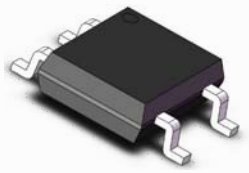
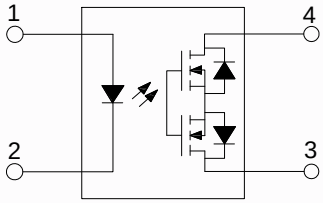
DESCRIPTION:

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)

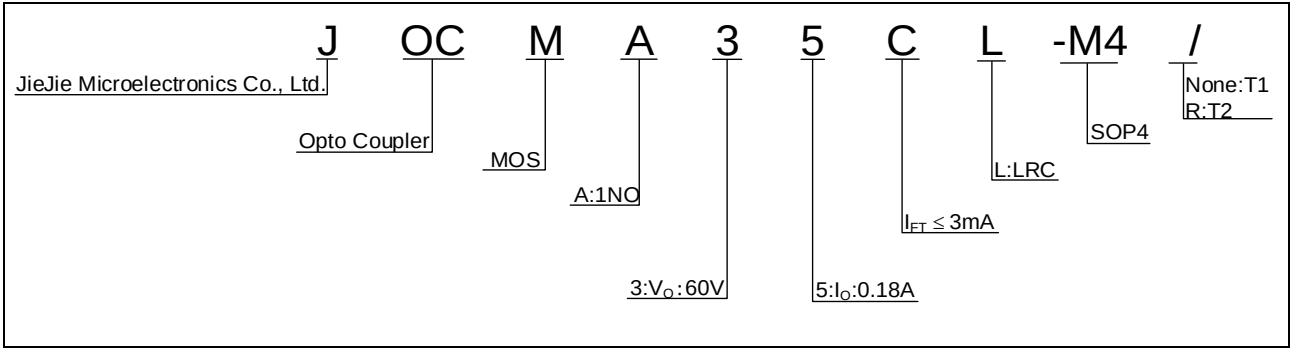
Input	Forward Current	I_F	50	mA
	Peak Forward Current	I_{FP}	1	A
	Reverse Voltage	V_R	6	V
	Input Power Dissipation	P_D	75	mW
Output	Load Voltage	V_O	60	V
	Continuous load current	I_O	0.18	A
	Output Power Dissipation	P_O	300	mW
Total Power Dissipation		P_{tot}	375	mW
Isolation Voltage		V_{iso}	3750	Vrms
Operating Temperature		T_{opr}	-40~110	
Junction Temperature		T_j	125	
Storage Temperature		T_{stg}	-55~125	
Soldering Temperature		T_{sol}	260	

NOTE1: 100μs pulse, 100Hzfrequency
NOTE2: AC for 1minute, R.H.=40~60%

ELECTRICAL CHARACTERISTICS (Temperature=25°C)

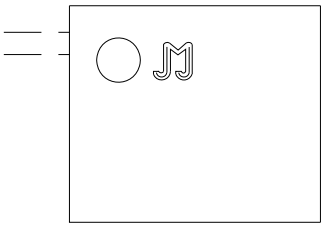
Input	Forward Voltage	V_F	I_F=10mA	-	1.2	1.5	V
	Reverse Current	I_R	V_R=6V	-	-	1	μA
	Action Current	$I_{F(ON)}$	I_L=$I_{L(MAX)}$	-	0.9	3	mA
	Reset Current	$I_{F(OFF)}$	I_L=$I_{L(MAX)}$	0.4	0.8	-	mA
Output	On Resistance	R_{on}	I_F=5mA I_L=Max. Within 1s on time	-	-	5	Ω
	Off State Leakage Current	I_{Leak}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

ORDERING INFORMATION



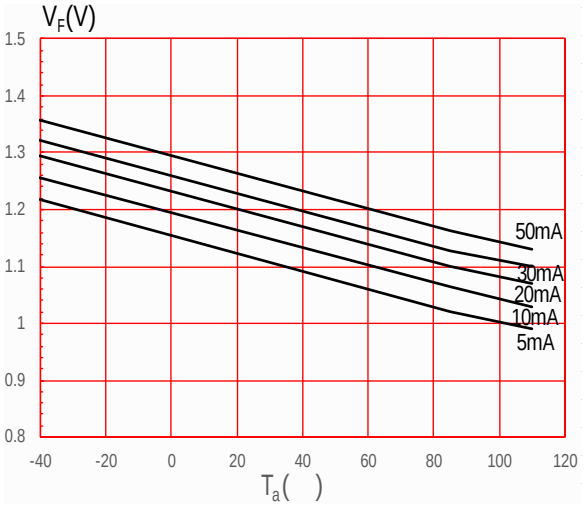
Packing Quantity	
Option	**Quantity**
None/R	3000 Units/Reel

MARKING

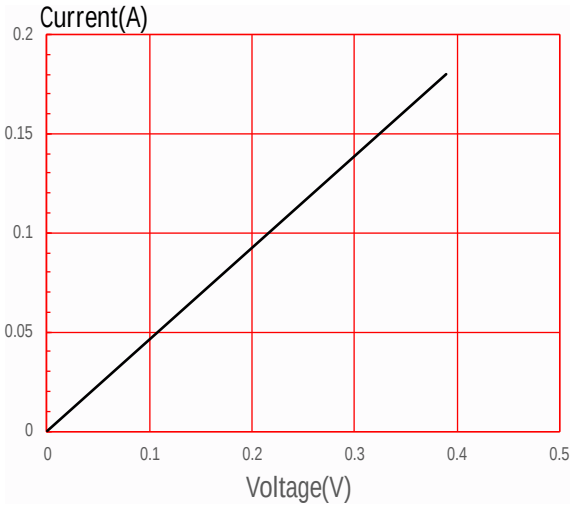


Characteristics Curves

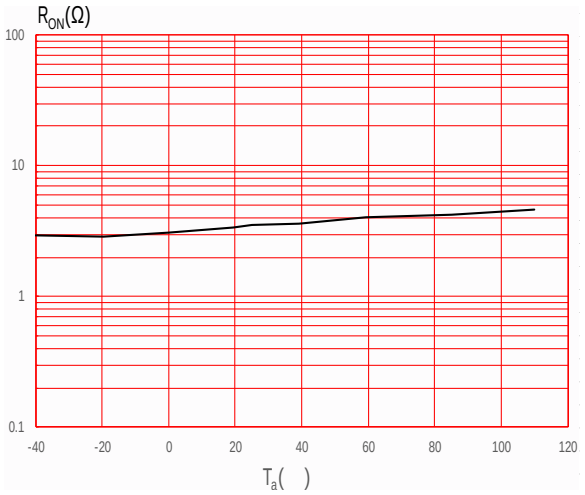
LED Dropout Voltage vs. Ambient Temperature



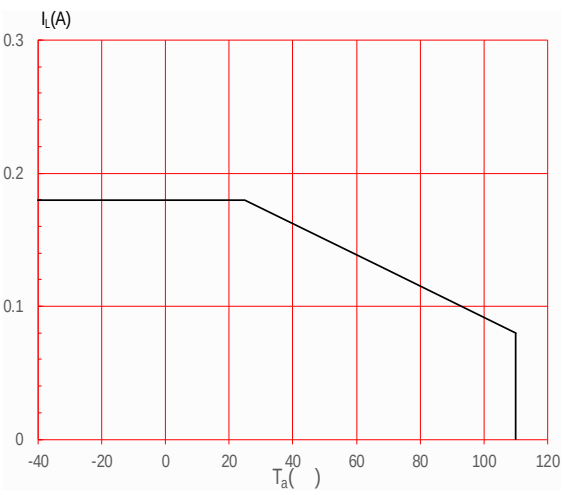
Output Current vs. Output Voltage



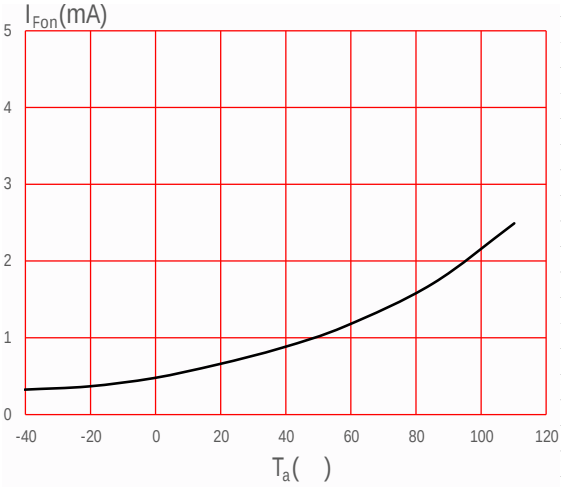
On Resistance vs. Ambient Temperature



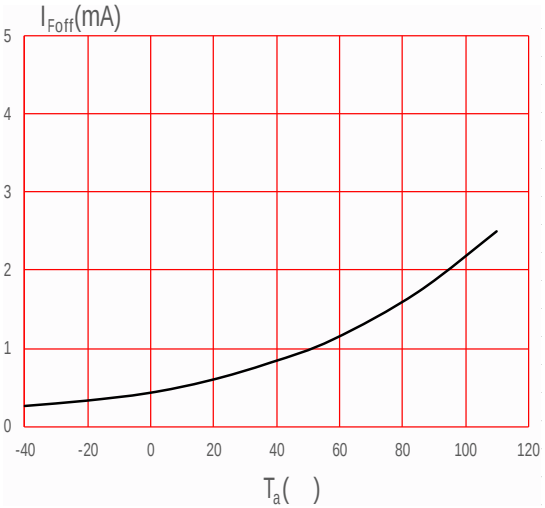
Load Current vs. Ambient Temperature



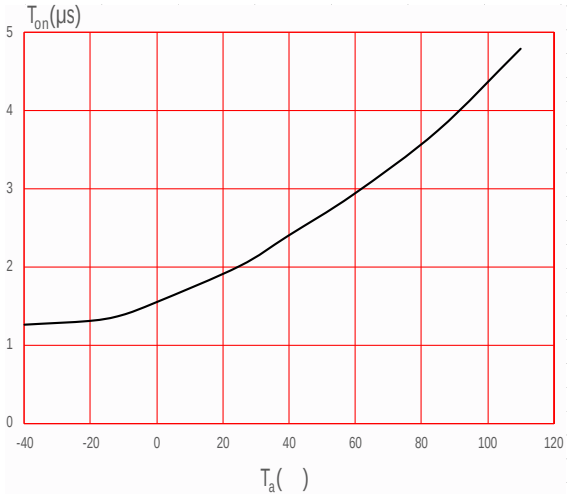
LED Operate Current vs. Ambient Temperature



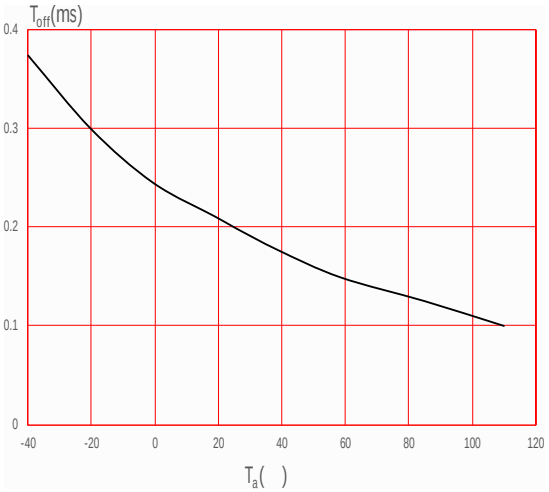
LED Turn Off Current vs. Ambient Temperature



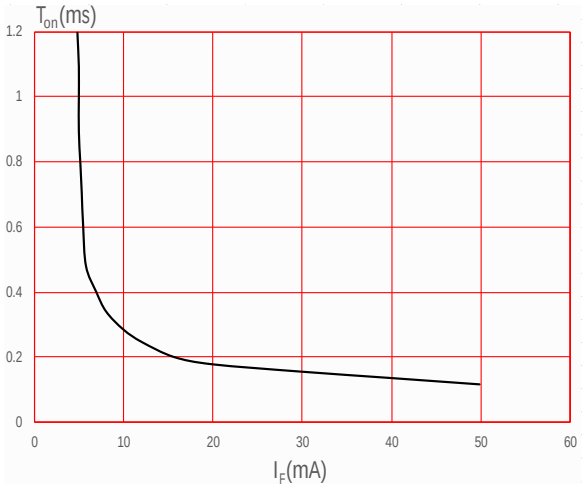
Turn On Time vs. Ambient Temperature



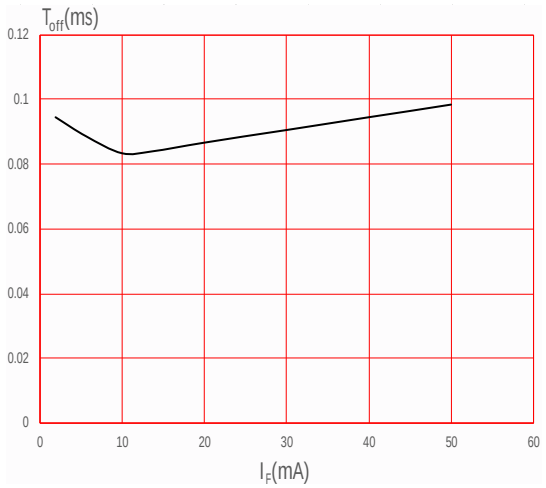
Turn Off Time vs. Ambient Temperature



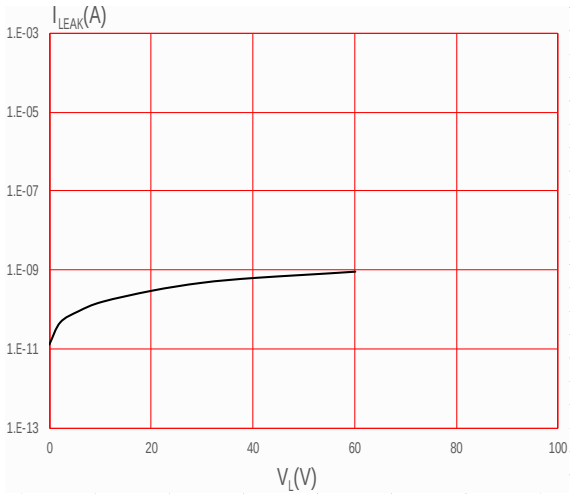
Turn On Time vs. LED Forward Current

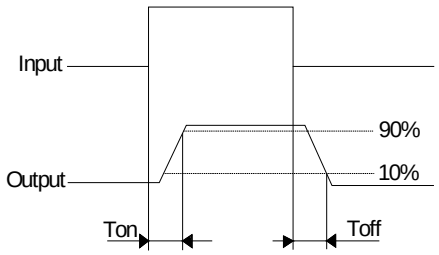


Turn Off Time vs. LED Forward Current

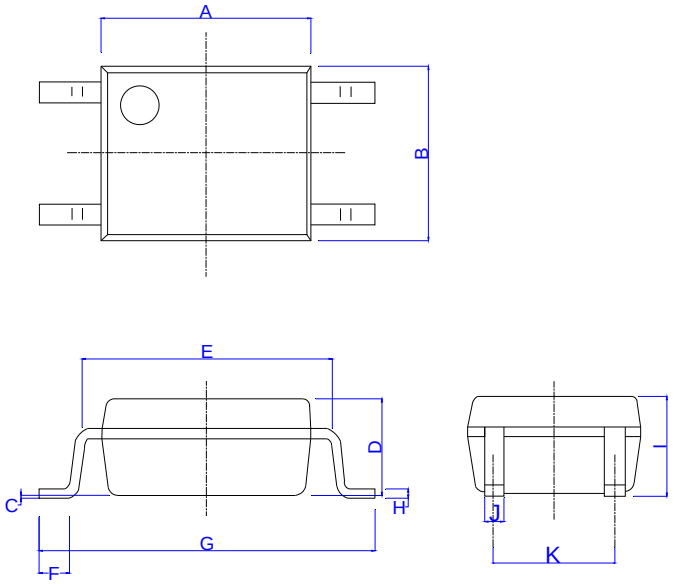


Off State Leakage Current vs. Load Voltage



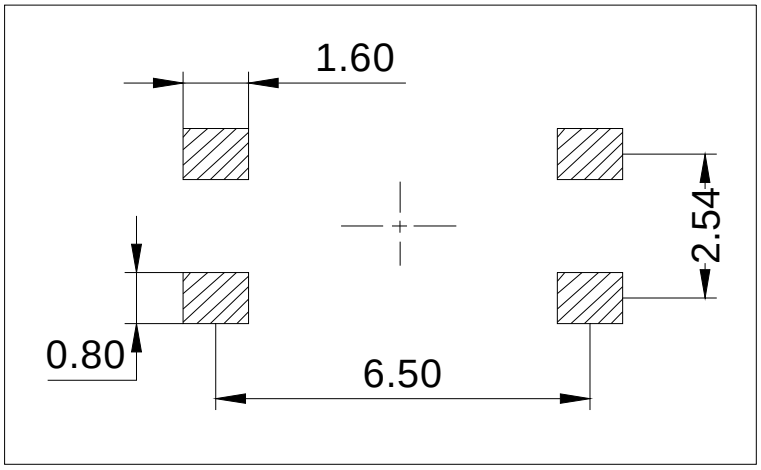


Package Dimension (Unit: mm)

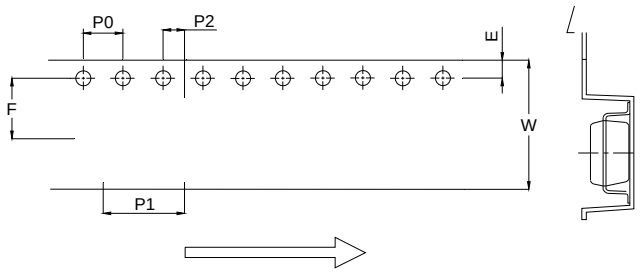


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.80	0.173		0.189
B	3.60		4.20	0.142		0.165
C	0.00		0.20	0.000		0.008
D	1.90		2.30	0.075		0.091
E	5.00		5.60	0.197		0.220
F	0.34		0.94	0.013		0.037
G	6.70		7.30	0.264		0.287
H	0.10		0.30	0.004		0.012
I	2.00		2.40	0.079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

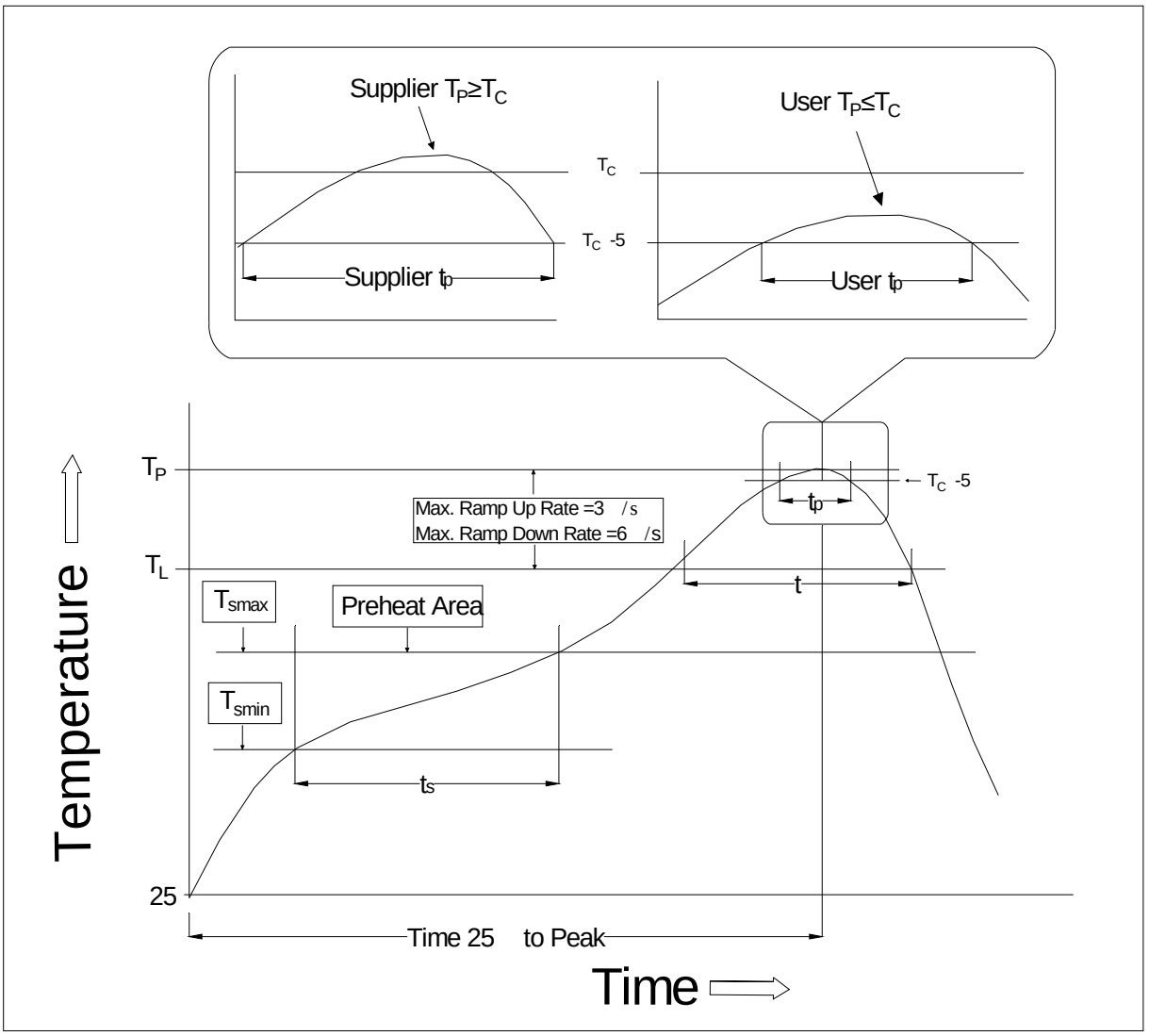
RECOMMENDED SOLDER MASK (Dimensions in mm unless otherwise stated)



CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)



REFLOW INFORMATION



Temperature Min. (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	20 seconds	30 seconds
Ramp-down Rate (TP to TL)	6 /second max.	6 /second max.
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