IS6051

LOW INPUT CURRENT INFRA-RED EMITTING DIODE & LIGHT ACTIVATED SCR

APPROVALS

- UL recognised, File No. E91231

DESCRIPTION

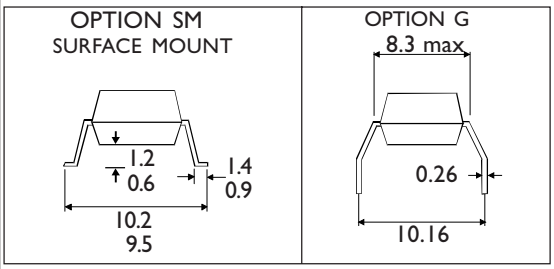
The IS6051 is an optically coupled isolator consisting of infrared light emitting diode and a light activated silicon controlled rectifier in a standard 6pin dual in line plastic package.

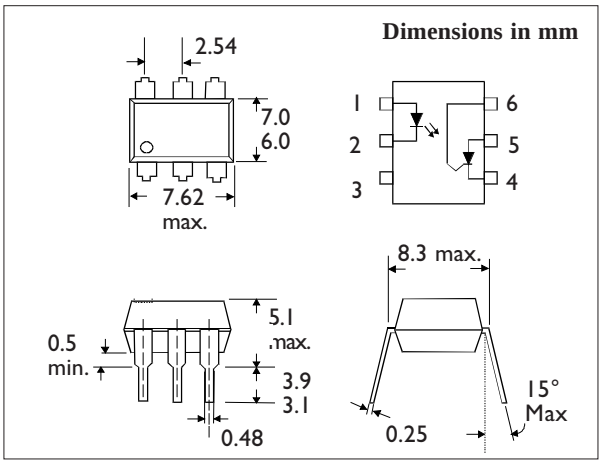
FEATURES

- 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)
- Low Turn on Current (5mA typical)
- All electrical parameters 100% tested
- Custom electrical selections available

APPLICATIONS

- 10A, T^2L 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
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} < 56kΩ)

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ELECTRICAL CHARACTERISTICS (T_A= 25°C Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.5	V	I_F = 10mA
	Reverse Voltage (V_R)	3			V	I_R = 10µA
Output (note 2)	Peak Off-state Voltage (V_{DM})	400			V	R_{GK}= 10kΩ, I_D= 2µA
	Peak Reverse Voltage (V_{RM})	400			V	R_{GK}= 10kΩ, I_D= 2µA
	On-state Voltage (V_{TM})		1.1	1.3	V	I_{TM} = 300mA
	Off-state Current (I_{DM})			2	µA	R_{GK}= 10kΩ, I_F= 0, V_{DM}=400V
	Reverse Current (I_R)			2	µA	R_{GK}= 10kΩ, I_F= 0, V_{DM}=400V
Coupled	Input Current to Trigger (I_{FT}) (note 2)			3	mA	V_{AK}=100V, R_{GK}=27kΩ
	Turn on Time (t_{on})			50	µs	R_{GK}=27kΩ, I_F=30mA, V_{AK}=20V, R_L=200Ω
	Coupled dv/dt, Input to Output (dv/dt)	500			V/µs	
	Input to Output Isolation Voltage V_{ISO}	5300			V_{RMS}	See note 1
		7500			V_{PK}	See note 1
	Input-output Isolation Resistance R_{ISO}	10^{11}			Ω	V_{IO} = 500V (note 1)
	Input-output Capacitance Cf			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.