

IS201-63

IS201X63

OPTICALLY COUPLED ISOLATOR PHOTOTRANSISTOR OUTPUT



APPROVALS

- UL recognised, File No. E91231
- 'X' SPECIFICATION APPROVALS
- VDE 0884 in 3 available lead forms : -
 - STD
 - G form
 - SMD approved to CECC 00802
- Certified to EN60950 by the following Test Bodies :-
 - Nemko - Certificate No. P96101299
 - Fimko - Registration No. 190469-01..22
 - Semko - Reference No. 9620076 01
 - Demko - Reference No. 305567

DESCRIPTION

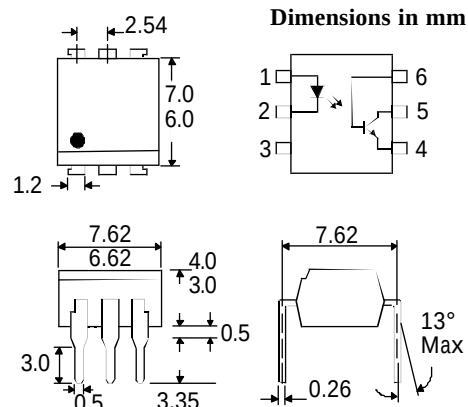
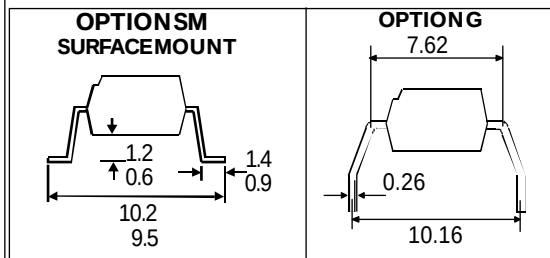
The IS201-63 optically coupled isolator consists of an infrared light emitting diode and a NPN silicon photo transistor in a standard 6 pin dual in line plastic package.

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 BV_{CEO} (70V min)
- High Isolation Voltage (3.75kV_{RMS})
- All electrical parameters 100% tested
- Custom electrical selections available

APPLICATIONS

- DC motor controllers
- Industrial systems controllers
- Measuring instruments
- Signal transmission between systems of different potentials and impedances



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
 Reverse Voltage _____ 6V
 Power Dissipation _____ 105mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO} _____ 70V
 Collector-base Voltage BV_{CBO} _____ 70V
 Emitter-collector Voltage BV_{ECO} _____ 6V
 Power Dissipation _____ 160mW

POWER DISSIPATION

Total Power Dissipation _____ 200mW
 (derate linearly 2.67mW/°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)	6	1.2	1.65	V	$I_F = 60\text{mA}$ $I_R = 10\mu\text{A}$ $V_R = 6\text{V}$
	Reverse Voltage (V_R)			10	V	
	Reverse Current (I_R)				μA	
Output	Collector-emitter Breakdown (BV_{CEO}) (note 2)	70		50	V	$I_C = 1\text{mA}$
	Collector-base Breakdown (BV_{CBO})	70			V	$I_C = 100\mu\text{A}$
	Emitter-collector Breakdown (BV_{ECO})	6			V	$I_E = 100\mu\text{A}$
	Collector-emitter Dark Current (I_{CEO})				nA	$V_{CE} = 10\text{V}$
Coupled	Current Transfer Ratio (CTR)	75		0.4	%	$10\text{mA } I_F, 10\text{V } V_{CE}$
		10			%	$1\text{mA } I_F, 10\text{V } V_{CE}$
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$				V	$10\text{mA } I_F, 2\text{mA } I_C$
	Input to Output Isolation Voltage V_{ISO}	3750			V_{RMS}	See note 1
	Input-output Isolation Resistance R_{ISO}	5×10^{10}			Ω	$V_{IO} = 500\text{V}$ (note 1)
	Turn-on Time t_{on}		3.0		μs	$V_{CE} = 5\text{V},$ $I_F = 2\text{mA}, R_L = 75\Omega$ (FIG 1)
	Turn-off Time t_{off}				μs	

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.

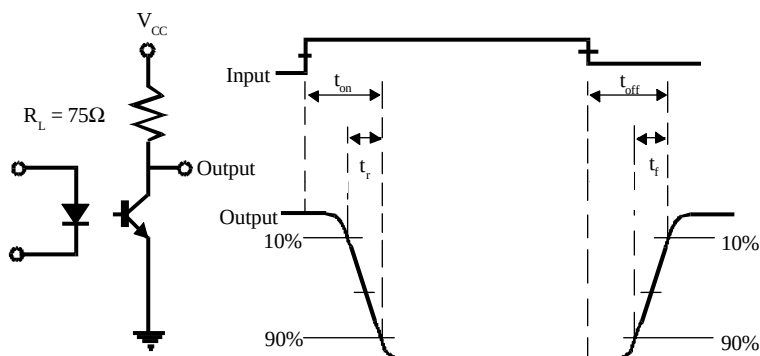
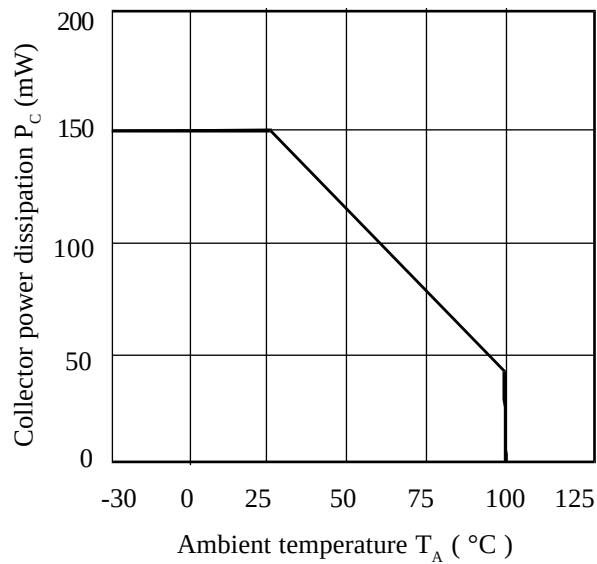
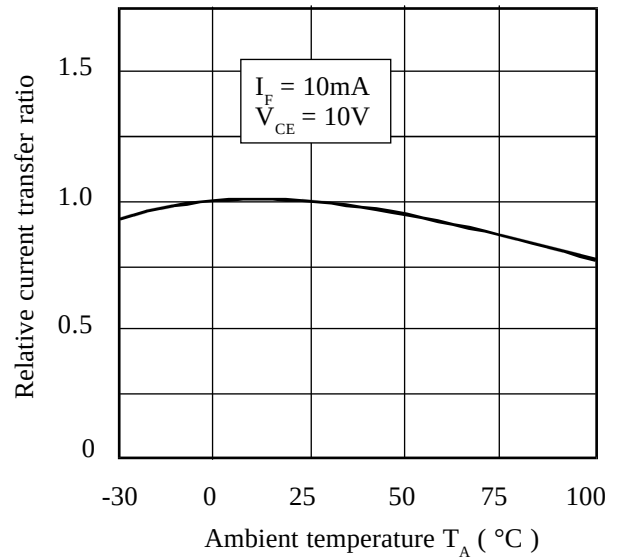


FIG 1

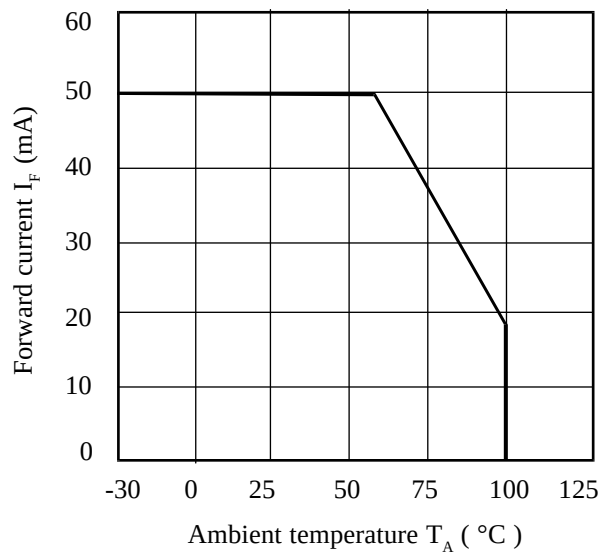
Collector Power Dissipation vs. Ambient Temperature



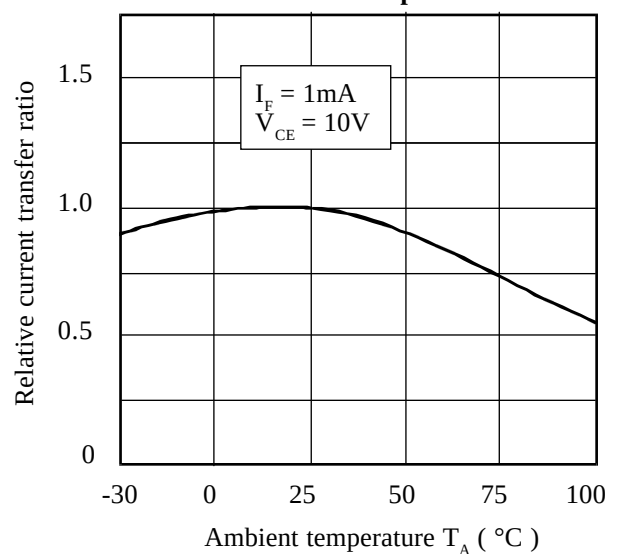
Relative Current Transfer Ratio vs. Ambient Temperature



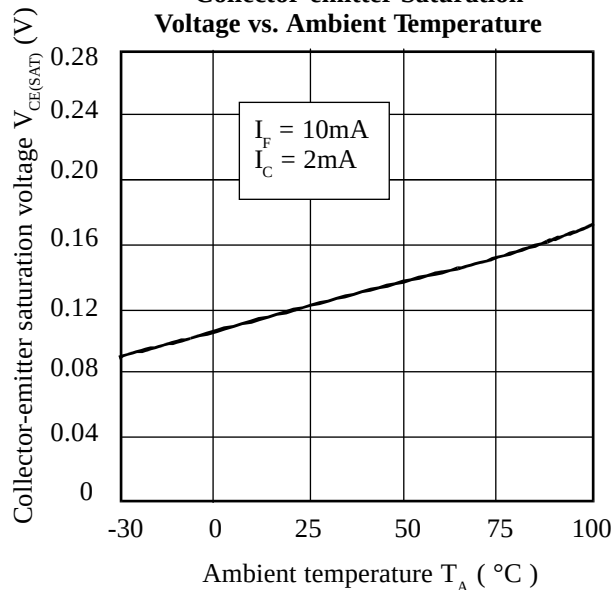
Forward Current vs. Ambient Temperature



Relative Current Transfer Ratio vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature



Relative Current Transfer Ratio vs. Forward Current

