JOC304X Series

Rev.A.1.1

DESCRIPTION:

The JOC304X series combine an AIGaAs infrared emitting diode as the emitter which is optically coupled to a monolithic silicon zero-crossing 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 120 V_{AC} peripherals.

MAIN FEATURES

High isolation 5000 VRMS
DC input with zero-crossing 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	urr

	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
[redacted]				-	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}=400V, 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}=400V, I_F=0	1000	-	-	V/μs

ORDERING AND MARKING

Characteristics Curves

FIG.1: Forward Current vs. Ambient Temperature

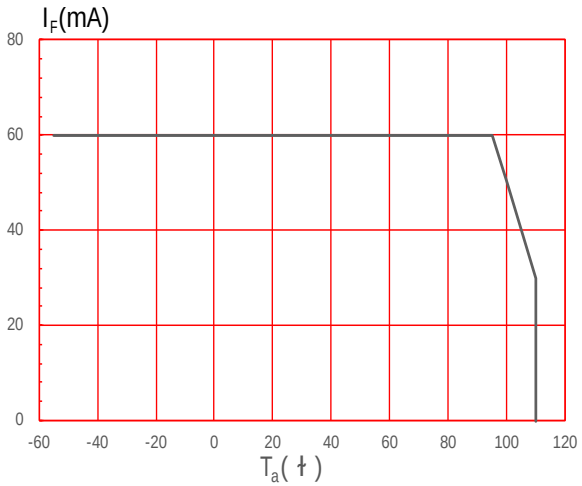


FIG.2: On-state Terminal Current vs. Ambient Temperature

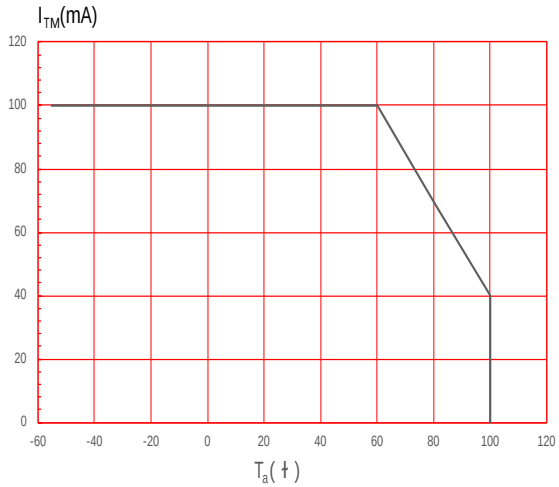


FIG.3: Forward Current vs. Forward Voltage

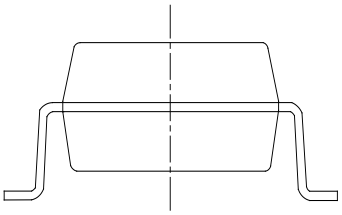
FIG.4: Normalized Off-state Terminal Current vs. Ambient Temperature

TEST CIRCUITS

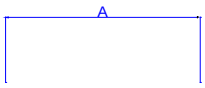
FIG.12: Test Circuits of Turn On Time

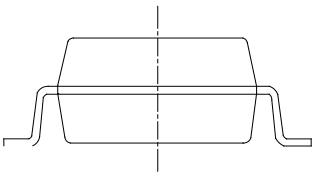
FIG.13: Waveforms of Turn On Time

Option S Type:

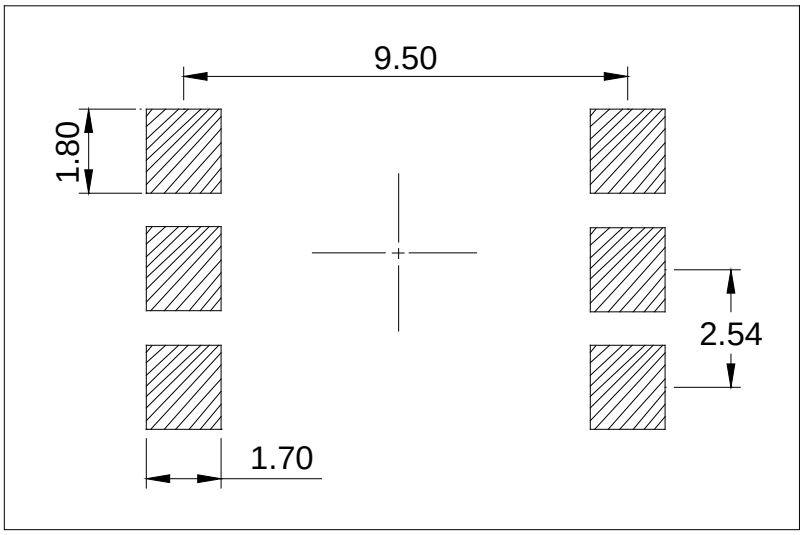


Option SLM Type: DimensionsMillimetersInchesRef.Min.Typ.Max.Min.Typ.Max.

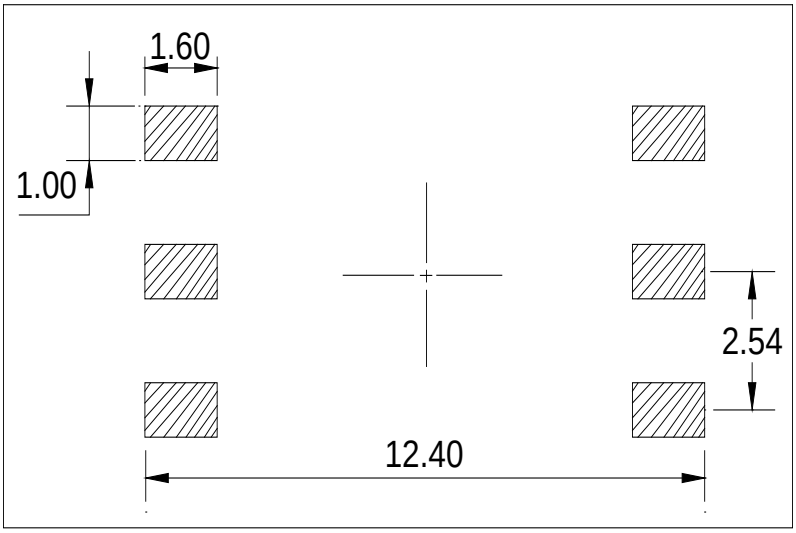




Option SL

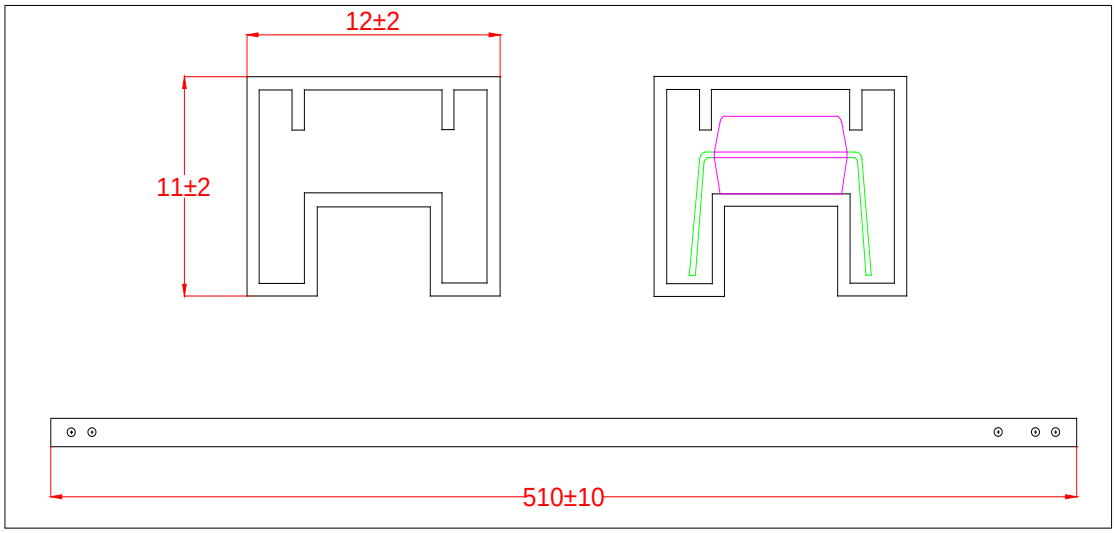


Option SLM

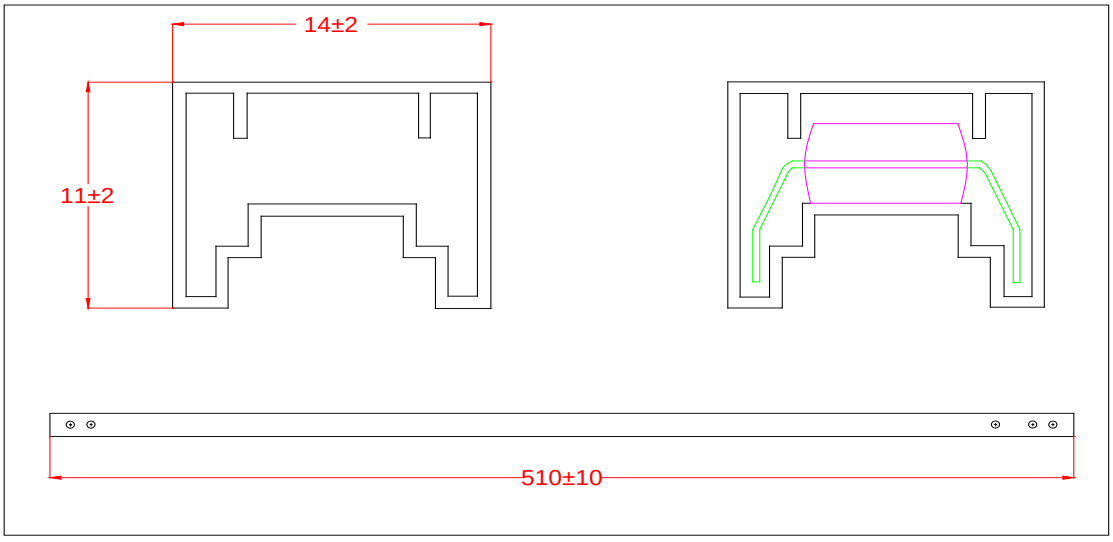


TUBE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

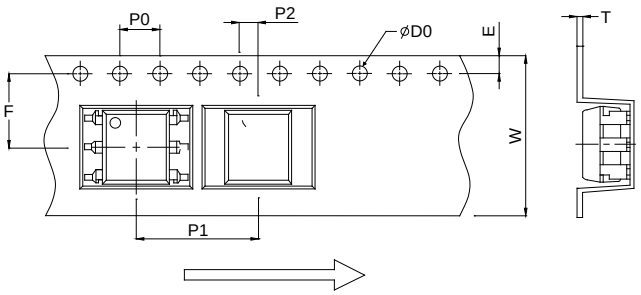
Standard DIP

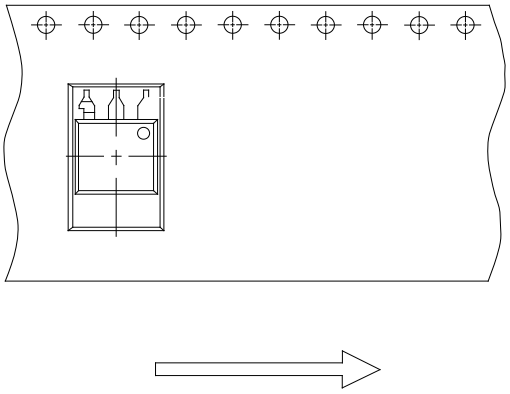


Option M

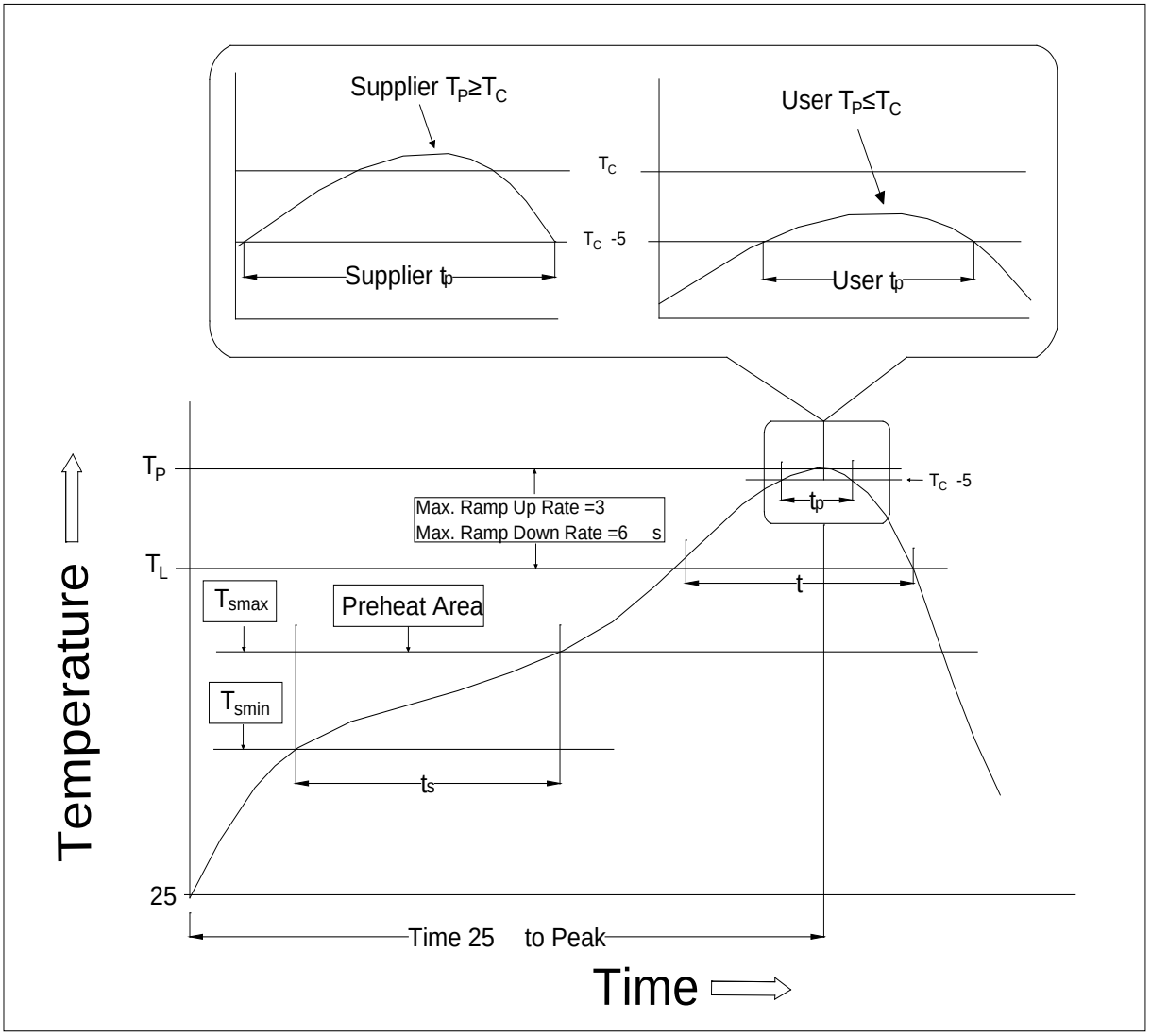


CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)





REFLOW INFORMATION



Profile Feature	Sn-Pb Assembly Profile	Pb-Free Assembly Profile
Temperature Min. (Tsmin)	100	150
Temperature Max. (Tsmax)	150	200
Time (ts) from (Tsmin to Tsmax)	60-120 seconds	60-120 seconds
Ramp-up Rate (tL to tP)	3 /second max.	3 /second max.
Liquidus Temperature (TL)	183	217
Time (tL) Maintained Above (TL)	60-150 seconds	60-150 seconds
Peak Body Package Temperature	235 +0 /-5	260 +0 /-5
Time (tP) within 5 of 260	20 seconds	30 seconds
Ramp-down Rate (TP to TL)	6 /second max.	6 /second max.
Time 25 to Peak Temperature	6	

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

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