

IS201, IS202, IS203, IS204,
ISD201, ISD202, ISD203, ISD204,
ISQ201, ISQ202, ISQ203, ISQ204



ISOCOM

COMPONENTS

HIGH DENSITY PHOTOTRANSISTOR OPTICALLY COUPLED ISOLATORS



APPROVALS

- UL recognised, File No. E91231
Package Code " GG " or " FF "

'X' SPECIFICATION APPROVALS

- VDE 0884 in 3 available lead form : -
- STD
- G form
- SMD approved to CECC 00802
- IS20* Certified to EN60950 by :-
Nemko - Certificate No. P01102464

DESCRIPTION

The IS20*, ISD20*, ISQ20* series of optically coupled isolators consist of infrared light emitting diodes and NPN silicon photo transistors in space efficient dual in line plastic packages.

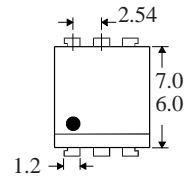
FEATURES

- 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 BV_{CEO} (70V min)
- All electrical parameter 100% tested
- Custom electrical selections available

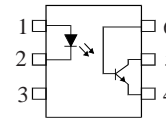
APPLICATIONS

- Computer terminals
- Industrial systems controllers
- Signal transmission between systems of different potentials and impedances

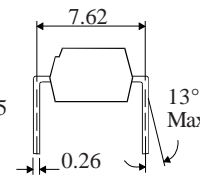
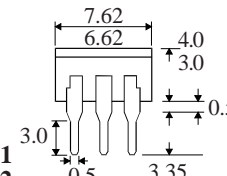
IS201
IS202
IS203
IS204



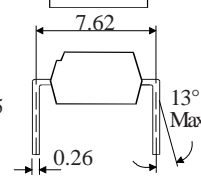
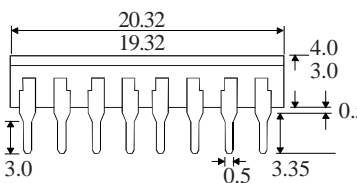
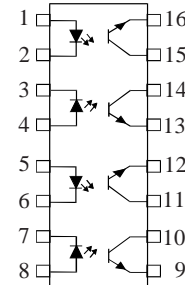
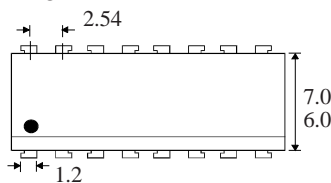
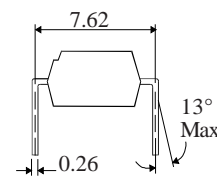
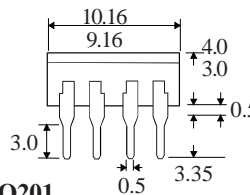
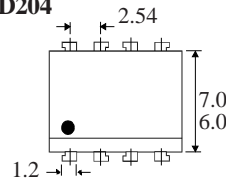
Dimensions in mm



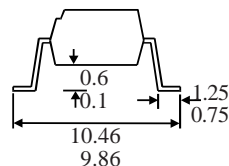
ISD201
ISD202
ISD203
ISD204



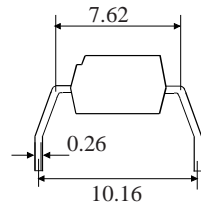
ISQ201
ISQ202
ISQ203
ISQ204



OPTION SM
SURFACEMOUNT



OPTION G



ISOCOM COMPONENTS 2004 LTD

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ABSOLUTE MAXIMUM RATINGS
(25°C unless otherwise specified)

Storage Temperature	_____	-40°C to +125°C
Operating Temperature	_____	-25°C to +100°C
Lead Soldering Temperature		
(1/16 inch (1.6mm) from case for 10 secs)		260°C

INPUT DIODE

Forward Current	_____	50mA
Reverse Voltage	_____	6V
Power Dissipation	_____	70mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	_____	70V
Emitter-collector Voltage BV_{ECO}	_____	6V
Collector Current	_____	50mA
Power Dissipation	_____	150mW

POWER DISSIPATION

Total Power Dissipation	_____	170mW
(derate linearly 2.67mW/°C above 25°C)		

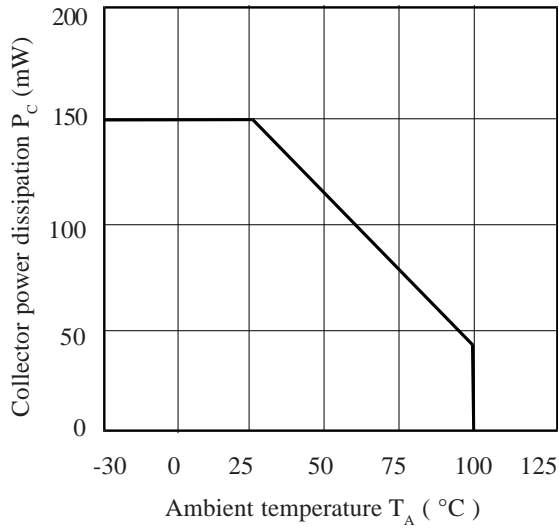
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.65	V	$I_F = 50\text{mA}$
	Reverse Current (I_R)			10	μA	$V_R = 4\text{V}$
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 2)	70			V	$I_C = 1\text{mA}$
	Emitter-collector Breakdown (BV_{ECO})	6			V	$I_E = 100\mu\text{A}$
	Collector-emitter Dark Current (I_{CEO})			50	nA	$V_{CE} = 10\text{V}$
Coupled	Current Transfer Ratio (CTR) (Note 2)					
	IS201, ISD201, ISQ201	75			%	$10\text{mA } I_F, 10\text{V } V_{CE}$
	IS201, ISD201, ISQ201	10			%	$1\text{mA } I_F, 10\text{V } V_{CE}$
	IS202, ISD202, ISQ202	125		250	%	$10\text{mA } I_F, 10\text{V } V_{CE}$
	IS202, ISD202, ISQ202	30			%	$1\text{mA } I_F, 10\text{V } V_{CE}$
	IS203, ISD203, ISQ203	225		450	%	$10\text{mA } I_F, 10\text{V } V_{CE}$
	IS203, ISD203, ISQ203	50			%	$1\text{mA } I_F, 10\text{V } V_{CE}$
	IS204, ISD204, ISQ204	200		400	%	$10\text{mA } I_F, 10\text{V } V_{CE}$
	IS204, ISD204, ISQ204	100			%	$1\text{mA } I_F, 10\text{V } V_{CE}$
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$		0.2	0.4	V	$10\text{mA } I_F, 2\text{mA } I_C$
	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}	5×10^{10}			Ω	$V_{IO} = 500\text{V}$ (note 1)	
Output Turn on Time t_{ON}		3.0		μs	$I_F = 10\text{mA}$	
Output Turn off Time t_{OFF}		2.5		μs	$V_{CE} = 5\text{V}, R_L = 75\Omega$	

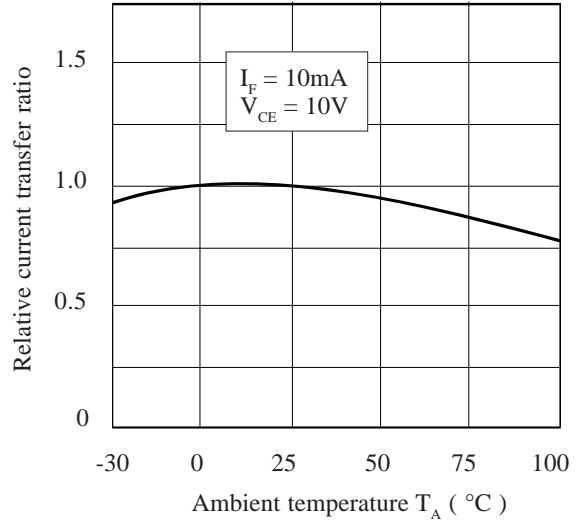
Note 1 Measured with input leads shorted together and output leads shorted together.

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

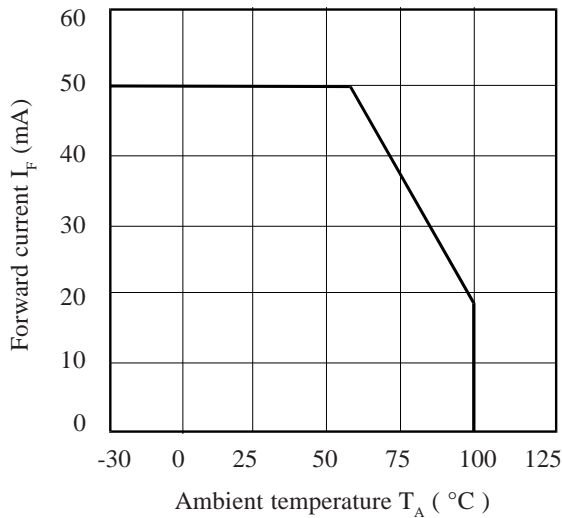
Collector Power Dissipation vs. Ambient Temperature



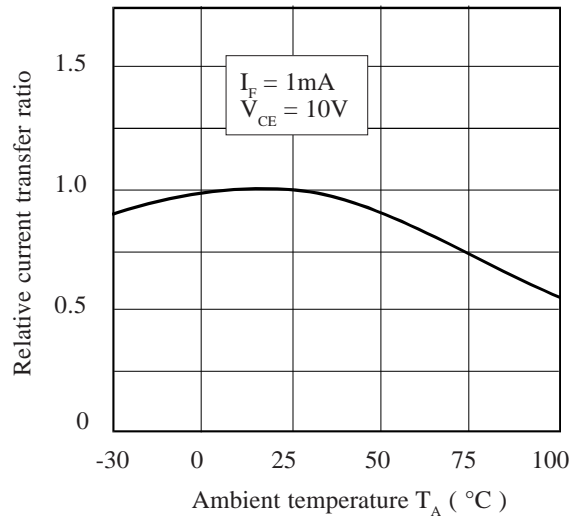
Relative Current Transfer Ratio vs. Ambient Temperature



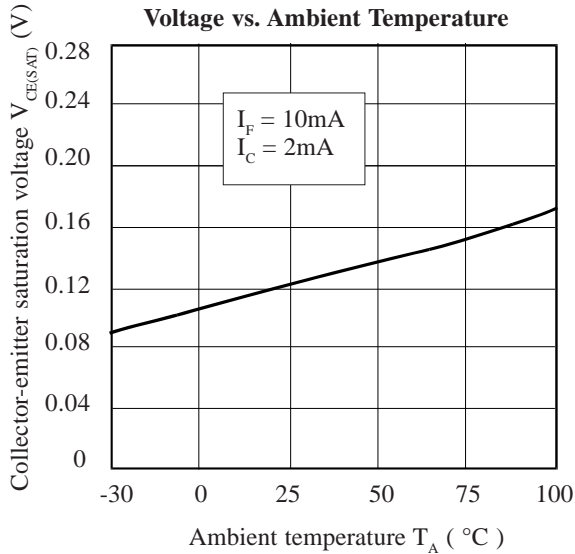
Forward Current vs. Ambient Temperature



Relative Current Transfer Ratio vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature



Relative Current Transfer Ratio vs. Forward Current

