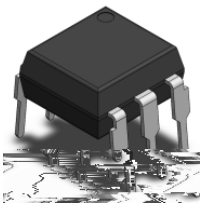
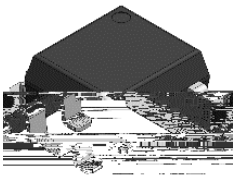
JOC307X Series

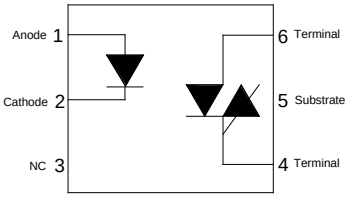
Rev.A.1.0

DESCRIPTION:

The products are 6-pin thyristor opto-couplers. The device combines an AIGaAs infrared emitting diode as the emitter which is optically coupled to a monolithic silicon random-phase photo triac in a plastic DIP6 package with different lead forming options. With the robust coplanar double mold structure, the device provides the most stable isolation feature. The products are widely used in solenoid/valve controls, lighting controls, motor controls, temperature controls, static AC power switches, solid state relays, interfacing microprocessors up to 265 V_{AC} peripherals.







MAIN FEATURES

High isolation 5000 VRMS
DC input with random-phase photo triac output
Operating temperature range -55 - Z U -
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 [7]	A
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	75	mW
Output	Off-state Output Terminal Voltage	V_{OFF}	800	V
	3 H D N 2 Q í V W D W H & V S X O V H S S V	I_{TP}	2	A
	On-state RMS Current	$I_{T(RMS)}$	100	mA
	Peak Repetitive Surge Current (P_W=10 ms)	I_{TSM}	1.2	A
	Output Power Dissipation	P_O	250	mW

Total Power Dissipation	P_{tot}	325	mW
Isolation Voltage	V_{iso}	5000 [8]	Vrms
Operating Temperature	T_{opr}	-55~110	
Junction Temperature	T_j	125	
Storage Temperature	T_{stg}	-55~125	
Soldering Temperature	T_{sol}	260	
Peak pulse voltage (T_j=25 ; non-repetitive,off-state)	V_{pp}	1	kV

NOTE1 100 s 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_F	I_F=10mA	-	1.2	1.5	V
	Reverse Current		I_R	V_R=6V	-	-	1	A
	Input Capacitance		C_{in}	V=0, f=1kHz	-	10	-	pF
Output	Peak Off-state Current, Either Direction		I_{OFF}	V_{OFF}=Rated V_{OFF} I_F=0	-	-	100 [9]	nA
	Peak On-state Voltage, Either Direction		V_{TM}	I_{TM}=100mA	-	1.8	2.5	V
	Critical Rate of Rise of Off-state voltage		dV/dt	V_{PEAK}= Rated V_{PEAK} I_F=0	2000 [3]	-	-	9 V
Transfer Characteristics	LED Trigger Current	JOC3072	I_{FT}	Terminal Voltage=3V I_{TM}=100mA	-	-	10	mA
		JOC3073			-	-	5	
		JOC3074			-	-	3	
	Holding Current		I_H	I_{TM}=2mA, I_F=Rated I_{FT}	-	500	-	A
	Isolation Resistance		R_{ISO}	DC500V 40~60%R.H.	10^{12}	10^{14}	-	
	Floating Capacitance		C_{IO}	V=0, f=1MHz	-	5	-	pF
	Response Time		t_{on}	V_D=6V, R_L I_F=20mA	-	15	50	V

NOTE3Test voltage must be applied within dV/dt ratings.
NOTE4Refer to Fig.14 & Fig.15

ORDERING AND MARKING INFORMATION

MARKING INFORMATION

Characteristics Curves

FIG.1:

FIG.7: Normalized On-state Terminal Voltage vs. Ambient Temperature

FIG.8: On-state Terminal Voltage vs. On-state Terminal Current

TEST CIRCUITS

FIG.12: Test Circuits of Turn On Time

FIG.13: Waveforms of Turn On Time

Fig.14: Test Circuits of dV/dt

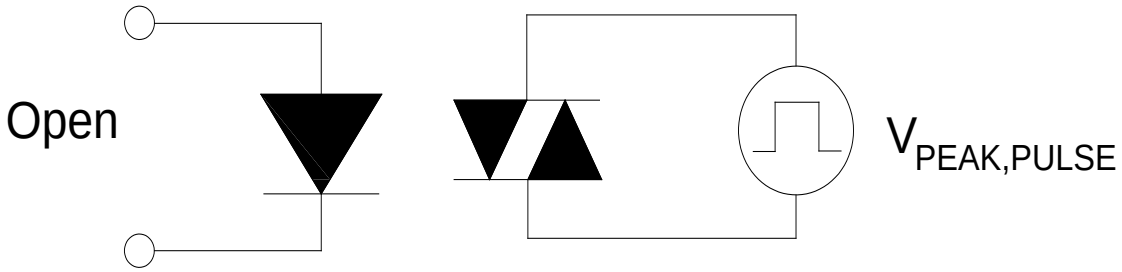


Fig.15: Waveforms of dV/dt

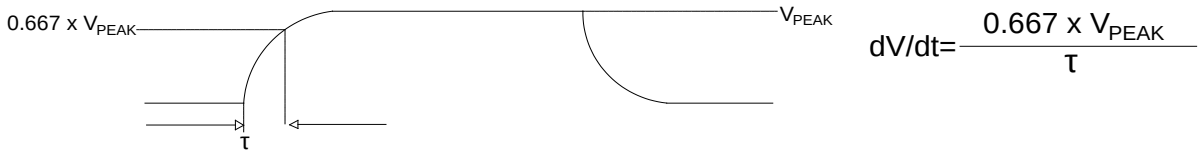
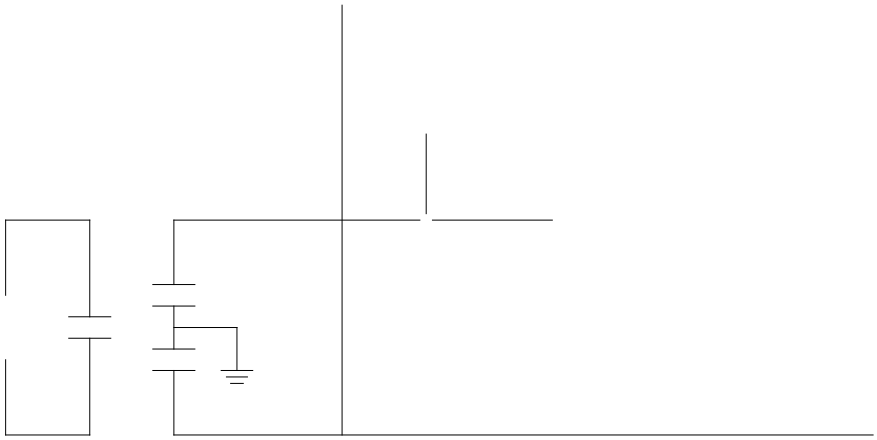
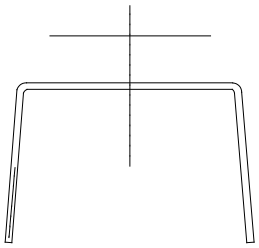


FIG.16: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



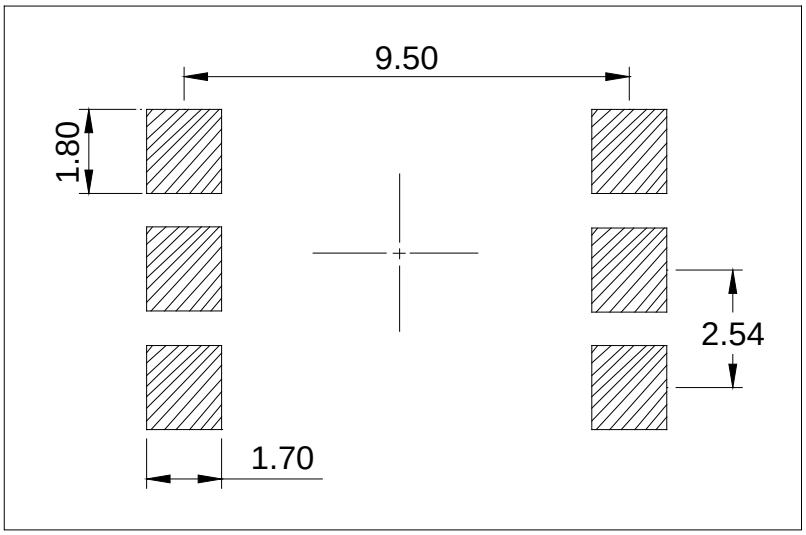
Package Dimension (Unit: mm)

Standard DIP Type: A



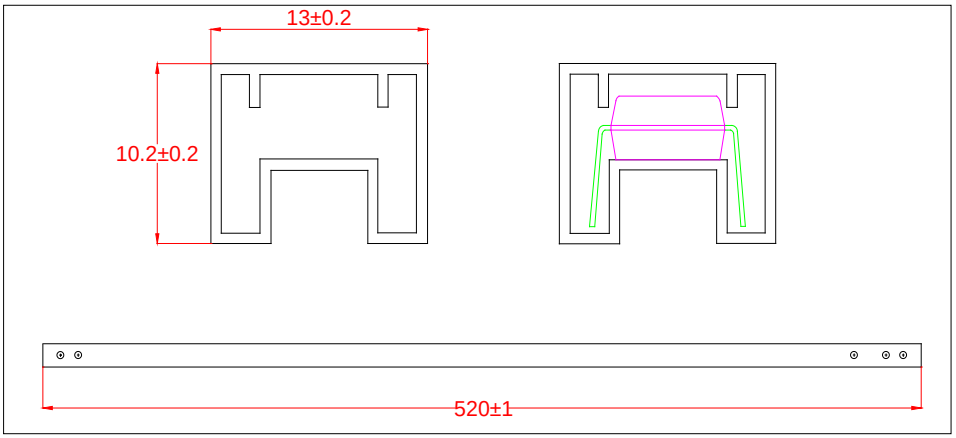
RECOMMENDED SOLDER MASK (Dimensions in mm unless otherwise stated)

Option SMD



TUBE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Standard DIP

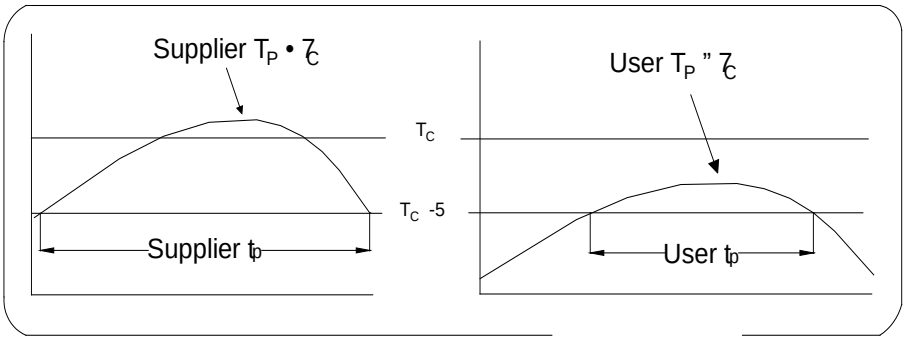


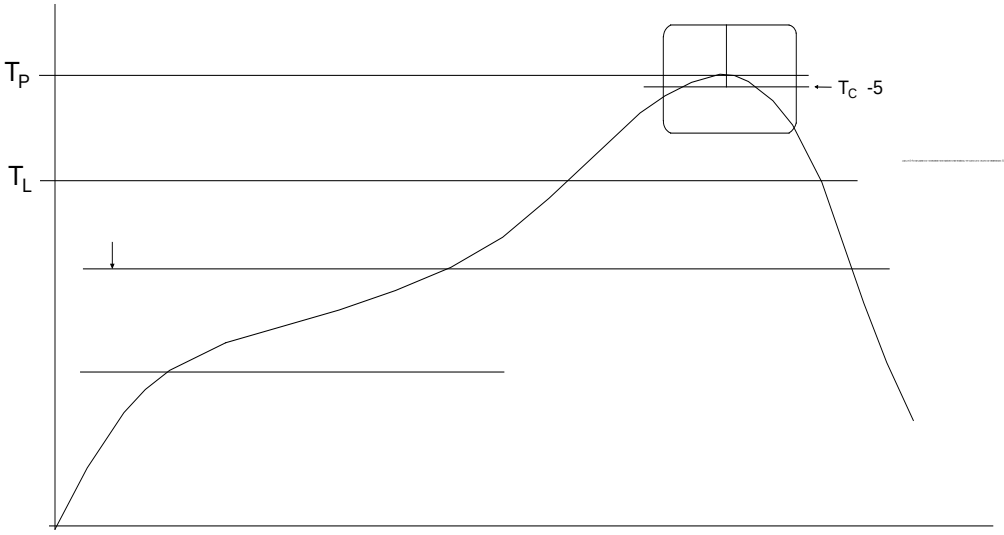
CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Option T 1

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0						
P0						
P1						
P2						
E						
F						
W		16.00			/P/D0	

REFLOW INFORMATION





WAVE SOLDERING

HAND SOLDERING BY SOLDERING IRON	
Soldering Temperature	360 5
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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