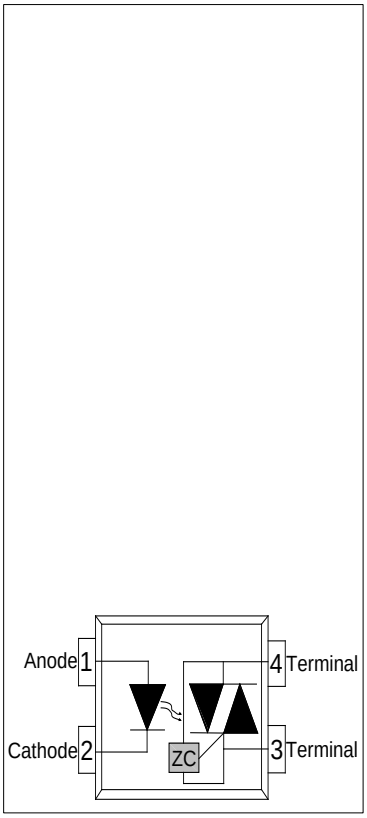
JOC308XD4 Series

Rev.A.1.1

DESCRIPTION:

The JOC308XD4 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 DIP4 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 - 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 1 25)	•P D/	-1.33	mW/
Output	Off-state Output Terminal Voltage	V_{OFF}	800	V
	Peak O Q í V W CDrrent V S X O V H S S V	I_{TP}	2	A
	On-state RMS Current	$I_{T(RMS)}$	100	mA
	Peak Repetitive Surge Current (P_W=10 ms)	I_{TSM}	1	A
	Junction Temperature	T_j	125	
	Output Power Dissipation	P_O	250	mW

	Power Dissipation Derating (T_a 125)	•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]	

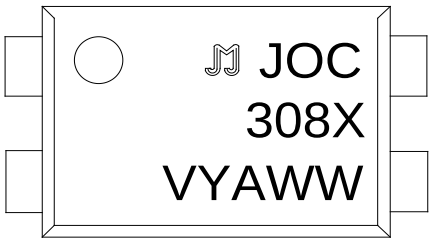
NOTE1AC for 1minute, R.H.=40~60%
NOTE2For 10 seconds

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}=800V, I_F=0	-	-	100 "	nA
	Peak On-state Voltage, Either Direction	V_{TM}	I_{TM}=100mA	-	1.7		

ORDERING AND MARKING INFORMATION

MARKING INFORMATION



Characteristics Curves

FIG.1: 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 Current0

TEST CIRCUITS

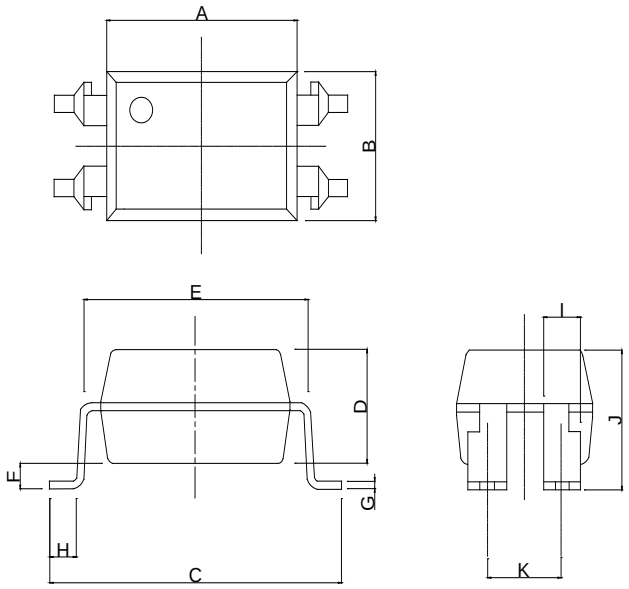
FIG.12: Test Circuits of Turn On Time

FIG.13: Waveforms of Turn On Time

Fig.14: Test Circuits of dV/dt

Fig.15: Waveforms of dV/dt

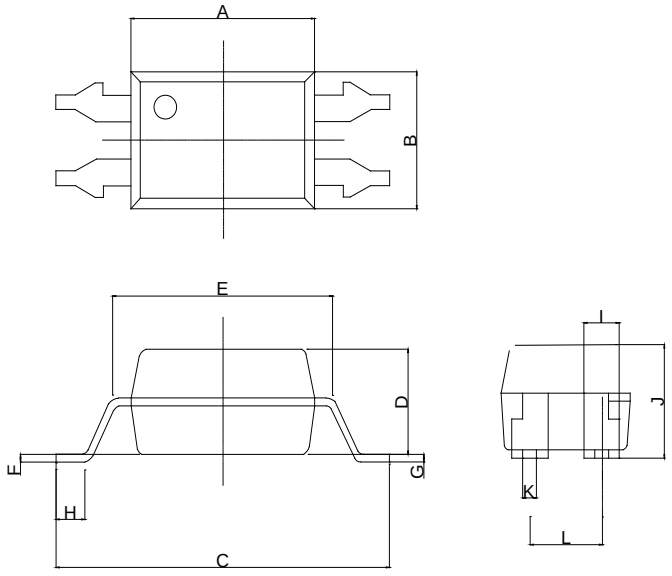
Option S Type:



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.30		6.70	0.249		0.265
B	4.38		4.78	0.173		0.189
C	9.85		10.45	0.389		0.413
D	3.30		3.70	0.130		0.146
E	7.32		7.92	0.289		0.313
F		0.80			0.032	
G		0.25			0.010	
H		0.80			0.032	
I	1.20		1.40	0.047		0.055
J	4.00		4.60	0.158		0.182
K		2.54			0.100	

Option SL Type:

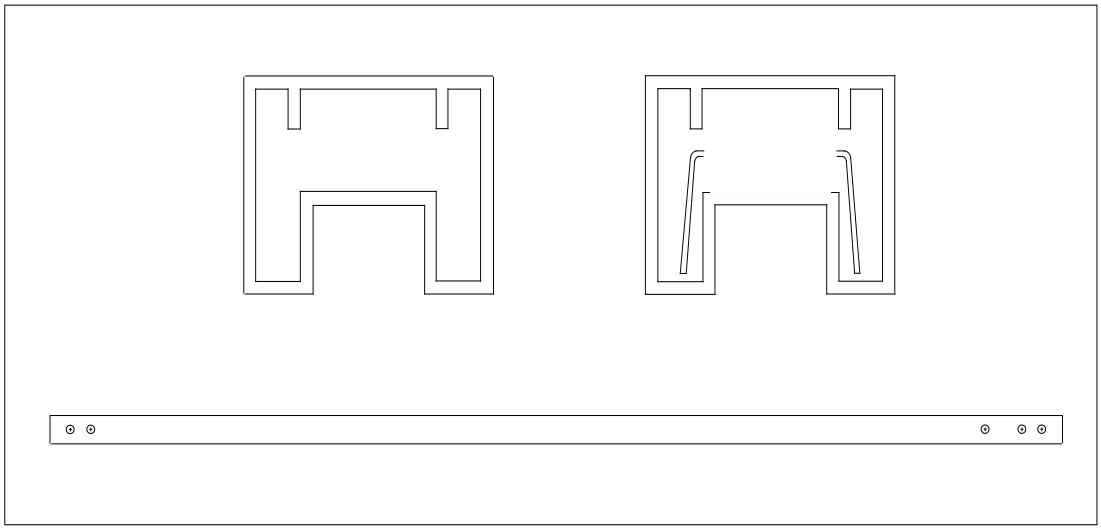
Option S LM Type:



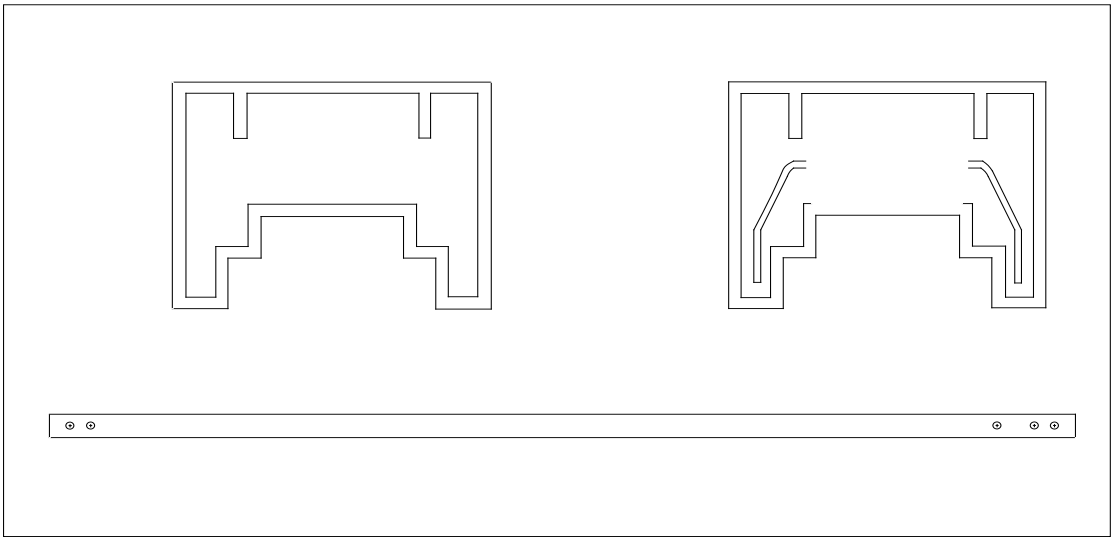
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	6.30		6.70	0.248		0.264
B	4.38		4.78	0.172		0.188
C	11.50		12.10	0.453		0.476
D	3.30		3.70	0.130		0.146
E	7.32		7.92	0.288		0.312
F						
G						
H	0.40			0.016		
I	1.20		1.40	0.047		0.055
J	3.45		4.05	0.136		0.159
K						
L						

TUBE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

Standard DIP



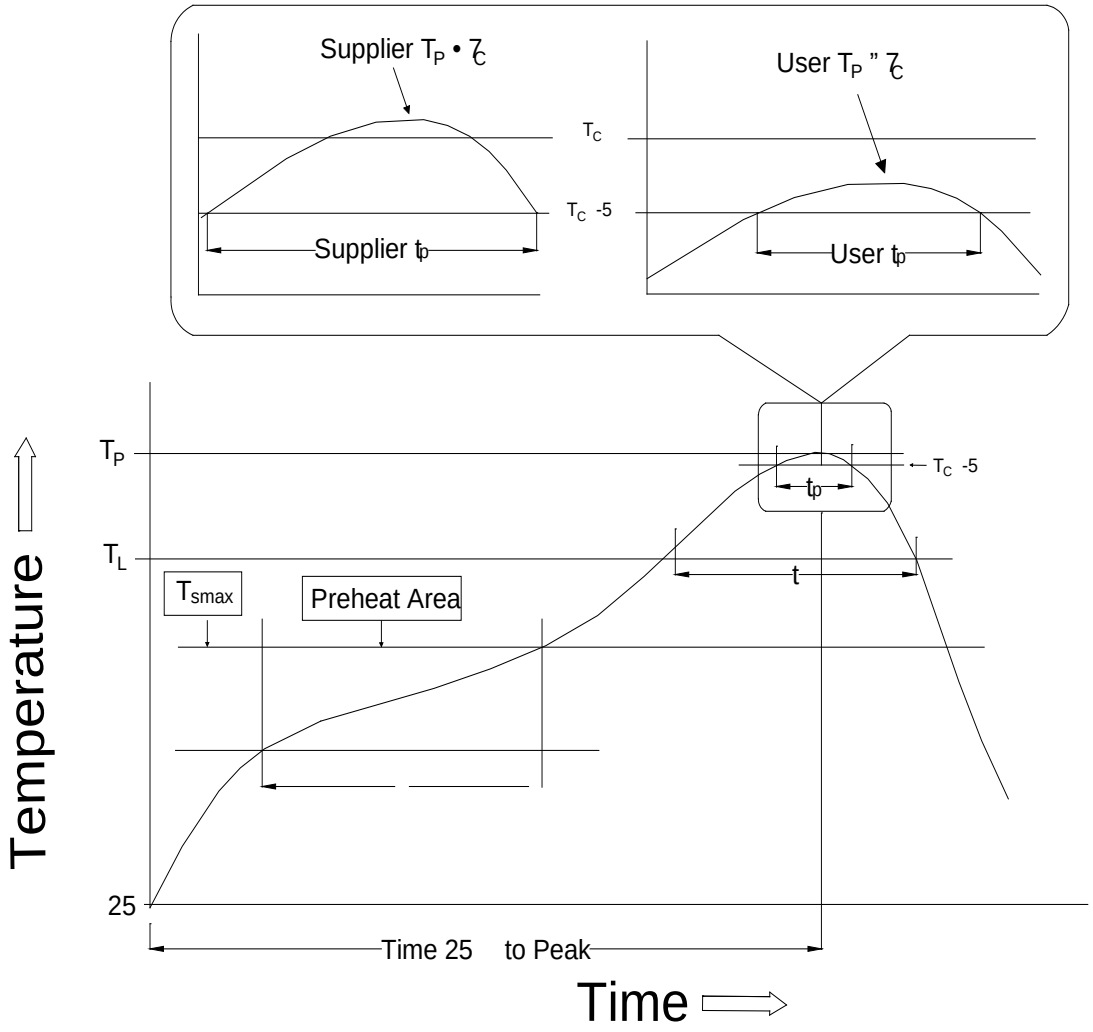
Option M



Option SL(T3)

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
D0						
P0						
P1		12.00			0.472	
P2						
E		1.75			0.069	
F		7.50				
T		0.40			0.016	
W		16.00			0.630	

REFLOW INFORMATION



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 SLM package

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