IS733

A.C. INPUT PHOTOTRANSISTOR OPTICALLY COUPLED ISOLATORS

APPROVALS

- UL recognised, File No. E91231

'X' SPECIFICATION APPROVALS

- VDE 0884 approval pending
- EN60950 approval pending

DESCRIPTION

The IS733 optically coupled isolator consists of two infrared light emitting diodes connected in inverse parallel and NPN silicon photo transistor in a standard 6 pin dual in line plastic package.

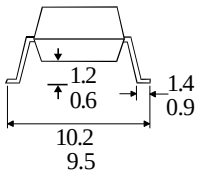
FEATURES

- 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 ($5.3kV_{RMS}$,$7.5kV_{PK}$)
- AC or polarity insensitive input
- All electrical parameters 100% tested
- Custom electrical selections available

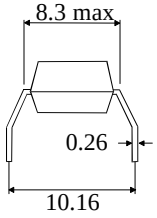
APPLICATIONS

- Computer terminals
- Industrial systems controllers
- Telephone sets, Telephone exchangers
- Signal transmission between systems of different potentials and impedances

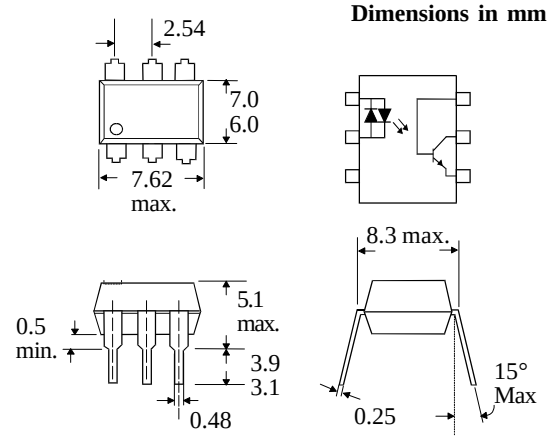
OPTION SM
SURFACE MOUNT



OPTION G



Dimensions in mm



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	±50mA
Peak Forward Current	±1A
Power Dissipation	70mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	35V
Collector-base Voltage BV_{CBO}	35V
Emitter-collector Voltage BV_{ECO}	6V
Emitter-base Voltage BV_{EBO}	6V
Power Dissipation	150mW

POWER DISSIPATION

Total Power Dissipation	170mW
(derate linearly 2.27mW/°C above 25°C)	

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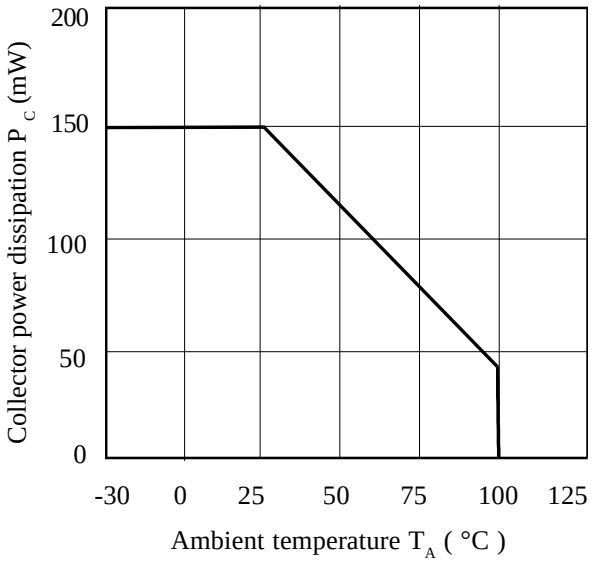
ELECTRICAL CHARACTERISTICS (T_A = 25°C Unless otherwise noted)

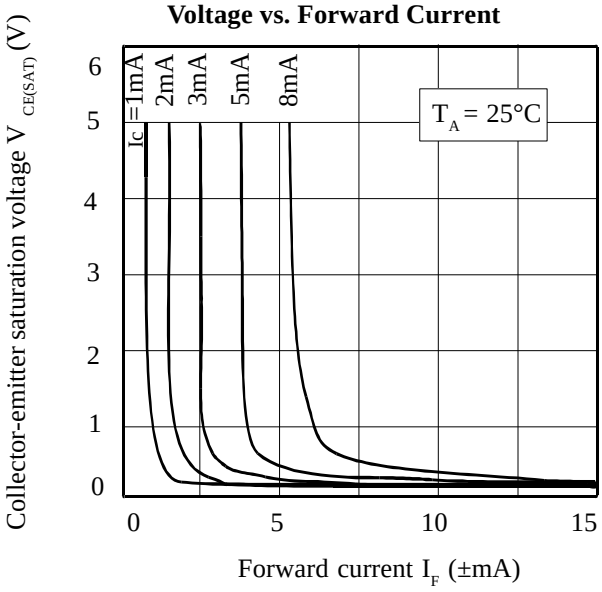
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.4	V	I_F = ±20mA
Output	Collector-emitter Breakdown (BV_{CEO}) (note 2)	35			V	I_C = 1mA
	Collector-base Breakdown (BV_{CBO})	35			V	I_C = 100µA
	Emitter-base Breakdown (BV_{EBO})	6			V	I_E = 100µA
	Emitter-collector Breakdown (BV_{ECO})	6			V	I_E = 100µA
	Collector-emitter Dark Current (I_{CEO})			100	nA	V_{CE} = 20V
Coupled	Current Transfer Ratio (CTR) (note 2)	15		300	%	±1mAI_F , 5V V_{CE}
	Collector-emitter Saturation Voltage$V_{CE(SAT)}$			0.2	V	±20mAI_F , 1mAI_C
	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}	$5x10^{10}$			Ω	V_{IO} = 500V (note 1)
	Output Rise Time tr		4	18	µs	V_{CE} = 2V ,
	Output Fall Time tf		3	18	µs	I_C= 2mA, R_L = 100Ω

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.

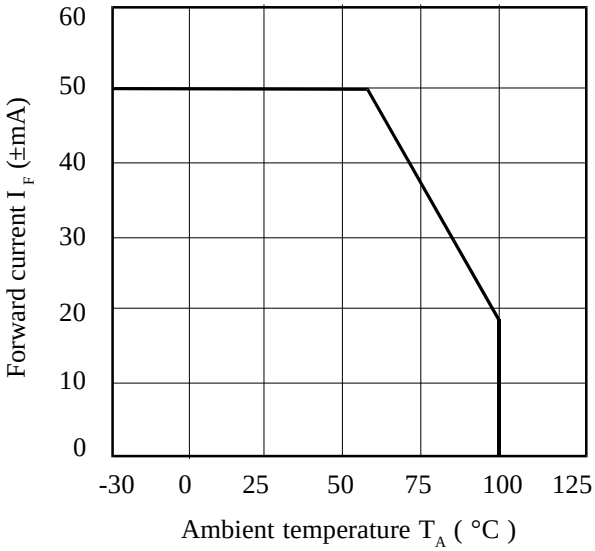
Collector Power Dissipation vs. Ambient Temperature



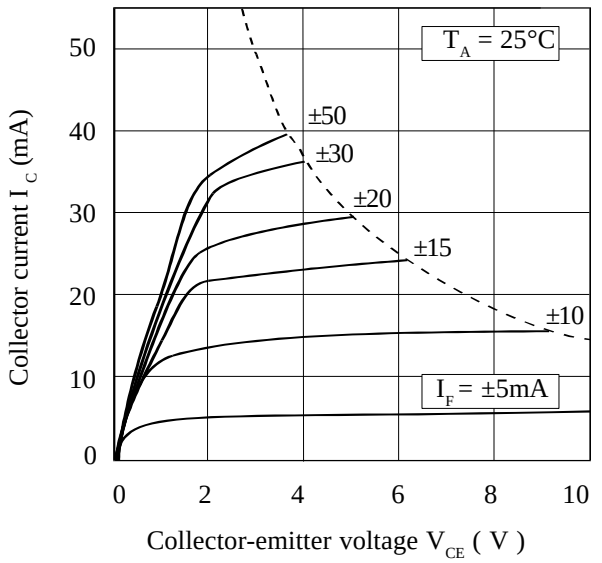
Collector-emitter Saturation Voltage vs. Forward Current



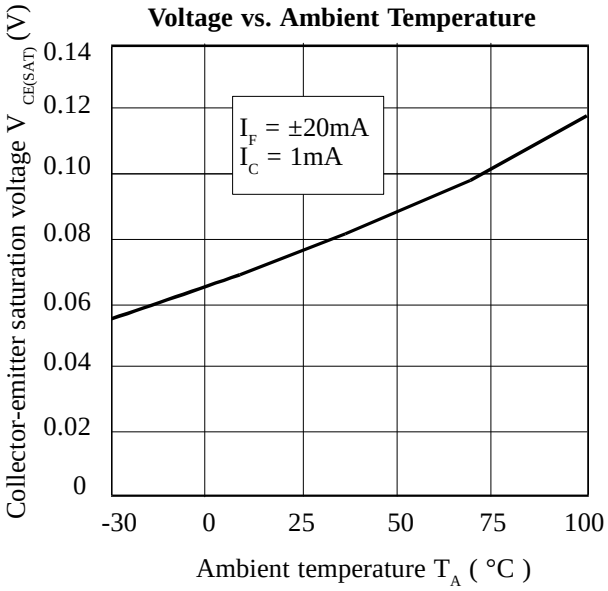
Forward Current vs. Ambient Temperature



Collector Current vs. Collector-emitter Voltage



Collector-emitter Saturation Voltage vs. Ambient Temperature



Current Transfer Ratio vs. Forward Current