



PHOTON COUPLED ISOLATOR Ga As INFRARED EMITTING DIODE & LIGHT ACTIVATED SCR

APPROVALS

- UL recognised, File No. E91231

DESCRIPTION

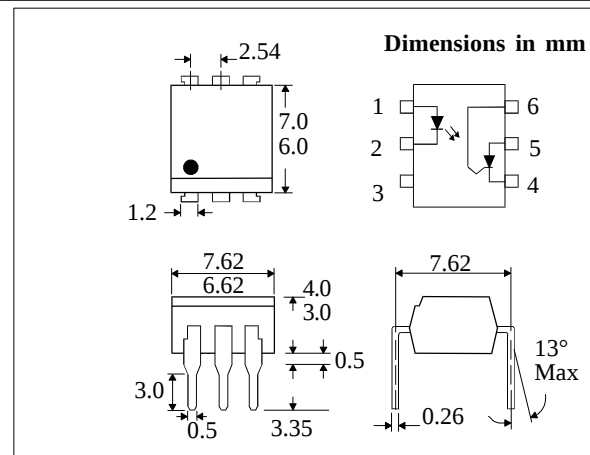
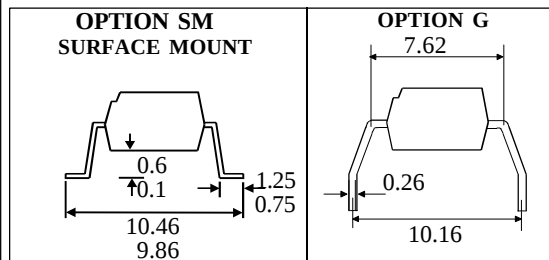
The IS605, IS606 are optically coupled isolators consisting of infrared light emitting diode and a light activated silicon controlled rectifier in a standard 6pin dual in line plastic package.

FEATURES

- 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 ($5.3kV_{RMS}$, $7.5kV_{PK}$)
- High Surge Anode Current (5.0 A)
- High Blocking Voltage ($400V^{*1}$, $625V^{*1}$)
- Low Turn on Current (5mA typical)
- All electrical parameters 100% tested
- Custom electrical selections available

APPLICATIONS

- 10A, T²L compatible, Solid State Relay
- 25W Logic Indicator Lamp Driver
- 400V Symmetrical transistor coupler



ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

Storage Temperature	-55°C to + 150°C
Operating Temperature	-55°C to + 100°C
Lead Soldering Temperature (1/16 inch (1.6mm) from case for 10 secs)	260°C

INPUT DIODE

Forward Current	60mA
Forward Current (Peak) (1μs pulse, 300pps)	3A
Reverse Voltage	6V
Power Dissipation	100mW

DETECTOR

Peak Forward Voltage	
IS605	400V ^{*1}
IS606	625V ^{*1}
Peak Reverse Gate Voltage	6V
RMS On-state Current	300mA
Peak On-state Current (100μs, 1% duty cycle)	10A
Surge Current (10ms)	5A
Power Dissipation	300mW

^{*1} IMPORTANT : A resistor must be connected between gate and cathode (pins 4 & 6) to prevent false firing ($R_{GK} < 56k\Omega$)

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ISOCOM INC

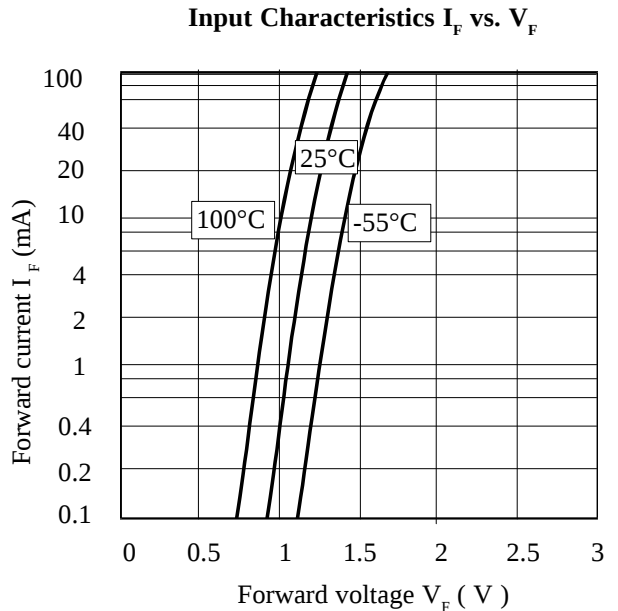
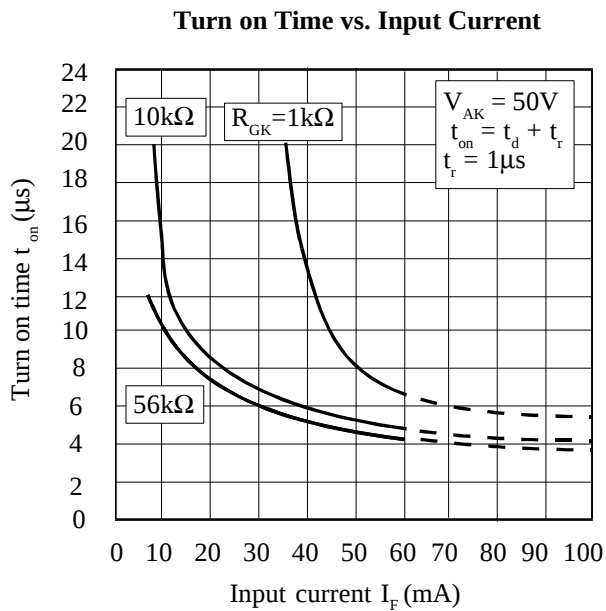
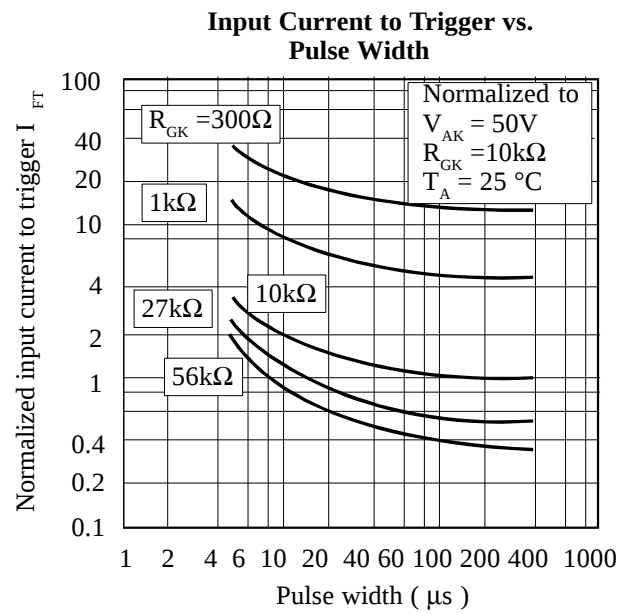
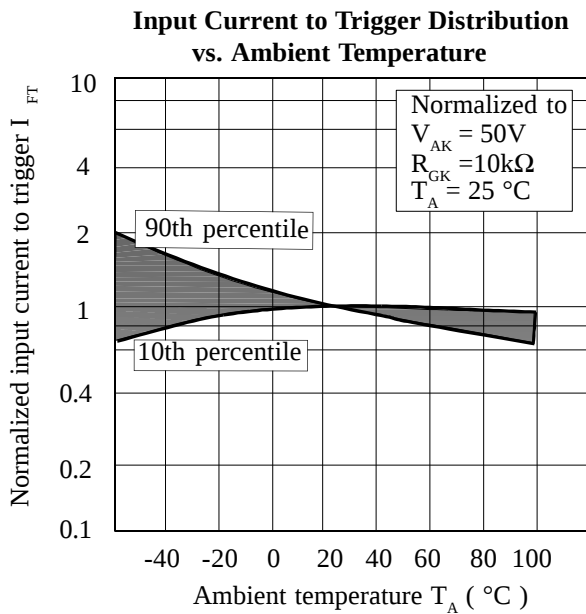
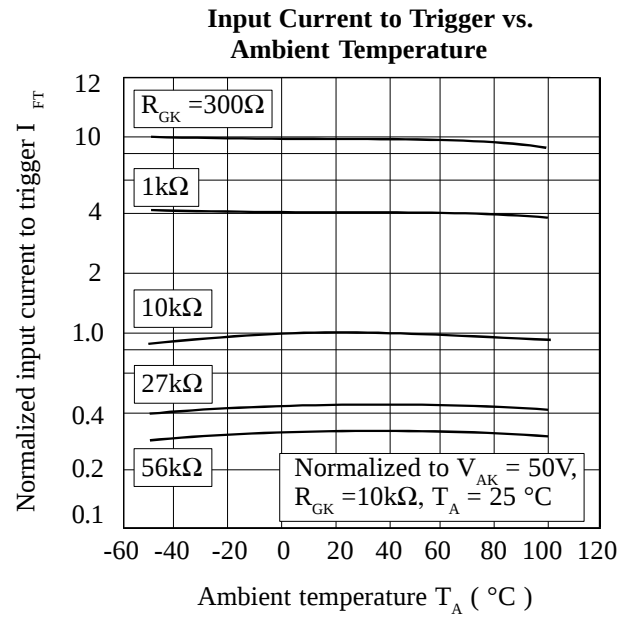
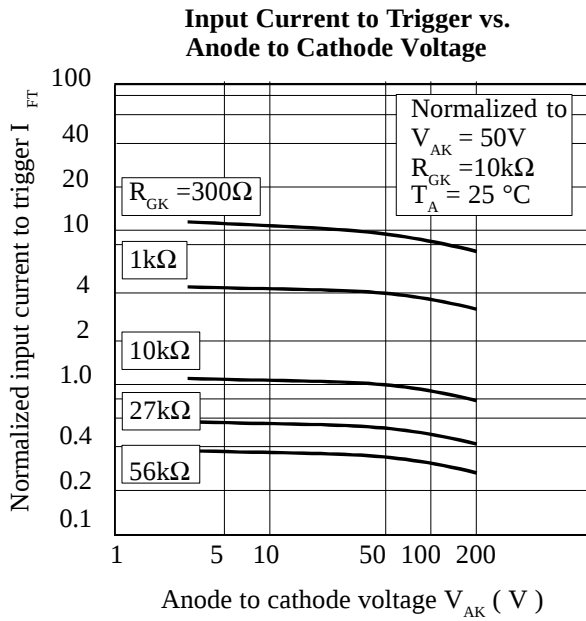
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ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

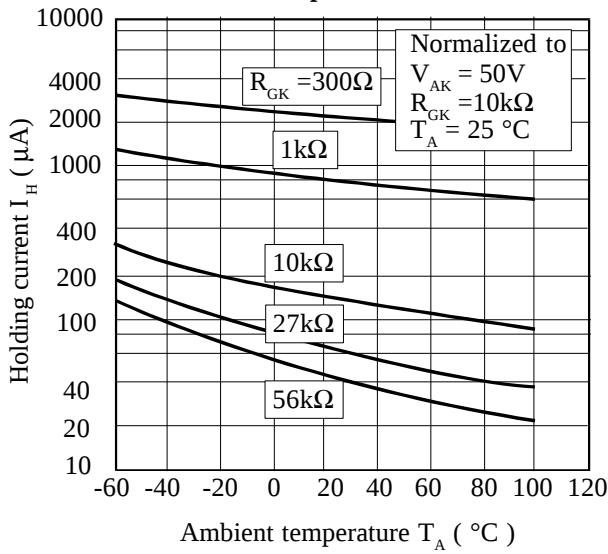
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION	
Input	Forward Voltage (V _F) Reverse Voltage (V _R)	3	1.2	1.5	V V	I _F = 10mA I _R = 10μA	
Output (note 2)	Peak Off-state Voltage (V _{DM}) IS605	400	1.1	1.3	V	R _{GK} = 10kΩ, I _D = 2μA	
	IS606	625			V	R _{GK} = 10kΩ, I _D = 2μA	
	Peak Reverse Voltage (V _{RM}) IS605	400			V	R _{GK} = 10kΩ, I _D = 2μA	
	IS606	625			V	R _{GK} = 10kΩ, I _D = 2μA	
	On-state Voltage (V _{TM})				V	I _{TM} = 300mA	
	Off-state Current (I _{DM}) IS605				2	μA	R _{GK} = 10kΩ, I _F = 0, V _{DM} = 400V
	IS606				2	μA	R _{GK} = 10kΩ, I _F = 0, V _{DM} = 625V
	Reverse Current (I _R) IS605				2	μA	R _{GK} = 10kΩ, I _F = 0, V _{DM} = 400V
	IS606				2	μA	R _{GK} = 10kΩ, I _F = 0, V _{DM} = 625V
Coupled	Input Current to Trigger (I _{FT}) (note 2) IS605 IS606 Turn on Time (t _{on})	500 5300 7500 10 ¹¹		11 14 50	mA mA μs	V _{AK} =100V, R _{GK} =27kΩ V _{AK} =100V, R _{GK} =27kΩ R _{GK} =27kΩ, I _F =30mA, V _{AK} =20V, R _L =200Ω	
	Coupled dv/dt, Input to Output (dv/dt)				V/μs		
	Input to Output Isolation Voltage V _{ISO}				V _{RMS}	See note 1	
	Input-output Isolation Resistance R _{ISO}				V _{PK}	See note 1	
	Input-output Capacitance Cf				Ω	V _{IO} = 500V (note 1)	
					2	pF	V = 0, f =1MHz

Note 1 Measured with input leads shorted together and output leads shorted together.

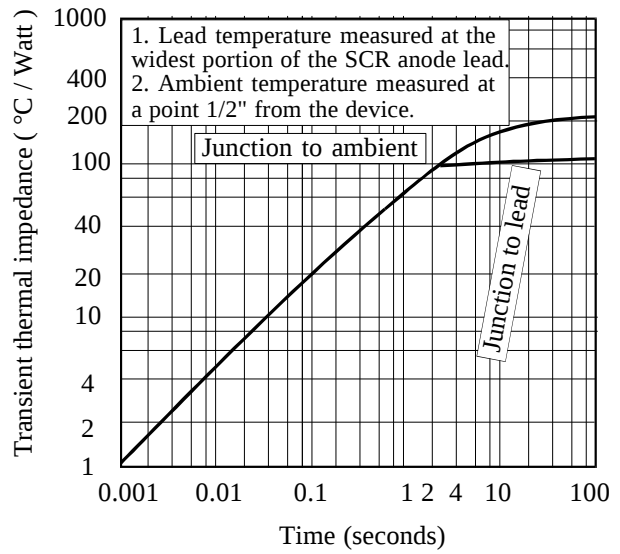
Note 2 Special Selections are available on request. Please consult the factory.



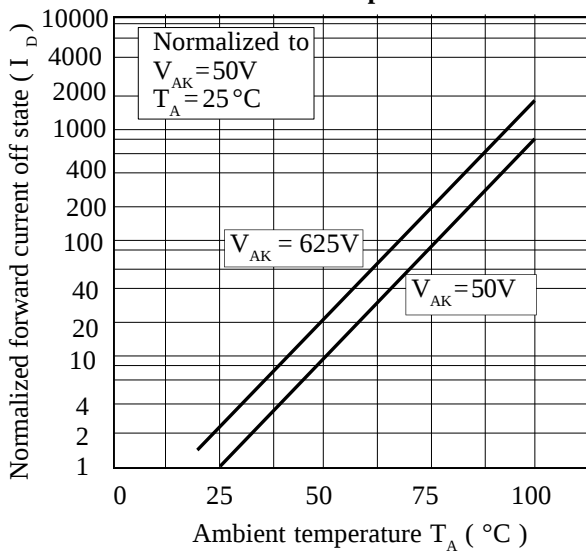
Holding Current vs. Ambient Temperature



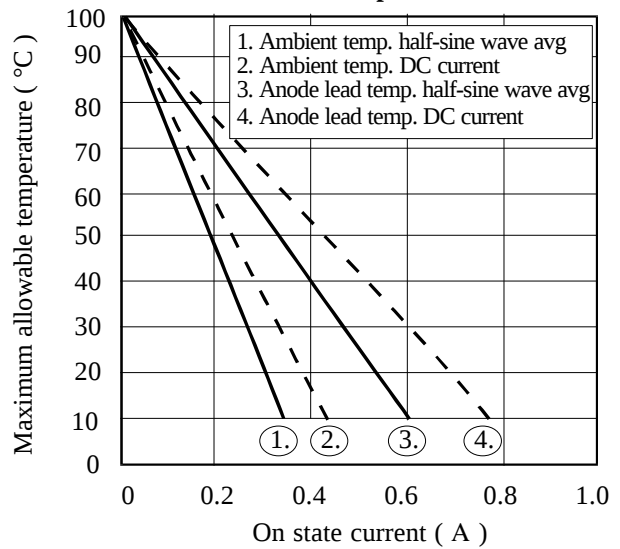
Maximum Transient Thermal Impedance



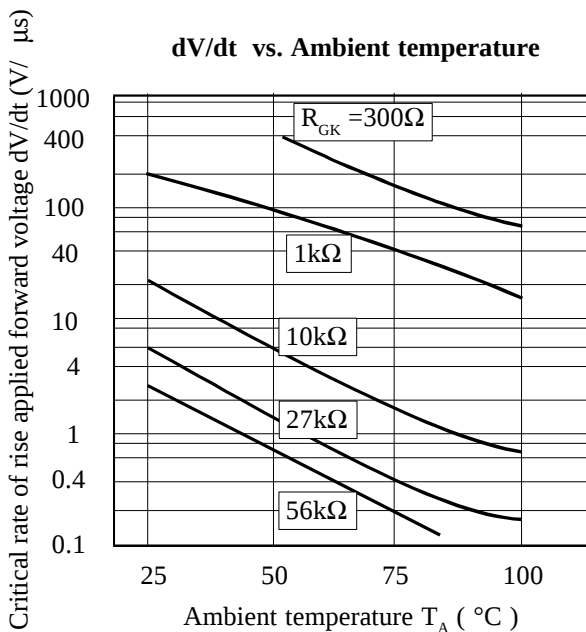
Off State Forward Current vs. Ambient Temperature



On State Current vs. Maximum Allowable Temperature



dV/dt vs. Ambient temperature



On State Characteristics

