



## DESCRIPTION:

The products are transistor opto-couplers in a plastic SOP4 package. The device combines an AlGaAs infrared LED as the transmitter which is optically coupled to a phototransistor detector. With the robust coplanar double metal structure, the device provides the most stable isolation feature. The products are widely used in switch mode power supplies, programmable controllers, and other equipment.

## KEY FEATURES

High isolation 3750 VRMS

Operating temperature range: -40°C to +125°C

RoHS & REACH Compliance

HBM: H3A; MM: M4; CDM: C3

CQC Approved

VDE Approved

UL approved

AECQ101 approved

## ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)

Input	Forward Current	I <sub>F</sub>	50	mA
	Peak Forward Current	I <sub>FP</sub>	1	A
	Reverse Voltage	V <sub>R</sub>	6	V
	Power Dissipation	P <sub>D</sub>	75	mW
Output	Collector-Emitter Voltage	V <sub>CEO</sub>	80	V
	Emitter-Collector Voltage	V <sub>ECO</sub>	7	V
	Collector Current	I <sub>C</sub>	50	mA
	Power Dissipation	P <sub>C</sub>	150	mW
Total	Power Dissipation	P <sub>tot</sub>	225	mW
Isolation Voltage		V <sub>iso</sub>	3750	V <sub>rms</sub>
Operating Temperature		T <sub>op</sub>	-40~+125	
Junction Temperature		T <sub>j</sub>	135	



Storage Temperature	T <sub>stg</sub>	-55~+125	
Soldering Temperature	T <sub>sol</sub>	260	

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

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

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
	Terminal Capacitance	C <sub>t</sub>	V=0, f=1MHz	-	10	-	pF
Output	Collector-Emitter dark current	I <sub>CEO</sub>	V <sub>CE</sub> =20V, I <sub>F</sub> =0	-	-	100	nA
	Collector-Emitter breakdown voltage	BV <sub>CEO</sub>	I <sub>C</sub> =0.1mA I <sub>F</sub> =0	80	-	-	V
	Emitter-Collector breakdown voltage	BV <sub>ECO</sub>	I <sub>E</sub> =0.1mA I <sub>F</sub> =0	7	-	-	V
Transfer Characteristics	Current transfer ratio	CTR	I <sub>F</sub> =5mA V <sub>CE</sub> =5V	80	-	600	%
	Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>F</sub> =20mA I <sub>C</sub> =1mA	-	0.06	0.2	V
	Isolation resistance	R <sub>IO</sub>	DC500V 40~60%R.H.	10 <sup>12</sup>	10 <sup>14</sup>	-	
	Floating Capacitance	C <sub>IO</sub>	V=0, f=1MHz	-	0.4	1	pF
	Cut-off Frequency	f <sub>c</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =2mA R <sub>L</sub> =100Ω, -3dB	-	80	-	kHz
	Rise Time	t <sub>r</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =2mA R <sub>L</sub> =100Ω	-	3	18	μs
	Fall Time	t <sub>f</sub>		-	4	18	μs
	Response Time	t <sub>on</sub>		-	6	25	μs
t <sub>off</sub>		-		5	25	μs	

NOTE1: Rank Table of Current Transfer Ratio (Temperature=25°C)

None	80	600
A	80	160
B	130	260
C	200	400
D	300	600
E	400	600
Q	100	200



## ORDERING INFORMATION

<u>J</u>	<u>OC</u>	<u>T</u>	<u>357</u>	<u>B</u>	<u>h</u>	<u>-M4</u>	<u>/</u>
JieJie Microelectronics Co., Ltd.	Opto Coupler	Transistor	Marketization Model	CTR Rank:A/B/C/D/None	h: Automotive grade	SOP4	None:T1 R:T2

Packing Quantity	
Option	Quantity
None/R	3000 Units/Reel

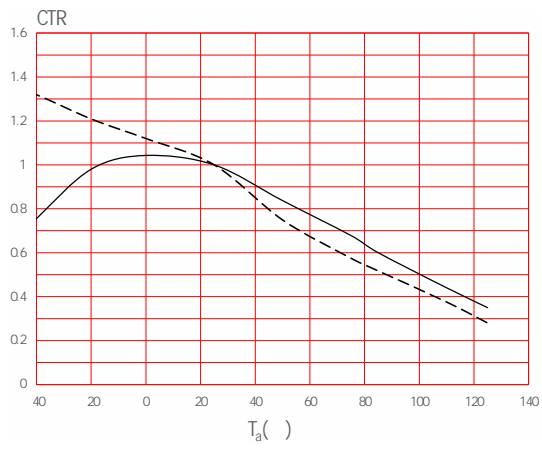
## MARKING







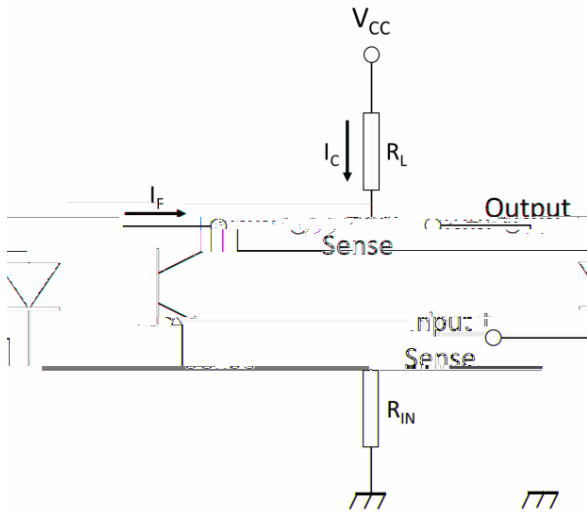
Normalized Current Transfer Ratio vs. Ambient Temperature



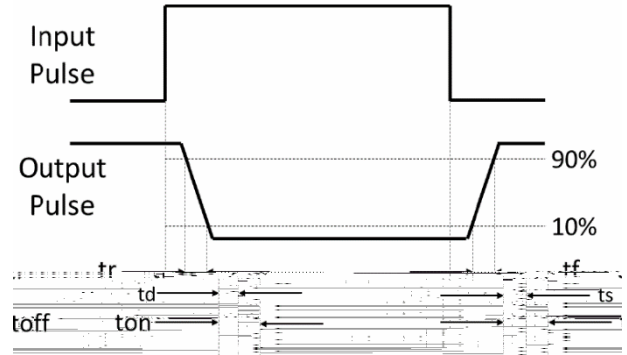
Normalized Collector-emitter Saturation Voltage vs. Ambient Temperature

# Test Circuits

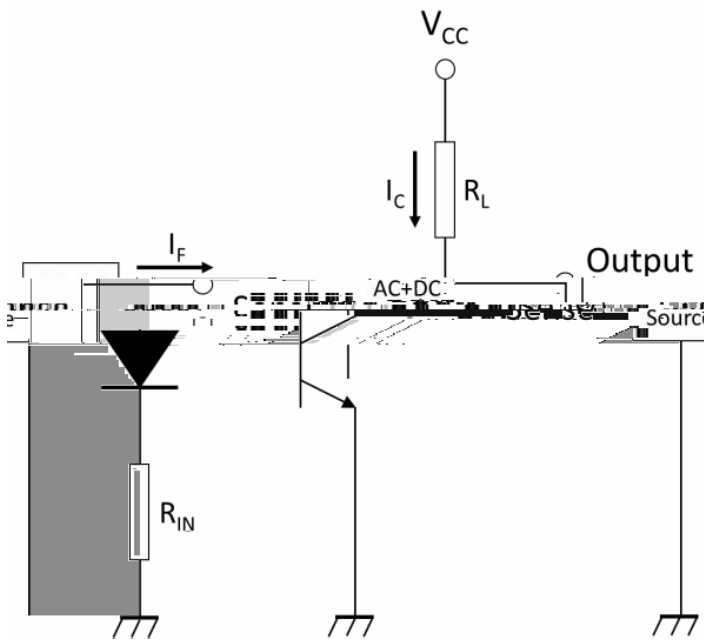
## Test Circuits of Response Time



## Curves of Response Time



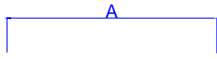
## Test Circuits of Frequency Response





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Package Dimension (Unit: mm)





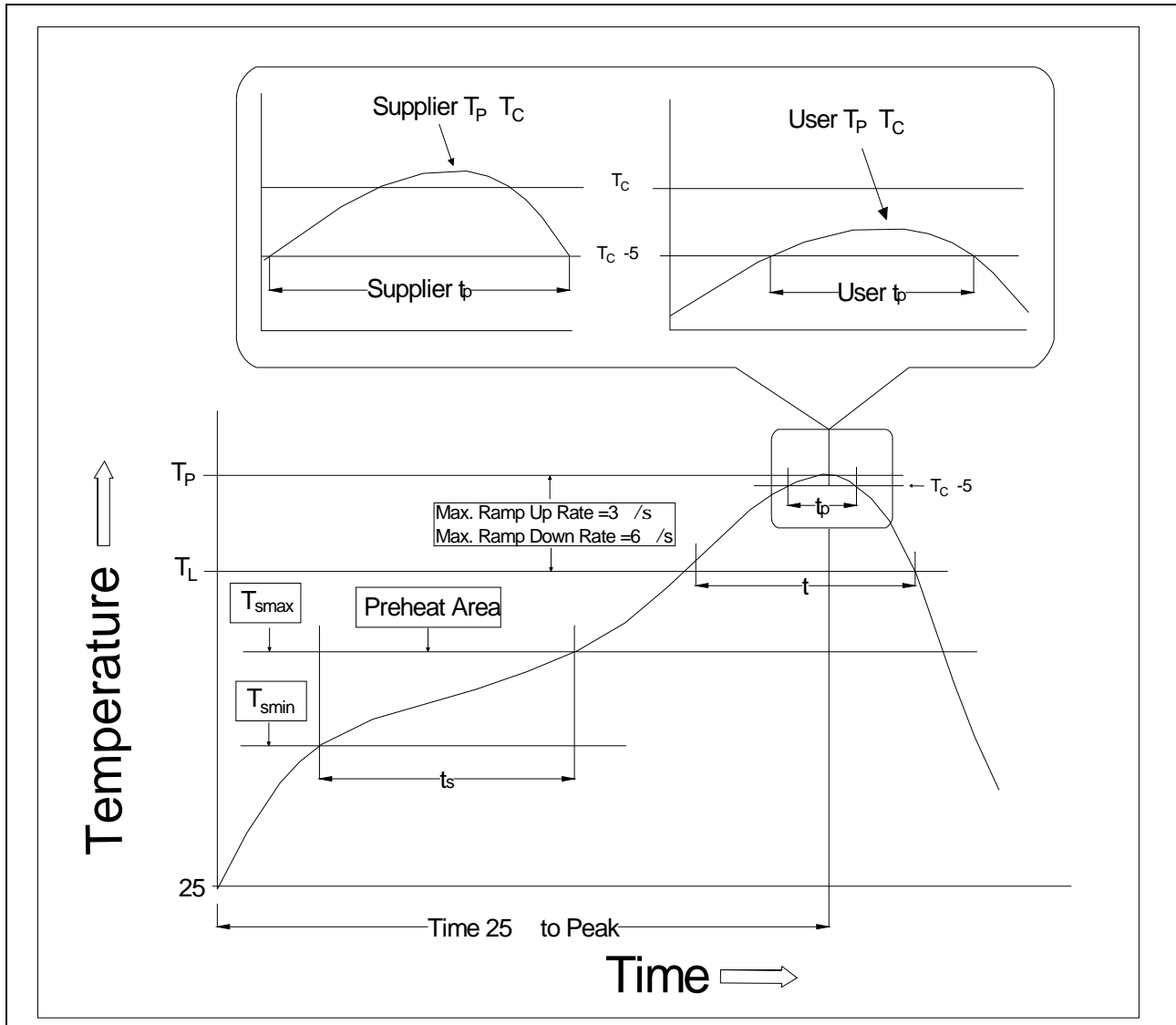
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CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)





## 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




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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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