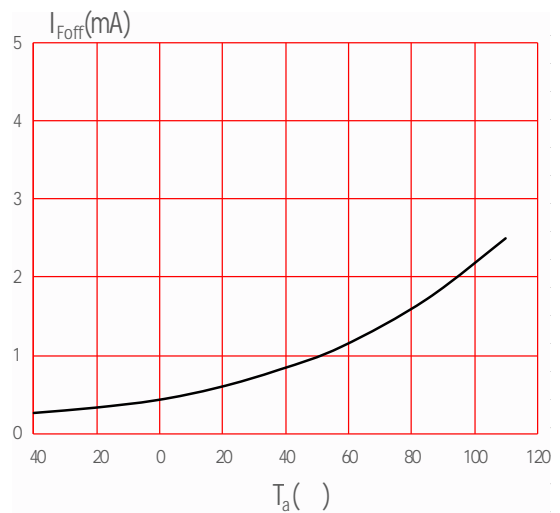
### Load Current vs. Ambient



### LED Operate Current vs. Ambient

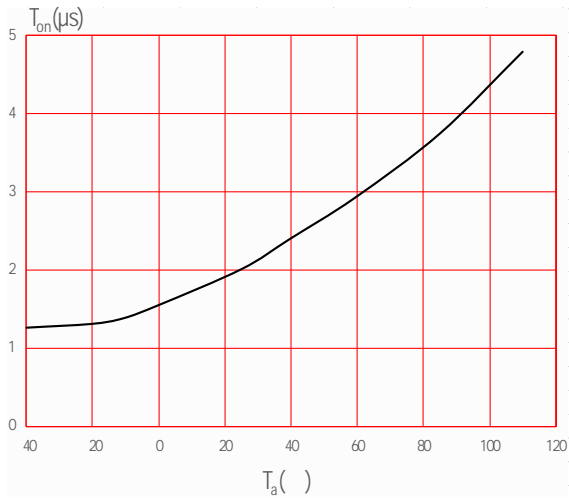


### LED Turn Off Current vs. Ambient Temperature

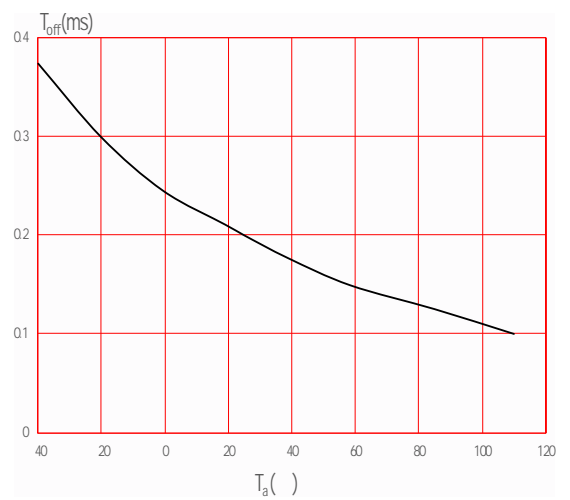




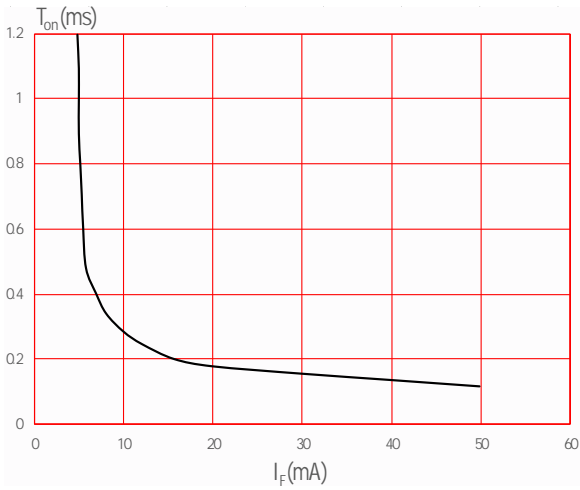
Turn On Time vs. Ambient Temperature



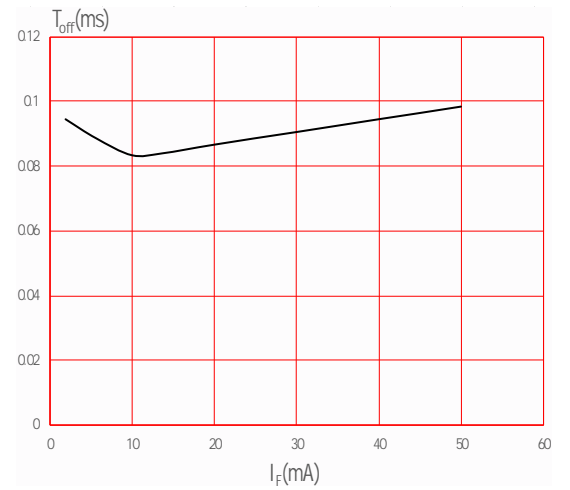
Turn Off Time vs. Ambient Temperature



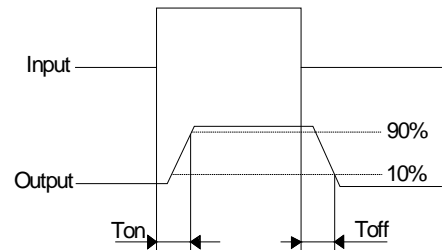
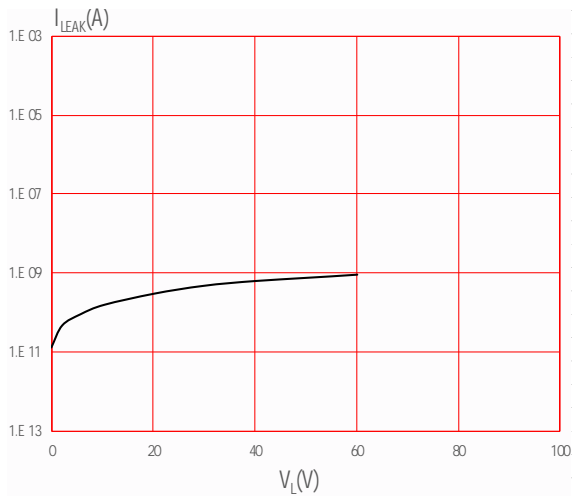
Turn On Time vs. LED Forward Current



Turn Off Time vs. LED Forward Current

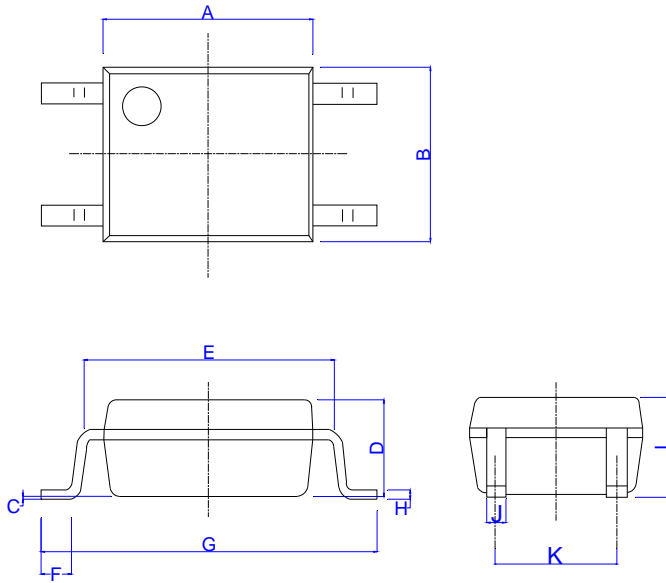


Off State Leakage Current vs. Load Voltage



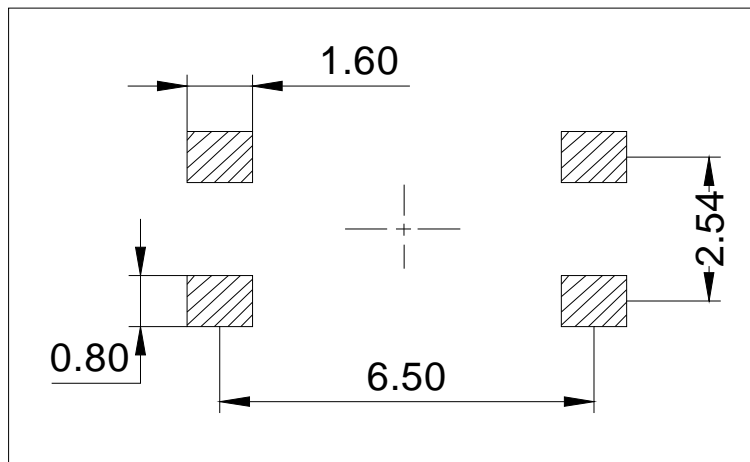


## Package Dimension (Unit: mm)



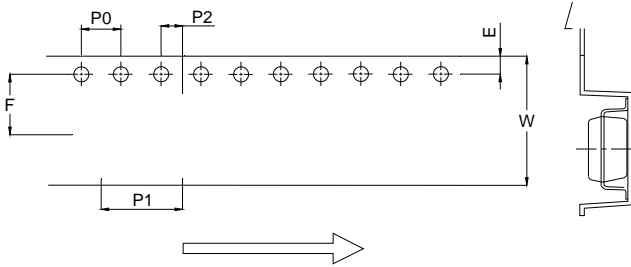
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.80	0.173		0.189
B	3.60		4.20	0.142		0.165
C	0.00		0.20	0.000		0.008
D	1.90		2.30	0.075		0.091
E	5.00		5.60	0.197		0.220
F	0.34		0.94	0.013		0.037
G	6.70		7.30	0.264		0.287
H	0.10		0.30	0.004		0.012
I	2.00		2.40	0.079		0.094
J	0.25		0.55	0.010		0.022
K	2.29		2.79	0.090		0.110

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



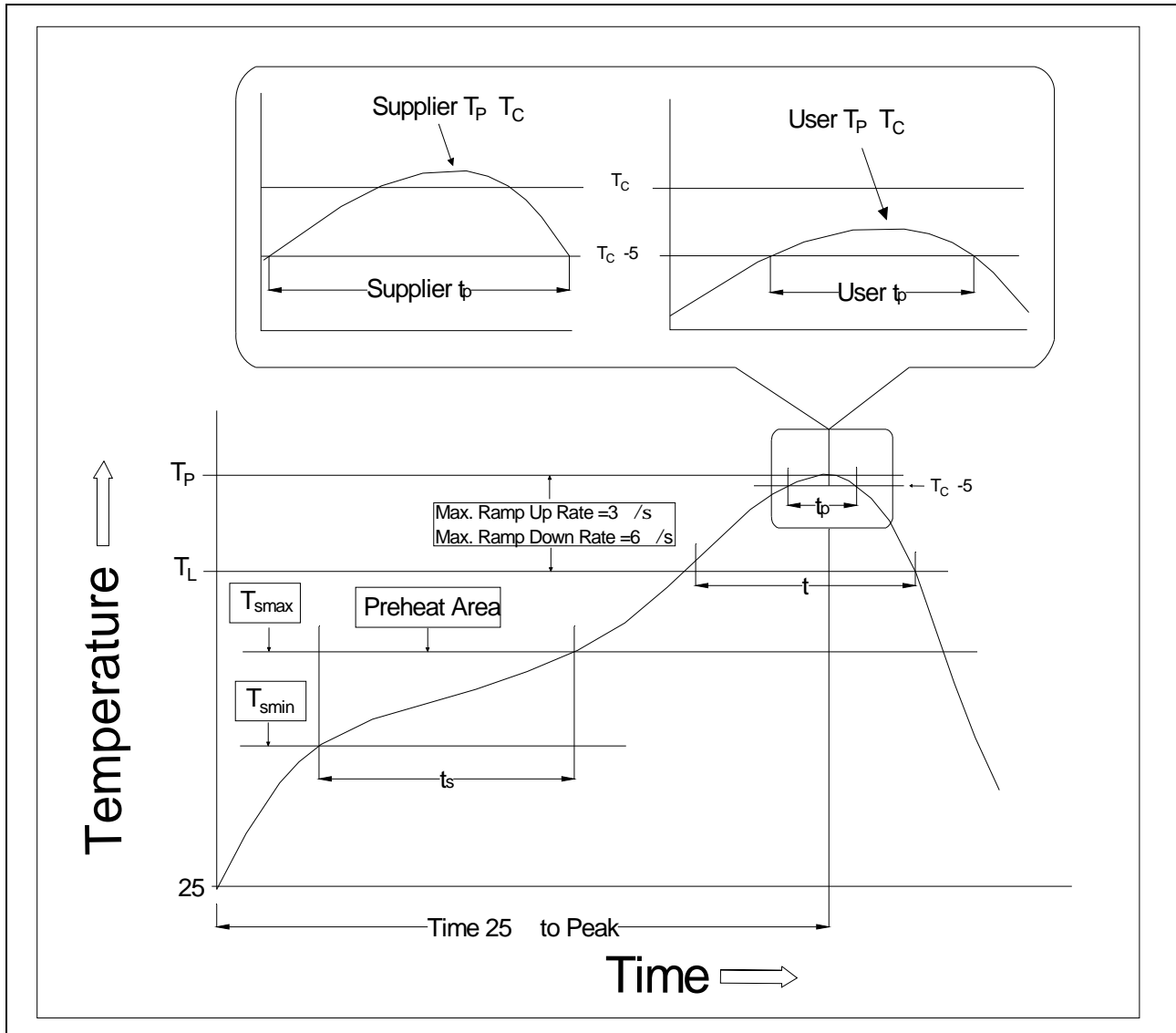


## CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)





## REFLOW INFORMATION



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



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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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