

IS607X, IS608X
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OPTICALLY COUPLED BILATERAL SWITCH NON-ZERO CROSSING TRIAC

APPROVALS

- UL recognised, File No. E91231

'X' SPECIFICATION APPROVALS

- VDE 0884 in 2 available lead forms : -
 - STD
 - G form

DESCRIPTION

The IS607, IS608 series are optically coupled isolators consisting of a Gallium Arsenide infrared emitting diode coupled with a light activated silicon bilateral switch performing the functions of a triac mounted in a standard 6 pin dual-in-line package.

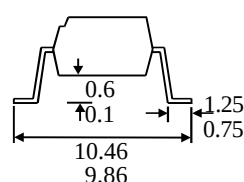
FEATURE

- Options :-
 - 10mm lead spread - add G after part no.
 - Surface mount - add SM after part no.
 - Tape&reel - add SMT&R after part no.
- High Isolation Voltage ($5.3\text{kV}_{\text{RMS}}, 7.5\text{kV}_{\text{PK}}$)
- 450V Peak Blocking Voltage
- All electrical parameters 100% tested
- Custom electrical selections available

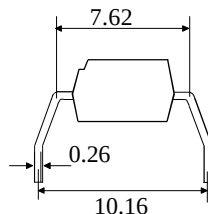
APPLICATIONS

- CRTs
- Power Triac Driver
- Motors
- Consumer appliances
- Printers

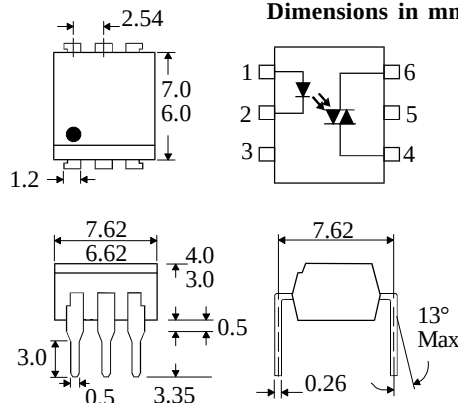
OPTION SM SURFACE MOUNT



OPTION G



Dimensions in mm



ABSOLUTE MAXIMUM RATINGS (25 °C unless otherwise noted)

Storage Temperature _____ -40°C - +150°C
Operating Temperature _____ -40°C - +100°C
Lead Soldering Temperature _____ 260°C
(1.6mm from case for 10 seconds)
Input-to-output Isolation Voltage (Pk) _____ 7500 Vac
(60 Hz, 1sec. duration)

INPUT DIODE

Forward Current _____ 50mA
Reverse Voltage _____ 6V
Power Dissipation _____ 70mW
(derate linearly 0.93mW/°C above 25°C)

OUTPUT PHOTO TRIAC

Off-State Output Terminal Voltage _____ 450V
RMS Forward Current _____ 100mA
Forward Current (Peak) _____ 1A
Power Dissipation _____ 300mW
(derate linearly 4.0mW/°C above 25°C)

POWER DISSIPATION

Total Power Dissipation _____ 330mW
(derate linearly 4.4mW/°C above 25°C)

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ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

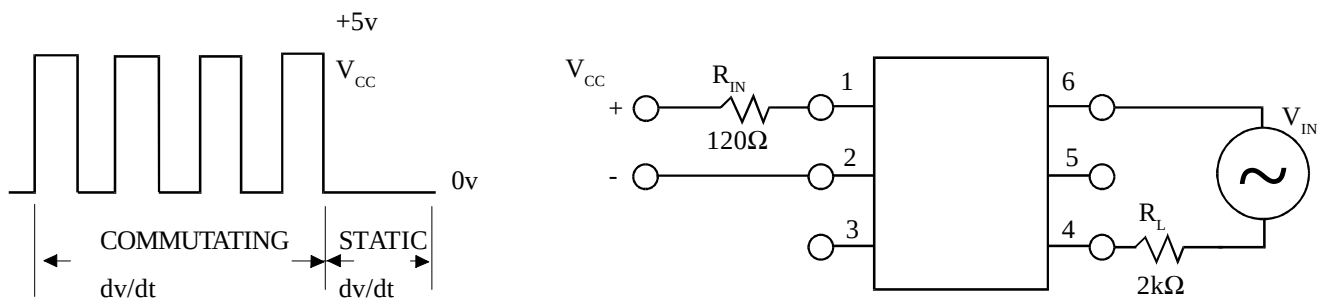
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.5	V	$I_F = 10\text{mA}$
	Reverse Current (I_R)			100	μA	$V_R = 6\text{V}$
Output	Peak Off-state Current (I_{DRM})	450		100	nA	$V_{\text{DRM}} = 450\text{V}$ (note 1)
	Peak Blocking Voltage (V_{DRM})				V	$I_{\text{DRM}} = 100\text{nA}$
	On-state Voltage (V_{TM})		1.5	3.0	V	$I_{\text{TM}} = 100\text{mA}$ (peak)
	Critical rate of rise of off-state Voltage (dv/dt) (note 1)		10		V/ μs	
	Critical rate of rise of commutating Voltage (dv/dt) (note 1)	0.1	0.2		V/ μs	$I_{\text{load}} = 15\text{mA}$, $V_{\text{IN}} = 30\text{V}$ (fig 1.)
Coupled	Input Current to Trigger (I_{FT}) (note 2)			10	mA	$V_D = 3\text{V}$ (note 2)
	IS607			7	mA	
	IS608					
	Holding Current , either direction (I_H)		100		μA	
	Input to Output Isolation Voltage V_{ISO}	5300 7500			V_{RMS} V_{PK}	See note 3 See note 3

Note 1. Test voltage must be applied within dv/dt rating.

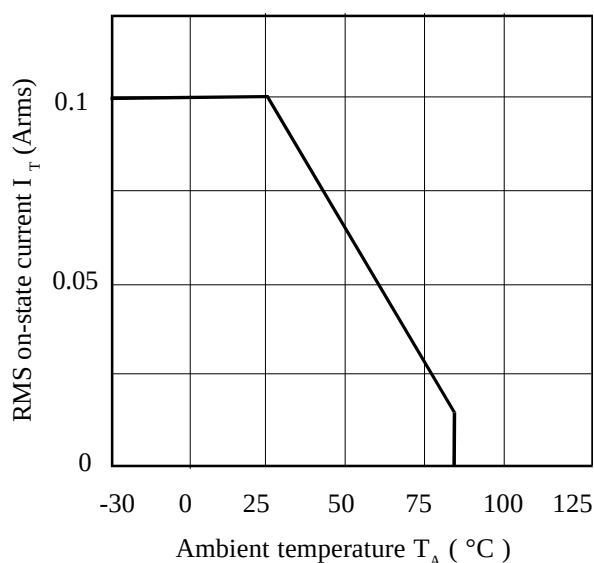
Note 2. Guaranteed to trigger at an I_F value less than or equal to max. I_{FT} , recommended I_F lies between Rated I_{FT} and absolute max. I_{FT} .

Note 3. Measured with input leads shorted together and output leads shorted together.

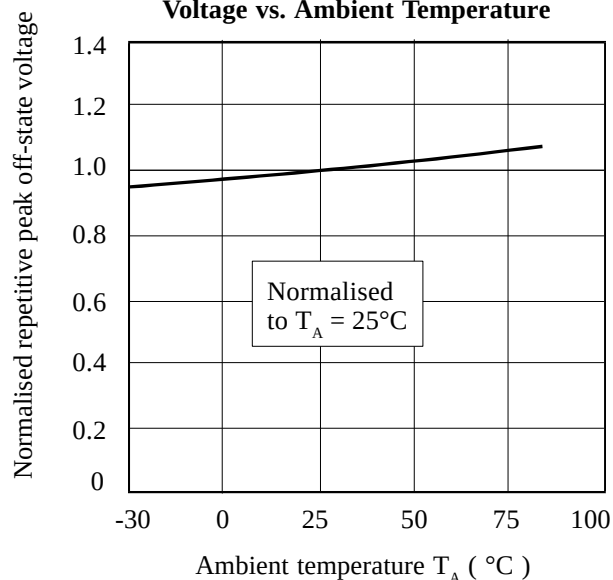
FIGURE 1



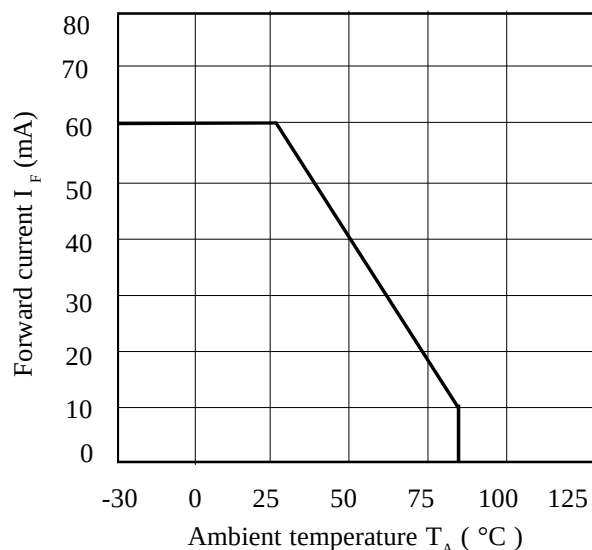
RMS On-state Current vs. Ambient Temperature



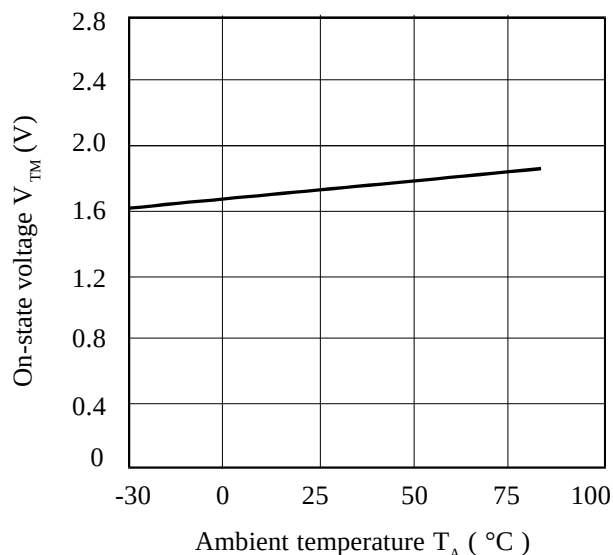
Normalised Repetitive Peak Off-state Voltage vs. Ambient Temperature



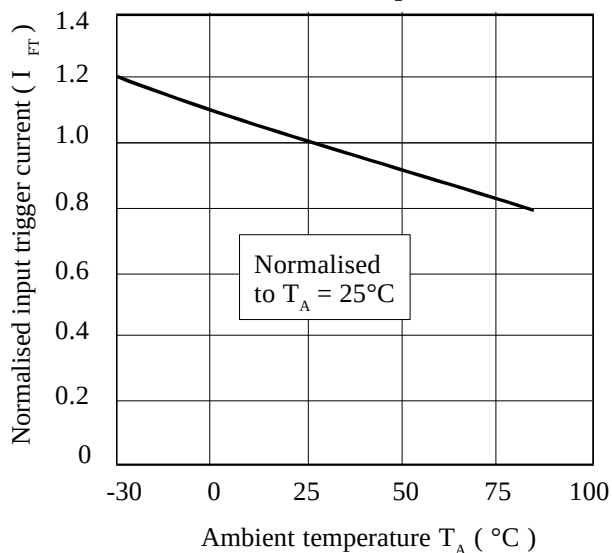
Forward Current vs. Ambient Temperature



On-state Voltage vs. Ambient Temperature



Normalised Input Trigger Current vs. Ambient Temperature



On-state Current vs. On-state Voltage

