



DESCRIPTION:

The products are 6-pin solid-state relay opto-couplers. The device combines an AlGaAs infrared emitting diode as the emitter which is optically coupled to a monolithic silicon random-phase photo triac to drive a power triac in a plastic DIP6 package with different lead forming options. The products are widely used in solenoid/valve controls, lighting controls, motor controls, temperature controls, static AC power switches, solid state relays, interfacing microprocessors to 265 V_{AC} peripherals.

MAIN FEATURES

- High isolation 5000 Vrms
- DC input with triac output
- Operating temperature range - 40°C to 110 °C
- REACH & RoHS compliance
- HBM: H3B; 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	A
	Reverse Voltage	V _R	6	V
	Power Dissipation	P _D	75	mW
Output	Repetitive peak off-state voltage	V _{DRM}	600	V
	Repetitive peak off-state voltage	V _{RRM}	600	V
	Critical rate of rise of on-state current	di/dt	100	A/μs
	On-state RMS Current (T _a 43 °C)	I _{T(RMS)}	0.6	A
	Non repetitive surge peak on-state current (full cycle , t _p =20ms)	I _{TSM}	6	A
	junction to case (AC)	R _{th(j-c)}	65	/W 6A



Isolation Voltage	V_{iso}	5000	Vrms
Operating Temperature	T_{opr}	-40~110	
Junction Temperature	T_j	125	
Storage Temperature	T_{stg}	-40~125	
Soldering Temperature	T_{sol}	260	
Peak pulse voltage ($T_j=25$; non-repetitive,off-state)	V_{pp}	3	kV

NOTE1: 100 μ 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	μA

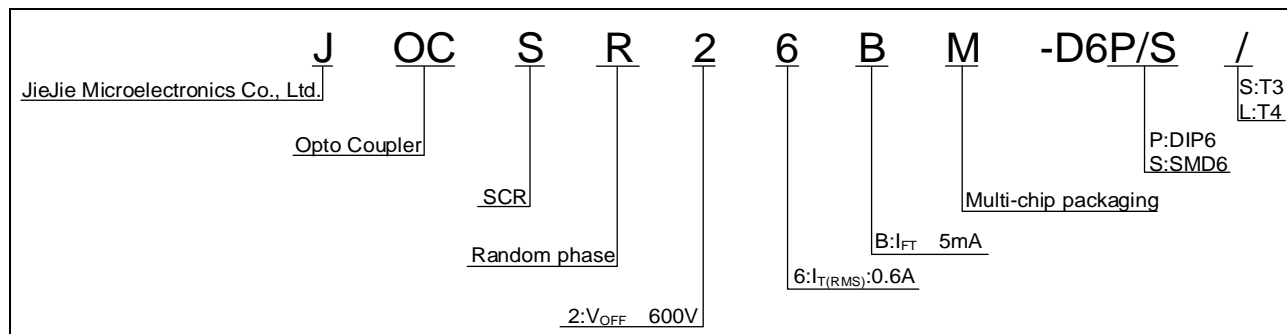
Peak Off-state
Current, Either
Direction

I_{DRM1}
Direction

=

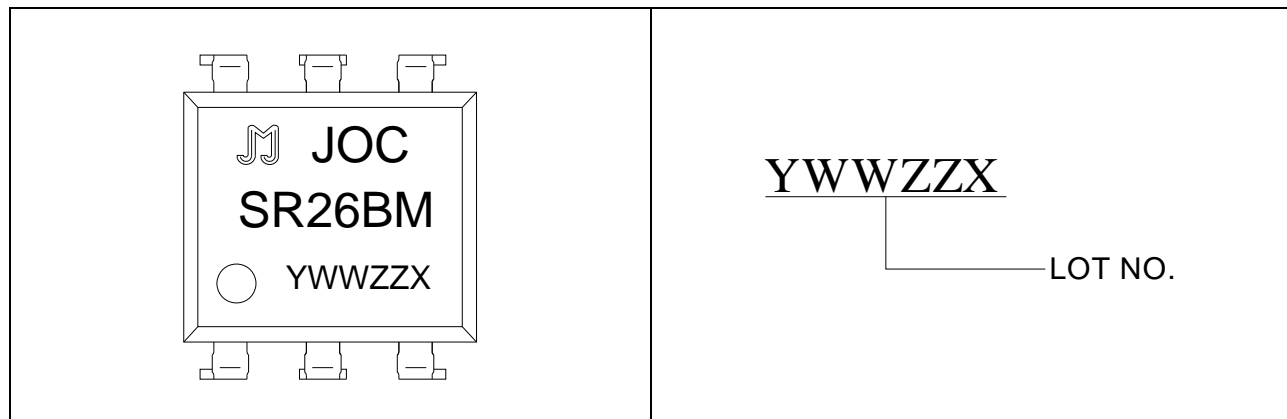
Output

ORDERING INFORMATION



Packing Quantity	
Option	Quantity
DIP	60 Units/Tube
SMD	1200 Units/Reel

MARKING



Characteristics Curves

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

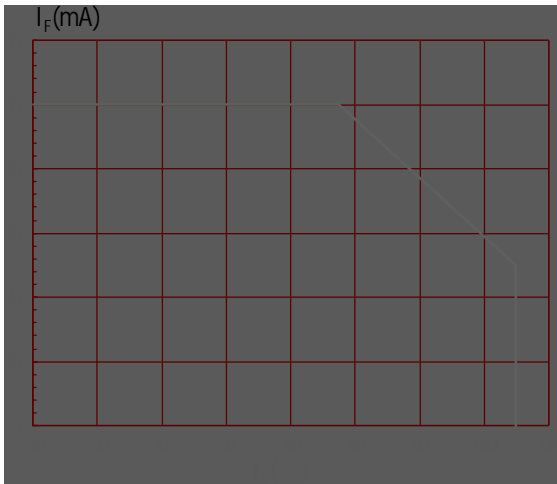


FIG.3: Forward Current vs. Forward Voltage

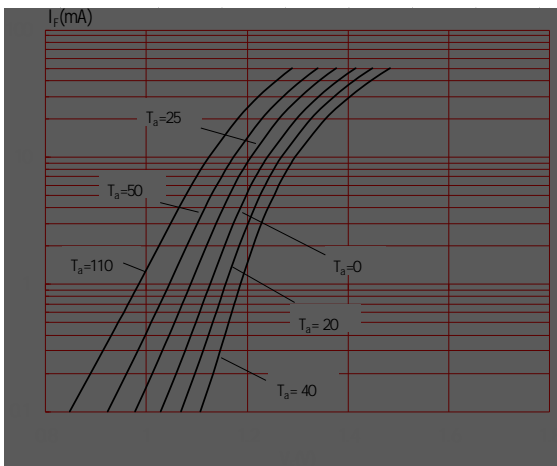


FIG.5: Off-state Terminal Current vs Off-state Terminal Voltage

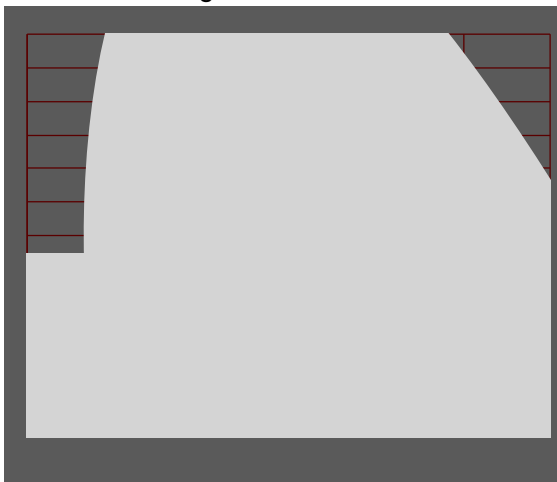


FIG.2: On-state Terminal Current vs. Ambient Temperature

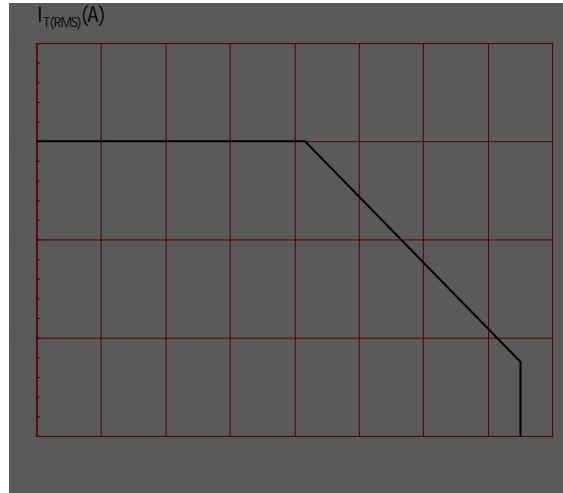


FIG.4: Forward Voltage vs. Ambient Temperature

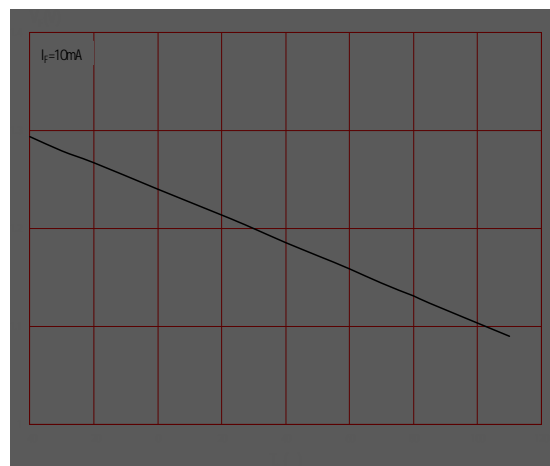


FIG.7: On-state characteristics

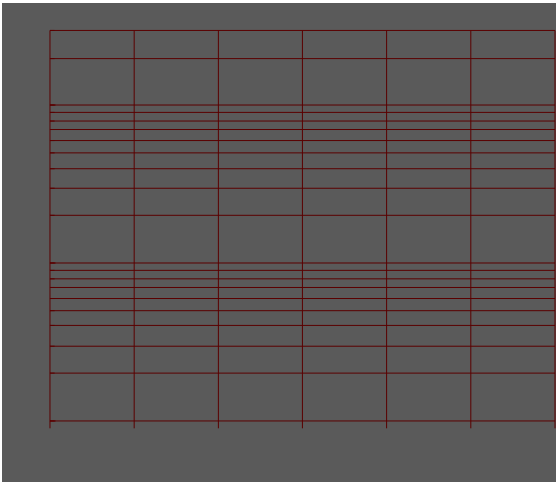


FIG.8: Normalized Holding Current vs. Ambient Temperature

TEST CIRCUITS

FIG.10: Test Circuits of Turn On Time

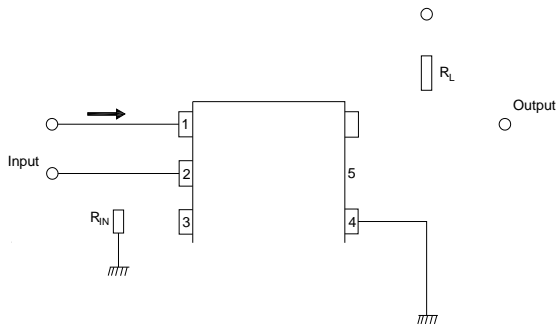
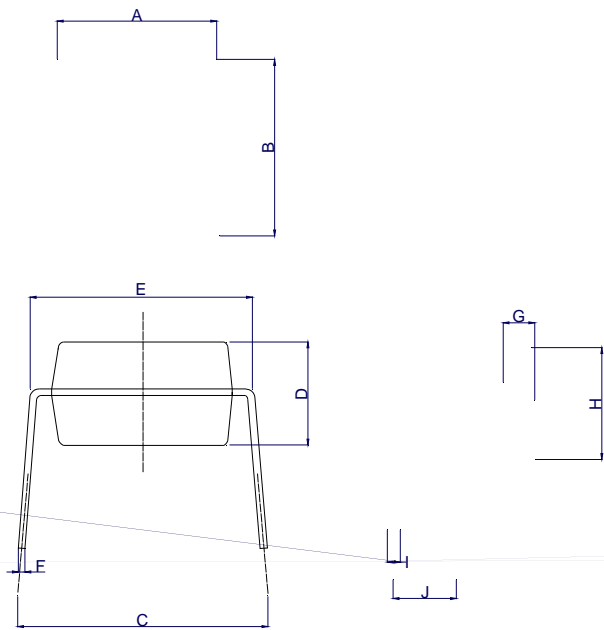


FIG.11: Waveforms of Turn On Time

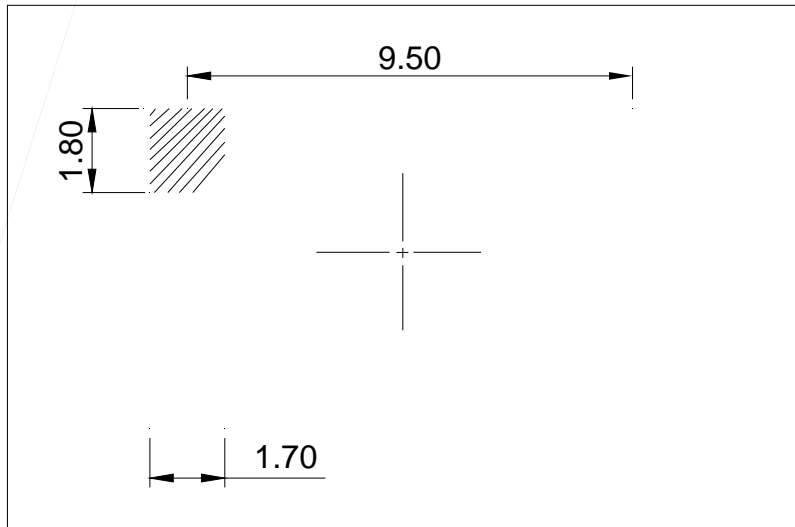
Package Dimension (Unit: mm)

Standard DIP Type:



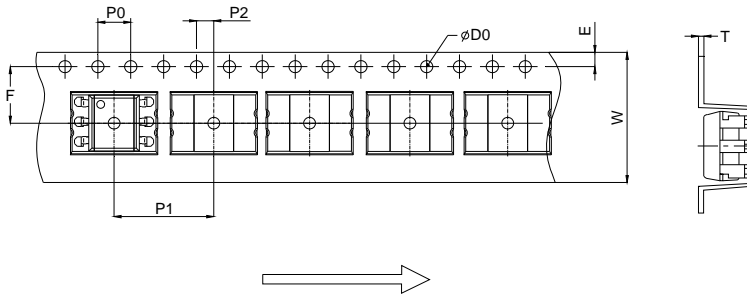
RECOMMENDED SOLDER MASK (Dimensions in mm unless otherwise stated)

Option SMD



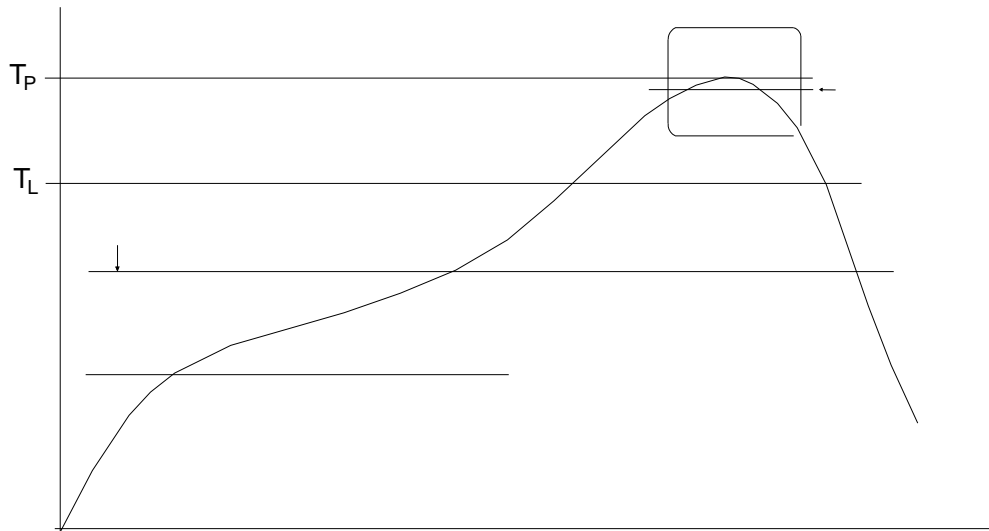
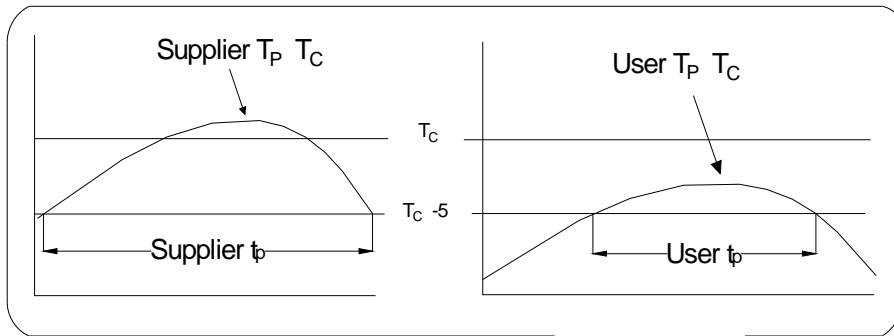
CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Option S/L

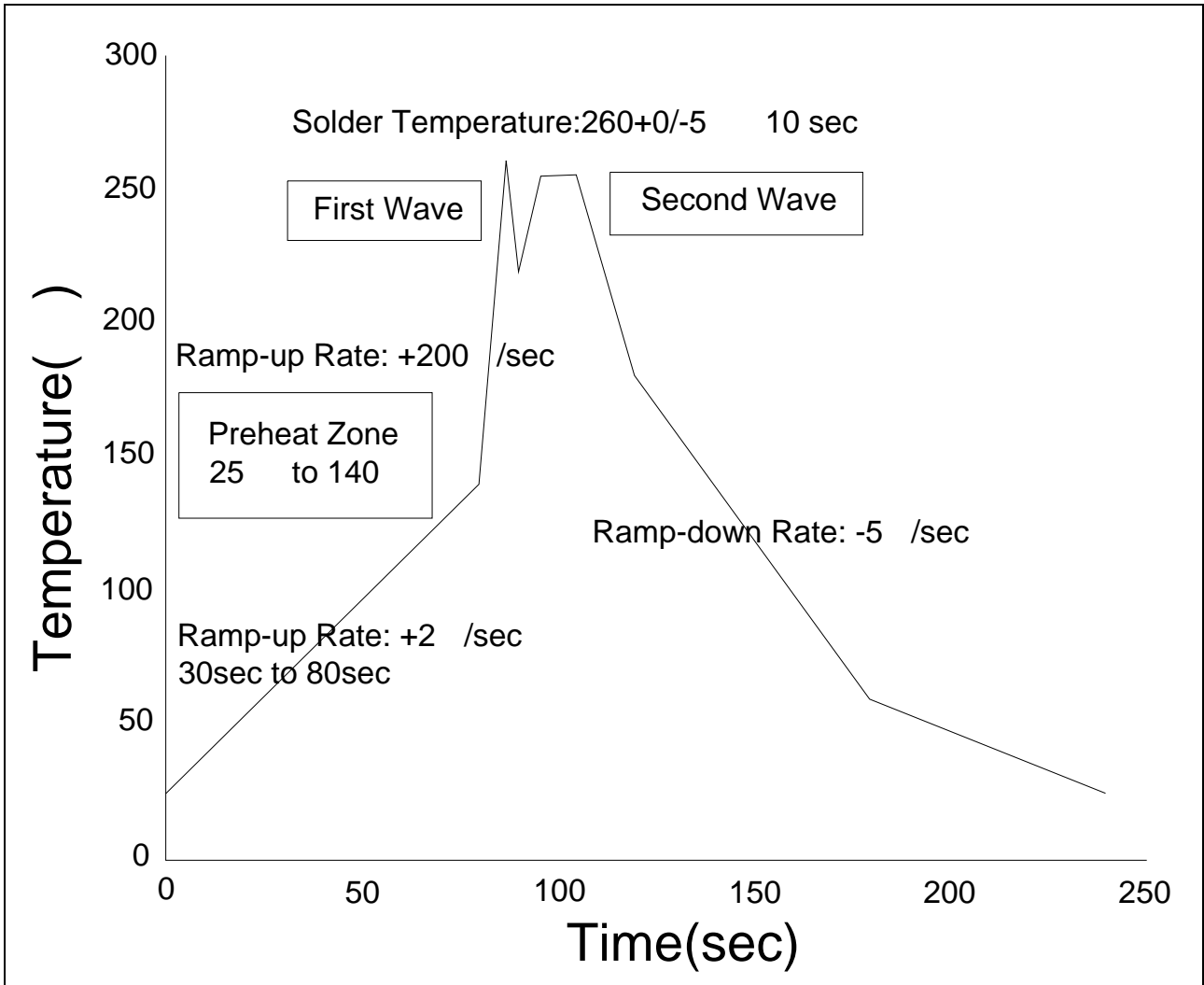


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0		1.50	1.60		0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	11.90	12.00	12.10	0.469	0.472	0.476
P2	1.90	2.00	2.10	0.075	0.079	0.083
E	1.65	1.75	1.85	0.065	0.069	0.073
F	7.40	7.50	7.60	0.291	0.295	0.299
T	0.35	0.40	0.45	0.014	0.016	0.018
W	15.70	16.00	16.30	0.618	0.630	0.642

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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