JOC306XM4 Series

Rev.A.1.0

DESCRIPTION:

The products are 4-pin thyristor opto-couplers. The device combines an AIGaAs infrared emitting diode as the emitter which is optically coupled to a monolithic silicon zero-crossing photo triac in a plastic SOP4 package. 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 3750 VRMS

DC input with zero-crossing photo triac output

Operating temperature range -55 to 110

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

NOTE2

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	μA
	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	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	-	-	V/μs
Transfer Characteristics	LED Trigger Current	JOC3062M4	I_{FT}	Terminal Voltage=3V I_{TM}=100mA	-	-	10	mA
		JOC3063M4			-	-	5	
		JOC3064M4			-	-	3	
	Holding Current		I_H	I_{TM}=2mA, I_F=Rated I_{FT}	-	500	-	μA
	Isolation Resistance		R_{ISO}	DC500V 40~60%R.H.	10^{12}	10^{14}	-	Ω
	Floating Capacitance		C_{IO}	V=0, f=1MHz	-	10	-	pF

ORDERING

Characteristics Curves

FIG.1: Max. Allowable LED Forward Current vs. Ambient Temperature

FIG.2: On-state Terminal Current vs. Ambient Temperature

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

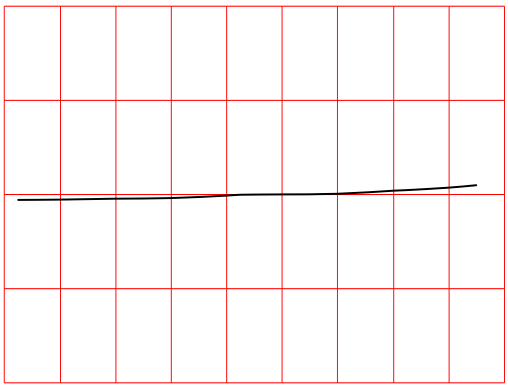


FIG.8: On-state Terminal Voltage vs. On-state Terminal Current

TEST CIRCUITS

FIG.12: Test Circuits of Turn On Time

FIG.13: Waveforms of Turn On Time

Fig.14: Test Circuits of dV/dt

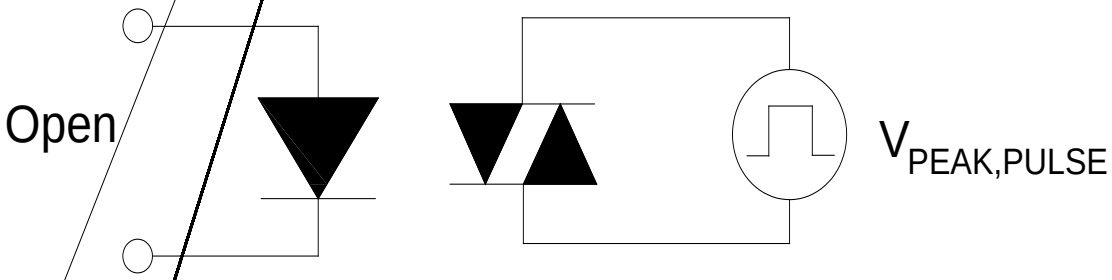


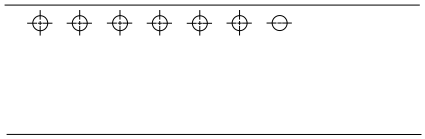
Fig.15: Waveforms of dV/dt



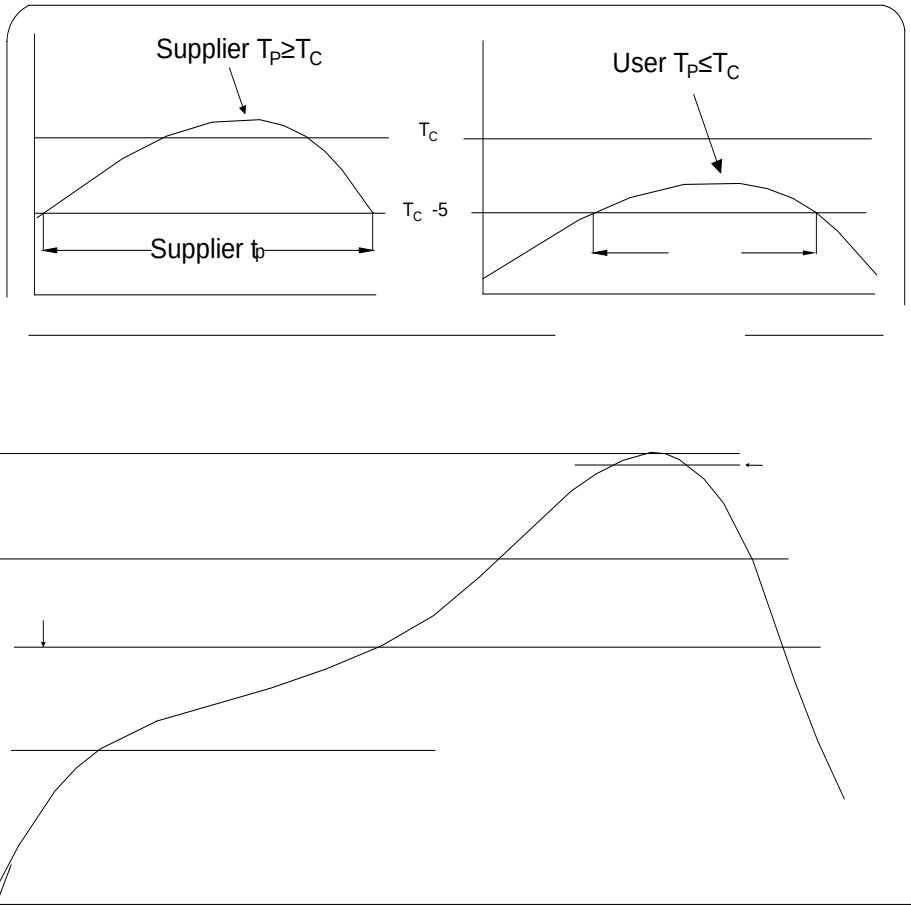
JOC306XM4

CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Option T1



REFLOW INFORMATION



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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