JOC306X Series

Rev.A.1.1

DESCRIPTION:

The JOC306X series combine an AIGaAs infrared emitting diode as the emitter which is optically coupled to a monolithic silicon zero-cross photo 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 up to 265 V_{AC} peripherals.

MAIN FEATURES

High isolation 5000 VRMS
DC input with zero-cross photo triac output
Operating temperature range -55 ł wr 433 ł
UHDFK) UrKV frpsoldqfh
HBM: K6D› P P= P7
CQC approved
VDE approved
UL approved

ABSOLUTE MAXIMUM RATINGS (Temperature=25°C)

Parameter		Symbol	Value	Unit
Input	Forward Current	I_F	60	mA
	Reverse Voltage	V_R	6	V
	Junction Temperature	T_j	125	
	Input Power Dissipation	P_I	100	mW
	Power Dissipation Derating (T_a 25)	P_D/	-1.33	mW/
Output	Off-state Output Terminal Voltage	V_{OFF}	600	V
	Peak On−state Current (100μs pulse, 120 pps)	I_{TP}	2	A
	On-state RMS Current	$I_{T(RMS)}$	100 eak	mA

	Power Dissipation Derating (T_a 25)	P_D/	-3.33	mW/
Total Power Dissipation		P_{tot}	350	mW
Isolation Voltage		V_{iso}	5000	Vrms
Operating Temperature		T_{opr}	-55~100	
Storage Temperature		T_{stg}	-55~125	
Soldering Temperature		T_{sol}	260	

NOTE1:AC for 1minute, R.H.=40~60%

NOTE2:For 10 seconds

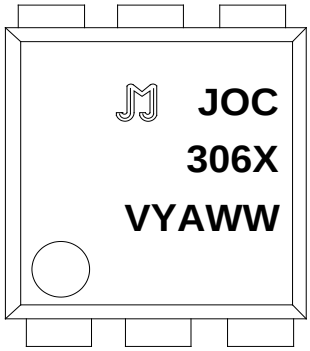
ELECTRICAL CHARACTERISTICS (Temperature=25°C)

Parameter			Symbol	Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage		V_F	I_F=10mA	-	1.27	2.2	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}=600V, I_F=0	-	-	100	nA
	Peak On-state Voltage, Either Direction		V_{TM}	I_{TM}=100mA	-	1.7	2.5	V
	Critical Rate of Rise of Off-state voltage		dV/dt	V_{PEAK}=600V, I_F=0	1000	-	-	V/μs
Transfer Characteristics	LED Trigger Current	JOC3061	I_{FT}	Terminal Voltage=3V I_{TM}=100mA	-	-	15	mA
		JOC3062			-	-	10	
		JOC3063			-	-	5	
	Holding Current		I_H	I_{TM}=2mA, I_F=Rated I_{FT}	-	250	-	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
	Response Time		t_{on}	V_D=6V, R_L=100Ω, I_F=20mA	-	15	50	μs
Zero-crossing Characteristics	Inhibit Voltage		V_{IH}	I_F=Rated I_{FT}	-	-	20	V
	Leakage in Inhibited							

Stad DFFd 0 Td (2)Tj 10.56 0 0 10.56 293.76 108.12 Tm ( )Tj EMC /P <</MCID 164 >>BD

ORDERING AND MARKING INFORMATION

MARKING INFORMATION



JOC : Company Abbr.
306X : Part Number & Rank
V : VDE Option
Y : Fiscal Year
A : Manufacturing Code
WW : Work Week

ORDERING INFORMATION

JOC306X(Y)(Z)-

TEST CIRCUITS

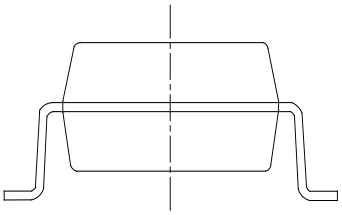
FIG.12: Test Circuits of Turn On Time

FIG.13: Waveforms of Turn On Time

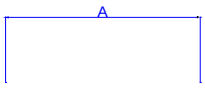
Fig.14: Test Circuits of dV/dt

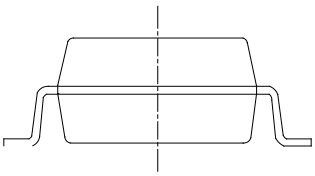
Fig.15: Waveforms of dV/dt

Option S Type:

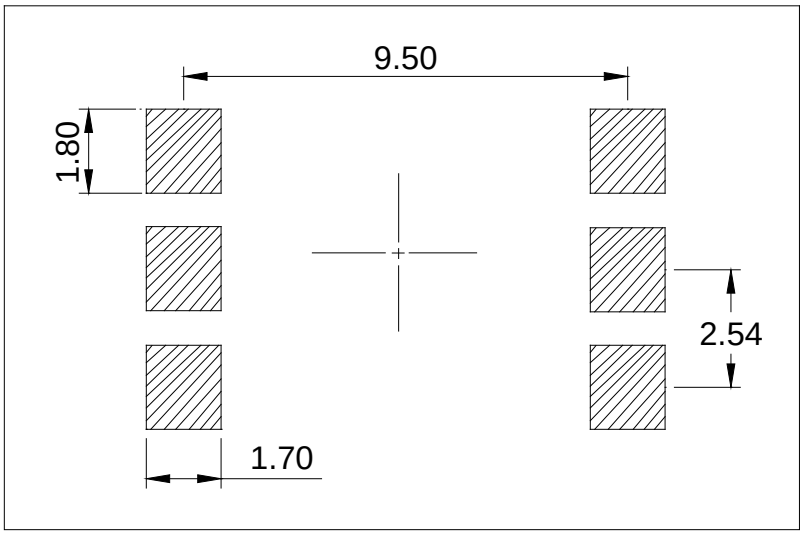


Option SLM Type: DimensionsMillimetersInchesRef.Min.Typ.Max.Min.Typ.Max.

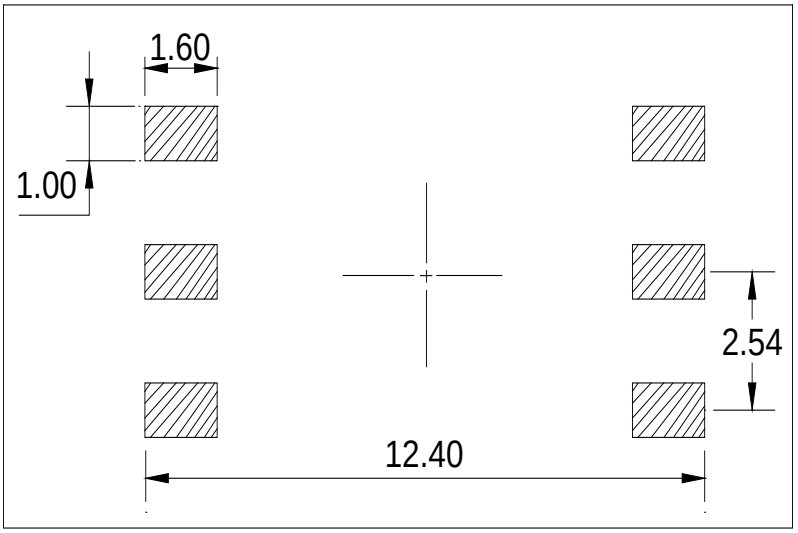




Option SL

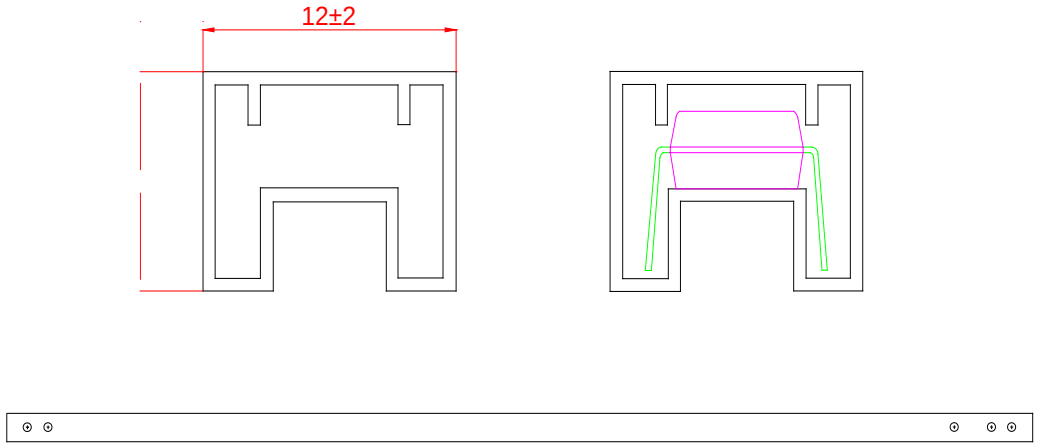


Option SLM

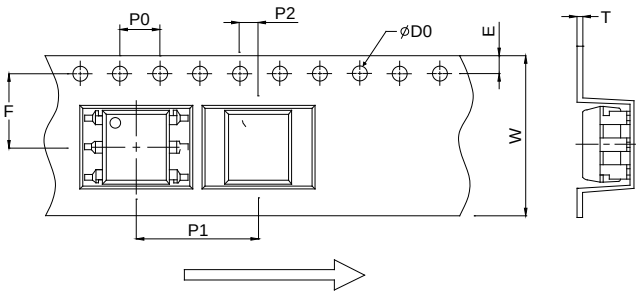


TUBE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

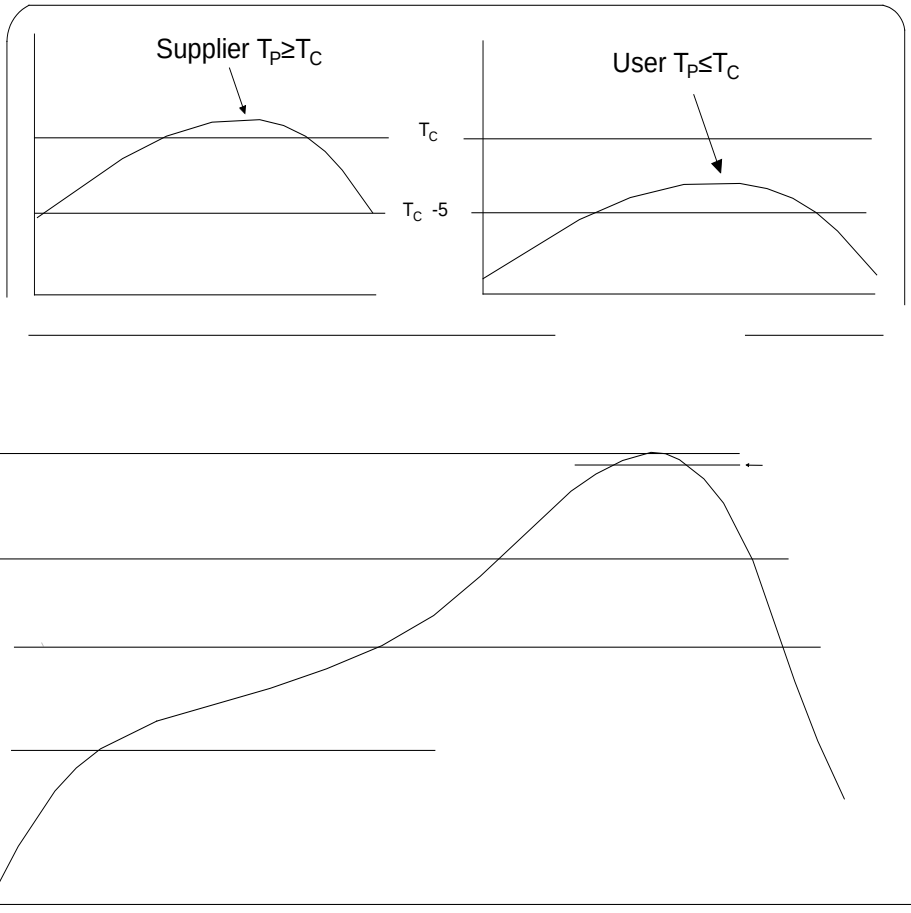
Standard DIP



CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)



REFLOW INFORMATION



WAVE SOLDERING

HAND SOLDERING BY SOLDERING IRON	
Soldering Temperature	360± 5

Document Revision History

Date	Revision	Changes
Apr.2, 2025	A.1.0	Last update
Nov.5, 2025	A.1.1	Add S&SLM package