



DESCRIPTION:

The JOC303X series combine an AlGaAs 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 120 V_{AC} peripherals.

MAIN FEATURES

- High isolation 5000 VRMS
- DC input with zero-cross photo triac output
- Operating temperature range -55 - Z U - 8 + ') . 8U . 9 I U S V R O G T I K
- HBM: . ' ! 3 3 3
- 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 125)	•P _D /	-1.33	mW/
Output	Off-state Output Terminal Voltage	V _{OFF}	250	V
	Peak Output Current	I _{TP}	2	A
	On-state RMS Current	I _{T(RMS)}	100	mA

	Power Dissipation Derating (T_a 125)	$\bullet P_{D/}$	-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 ⁸	

NOTE1AC for 1minute, R.H.=40~60%

NOTE2For 10 seconds

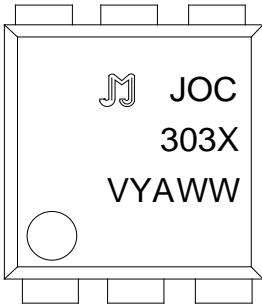
ELECTRICAL CHARACTERISTICS (Temperature=25°C)

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	A
	Input Capacitance	C_{in}	$V=0, f=1kHz$	-	10	-	pF
Output	Peak Off-state Current, Either Direction	I_{OFF}	$V_{OFF}=250V, I_F=0$	-	-	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	$V_{PEAK}=250V, I_F=0$	1000•	-	-	9 V
LED Trigger Current	JOC3031	I_{FT}	Terminal Voltage=3V $I_{TM}=100mA$	-	-	15	mA
	JOC3032			-	-	10	
	JOC3033			-	-	5	
Holding Current		I_H	I_{TM}				

Transfer Characteristics

ORDERING AND MARKING INFORMATION

MARKING INFORMATION



Characteristics Curves

FIG.1: Forward Current vs. Ambient Temperature

FIG.2: On-

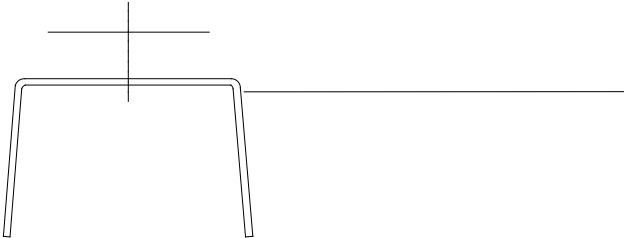
TEST CIRCUITS

FIG.12: Test Circuits of Turn On Time

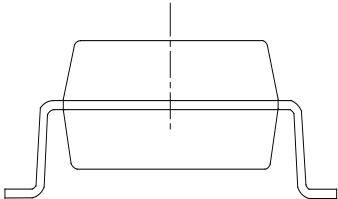
FIG.13: Waveforms of Turn On Time

Package Dimension (Unit: mm)

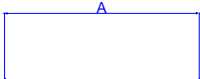
Standard DIP Type:



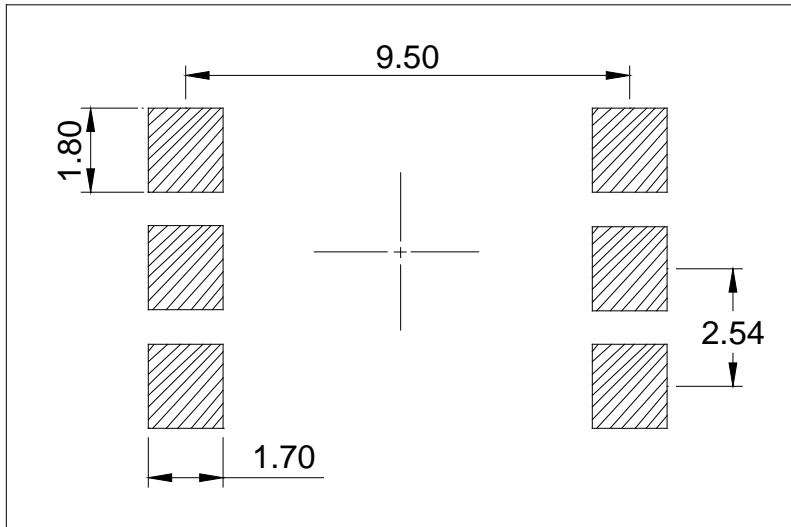
Option S Type:



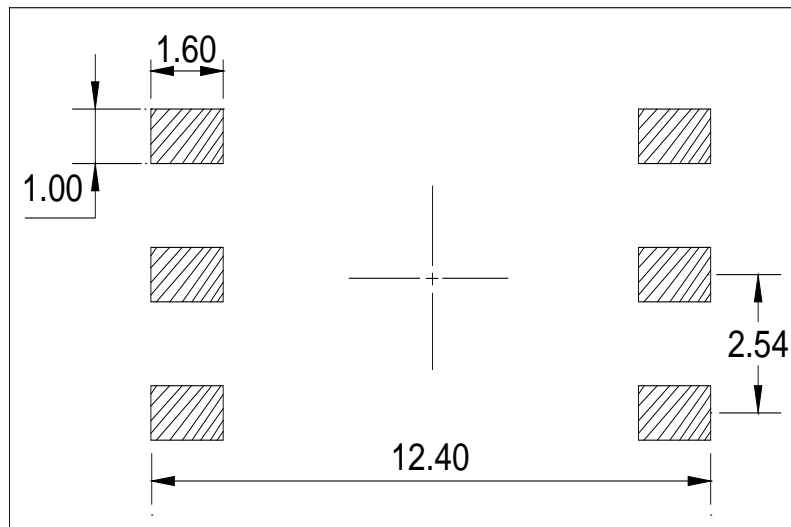
Option SLM Type: Dimensions Millimeters Inches Ref. Min. Typ. Max. Min. Typ. Max.



Option SL

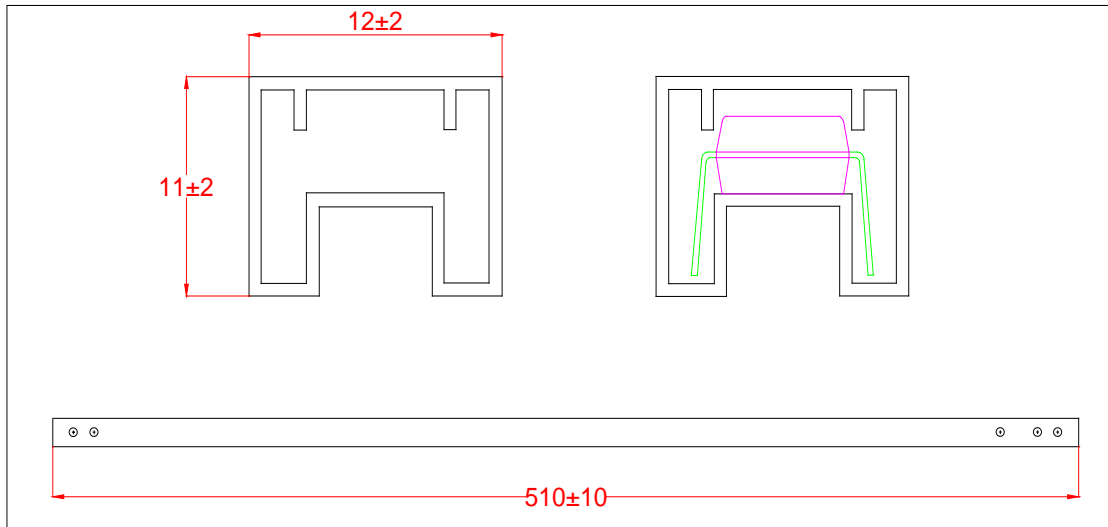


Option SLM

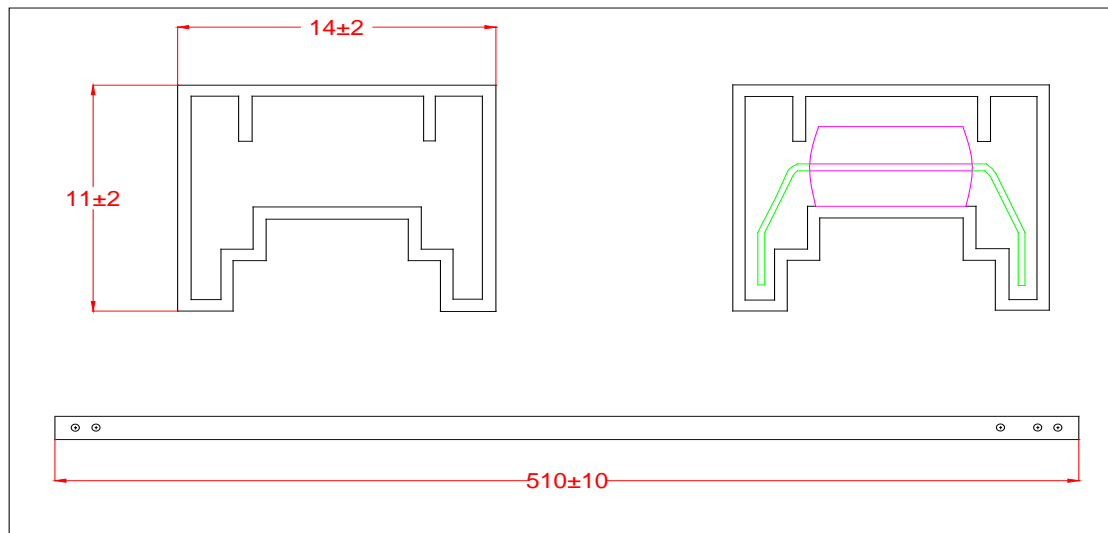


TUBE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

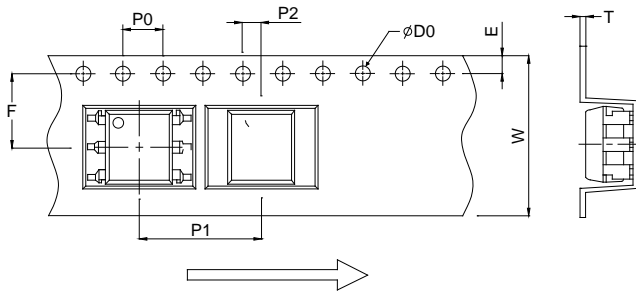
Standard DIP

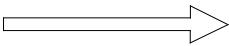
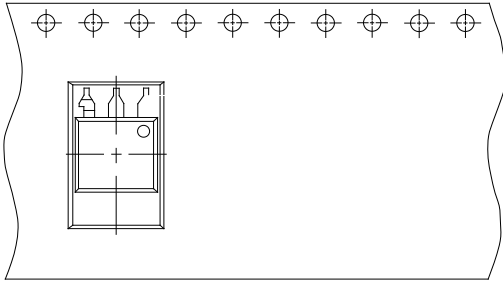


Option M

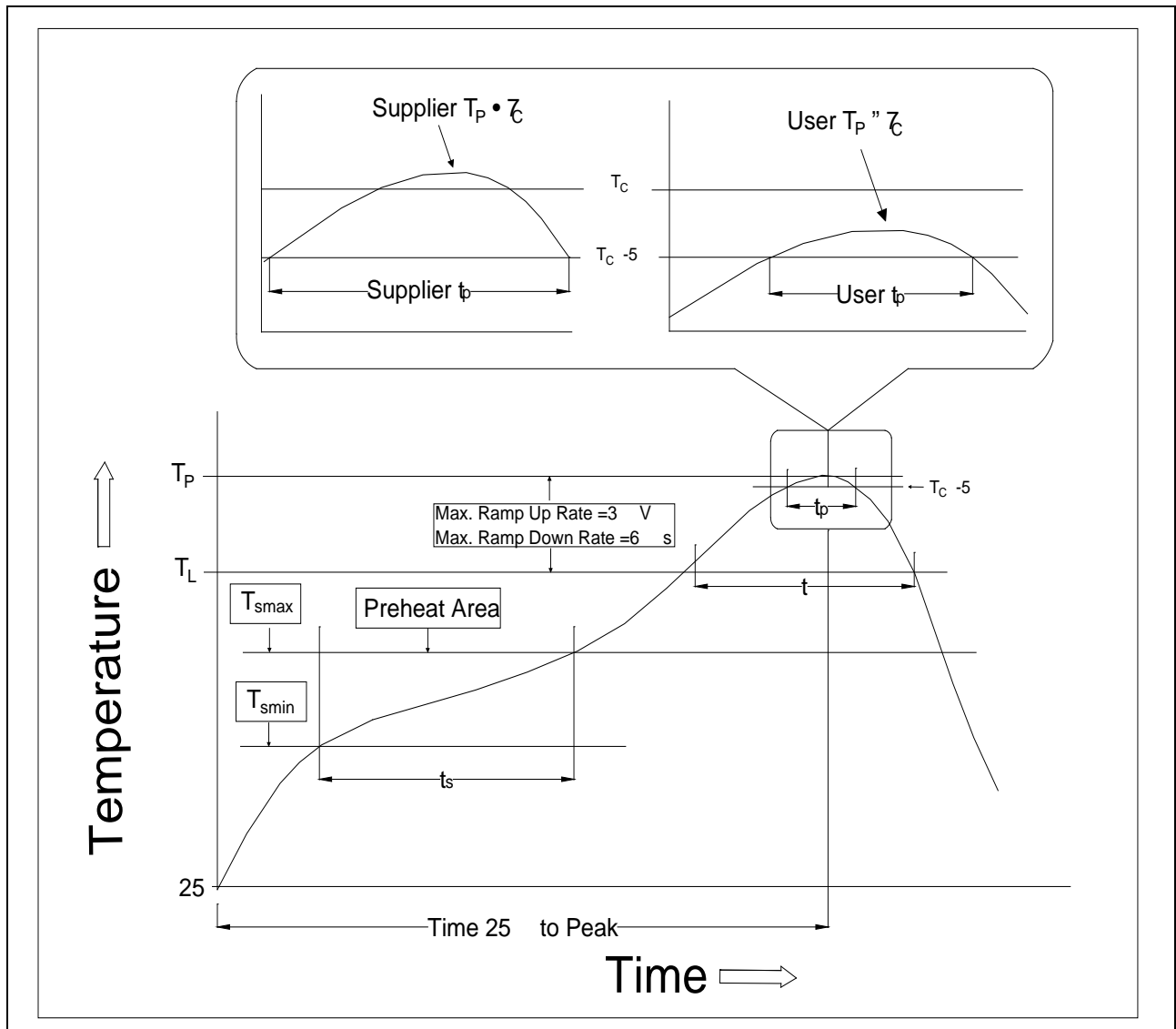


CARRIER TAPE SPECIFICATIONS Dimensions in mm unless otherwise stated



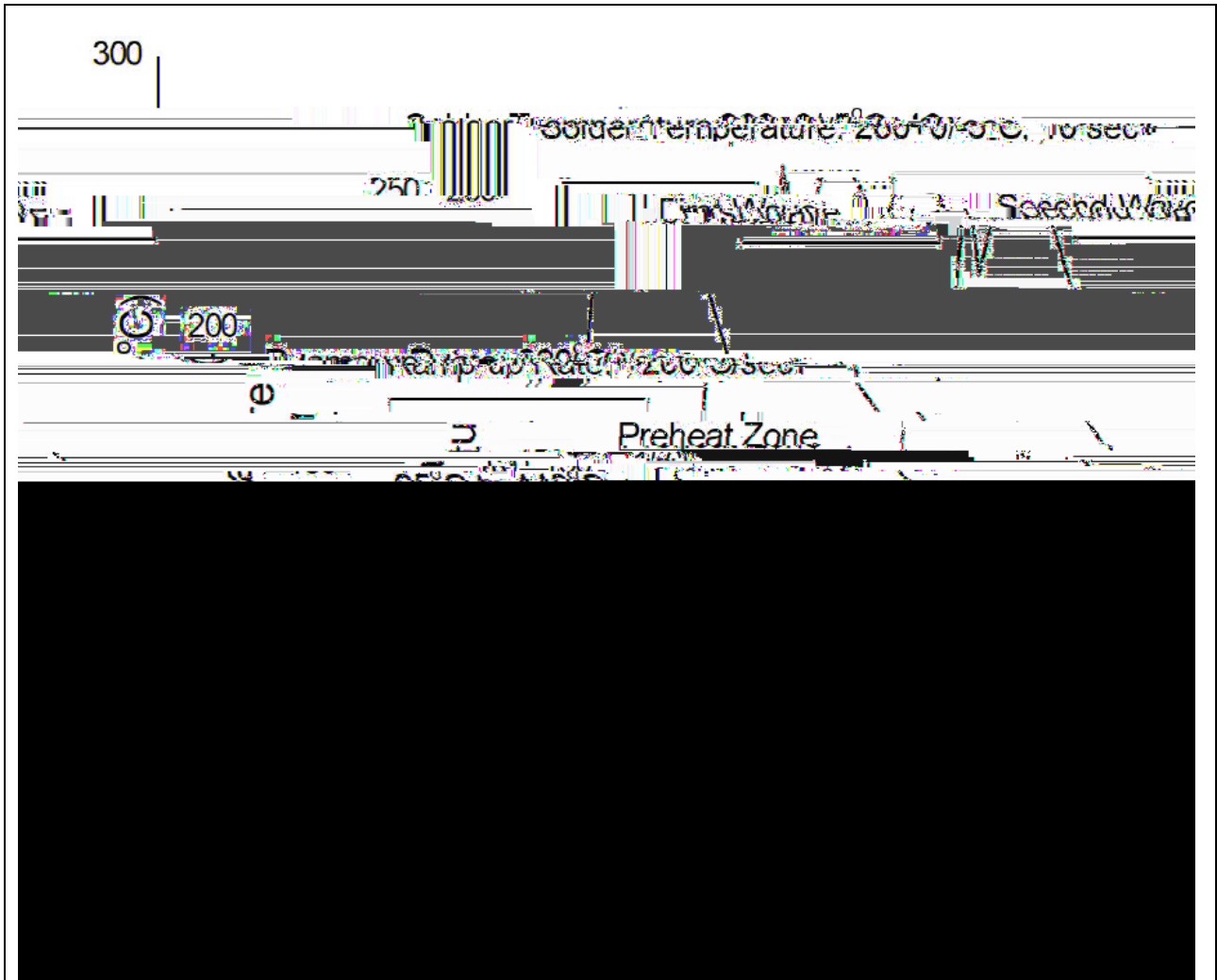


REFLOW INFORMATION



Profile Feature	Sn-Pb Assembly Profile	Pb-Free Assembly Profile
Temperature Min. (T _{smin})	100	150
Temperature Max. (T _{smax})	150	200
Time (t _s) from (T _{smin} to T _{smax})	60-120 seconds	60-120 seconds
Ramp-up Rate (t _L to t _P)	3 / second max.	3 / second max.
Liquidus Temperature (T _L)	183	217
Time (t _L) Maintained Above (T _L)	60-150 seconds	60-150 seconds
Peak Body Package Temperature	235 +0 /-5	260 +0 /-5
Time (t _P) within 5 of 260	20 seconds	30 seconds
Ramp-down Rate (T _P to T _L)	6 / second max.	6 / second max.
Time 25 to Peak Temperature	6 minutes max.	8 minutes max.

WAVE SOLDERING



HAND SOLDERING BY SOLDERING IRON

Soldering Temperature	360 ± 5
Soldering Time	3s max.

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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