



ISOCOM
COMPONENTS

IS201, IS202, IS203



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 (5.3kVRMS ,7.5kVPK) High BVCEO (70V min)
- All electrical parameter 100% tested
- Custom electrical selections available
- UL recognised, File No. E91231 Package Code " GG " or " FF "
- VDE 0884 in 3 available lead form : - - STD - G form - SMD approved to CECC 00802
- IS20* Certified to EN60950 by :- Nemko - Certificate No. P01102464

APPLICATIONS

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

ORDER INFORMATION

- Available in Tape & Reel with 3000 pieces per reel

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C)

Stresses exceeding the absolute maximum ratings can cause permanent damage to the device.

Exposure to absolute maximum ratings for long periods of time can adversely affect reliability.

Input

Forward Current	50mA
Reverse Voltage	6V
Power dissipation	70mW

Output

Collector to Emitter Voltage BV _{CEO}	70V
Emitter to Collector Voltage BV _{ECO}	6V
Collector Current	50mA
Power Dissipation	150mW

Total Package

Total Power Dissipation	170mW
Operating Temperature	-25°C - 100°C
Storage Temperature	-40°C - 125°C
Lead Soldering Temperature (10s)	260°C (10 Sec)

ISOCOM COMPONENTS 2004 LTD

Unit 25B, Park View Road West, Park View Industrial Estate
Hartlepool, Cleveland, TS25 1PE, United Kingdom
Tel : +44 (0)1429 863 609 Fax : +44 (0)1429 863 581
e-mail : sales@isocom.co.uk
<http://www.isocom.com>

ISOCOM COMPONENTS ASIA LTD

Hong Kong Office
Block A, 8/F, Wah Hing Industrial Mansion
36 Tai Yau Street, San Po Kong, Kowloon, Hong Kong
Tel : +852 2995 9217 Fax : +852 8161 6292
e-mail : sales@isocom.com.hk



IS201, IS202, IS203

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

INPUT

Parameter	Symbol	Test Condition	Min	Typ.*	Max	Unit
Forward Voltage	V_F	$I_F = 50\text{mA}$		1.2	1.65	V
Reverse Current	I_R	$V_R = 4\text{V}$			10	μA

OUTPUT

Parameter	Symbol	Test Condition	Min	Typ.*	Max	Unit
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 1\text{mA}$	70			V
Emitter-Collector Breakdown Voltage	BV_{ECO}	$I_E = 100\mu\text{A}$	6			V
Collector-Emitter Dark Current	I_{CEO}	$V_{CE} = 10\text{V}$			50	nA

COUPLED

Parameter	Symbol	Test Condition	Min	Typ.*	Max	Unit
Current Transfer Ratio	CTR					%
IS201		10mA, I_F 10V V_{CE} 1mA, I_F 10V V_{CE}	75 10		450	
IS202		10mA, I_F 10V V_{CE} 1mA, I_F 10V V_{CE}	125 30		450	
IS203		10mA, I_F 10V V_{CE} 1mA, I_F 10V V_{CE}	210 45		450	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_F = 10\text{mA}$, $I_F = 2\text{mA}$ I_C		0.2	0.4	V
Input-output Isolation Resistance	R_{ISO}	$V_{10} = 500\text{V}$	5×10^{10}			Ω
Output Turn on Time	t_{ON}	$I_F = 10\text{mA}$ $V_{CE} = 5\text{V}$ $R_L = 75\Omega$		3		μs
Output Turn off Time	t_{OFF}			2.5		μs



IS201, IS202, IS203

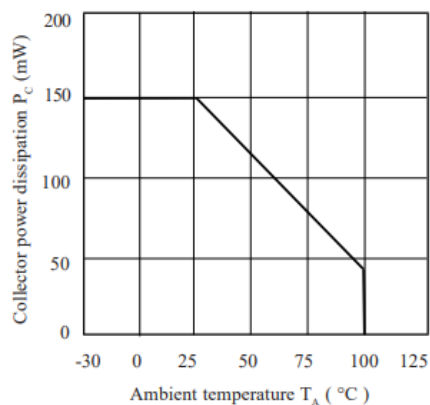


Fig 1 Collector Power Dissipation vs Ambient Temperature

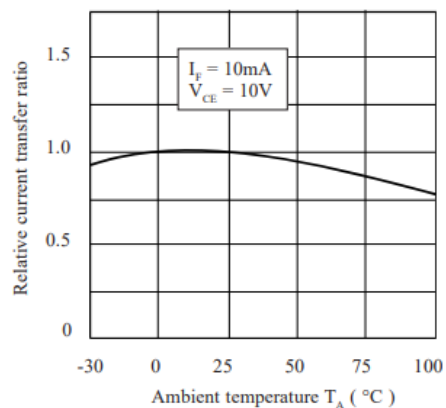


Fig 2 Relative Current Transfer Ratio vs Ambient Temperature

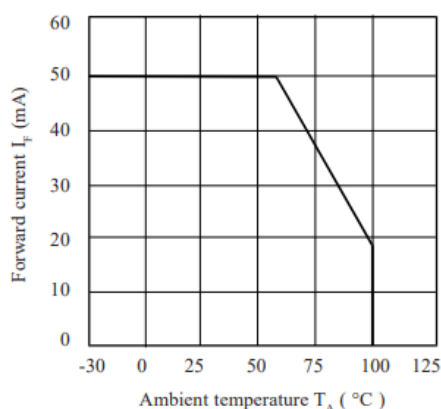


Fig 3 Forward Current vs Ambient

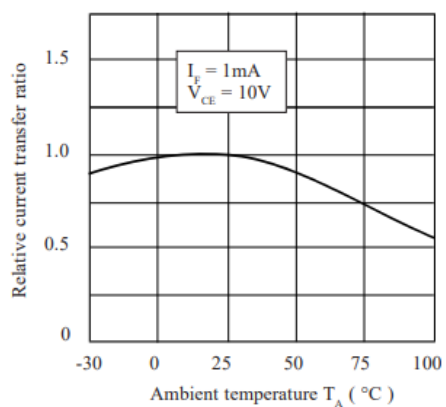


Fig 4 Relative Current Transfer Ratio vs Ambient Temperature

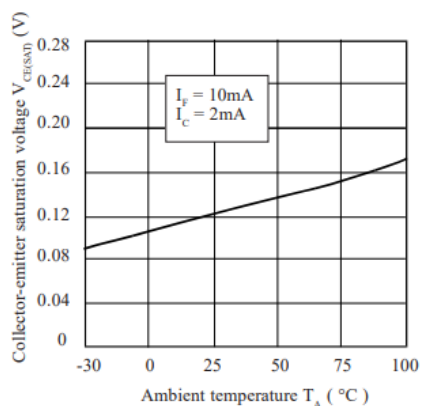


Fig 5 Collector-Emitter Saturation Voltage vs Ambient Temperature

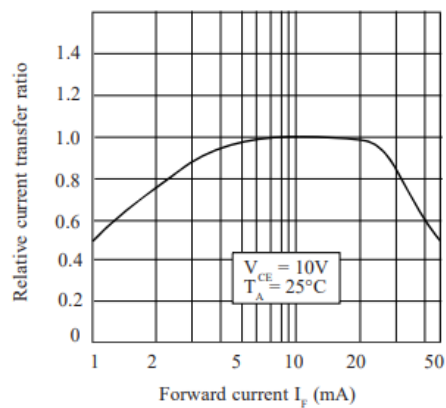


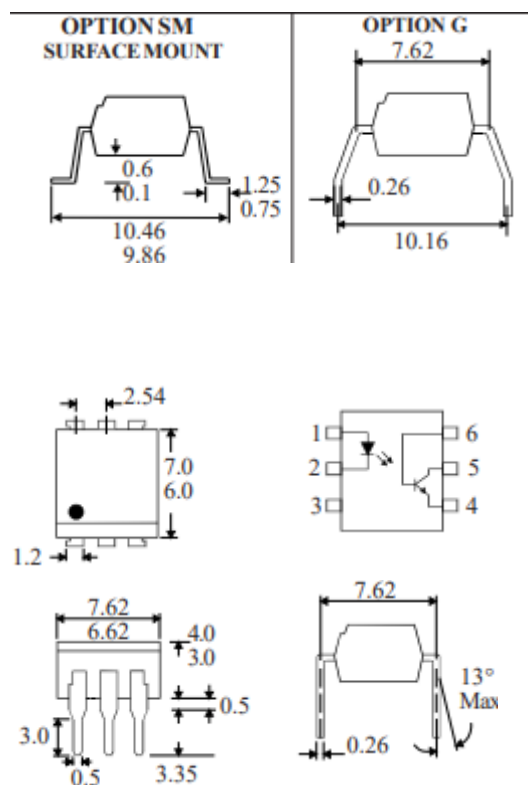
Fig 6 Relative Current Transfer Ratio vs Forward Current



ISOCOM
COMPONENTS

IS201, IS202, IS203

DIMENSIONS (mm)



DEVICE MARKING

I Isocom

YY Year code (A=2010, B=2011, etc.)

WW 2 digit Week code

UL identification also marked on the device.

DISCLAIMER

Isocom Components is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing Isocom Components products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such Isocom Components products could cause loss of human life, bodily injury or damage to property.

In developing your designs, please ensure that Isocom Components products are used within specified operating ranges as set forth in the most recent Isocom Components products specifications.

The Isocom Components products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These Isocom Components products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation Instruments, traffic signal instruments, combustion control instruments, medical Instruments, all types of safety devices, etc... Unintended Usage of Isocom Components products listed in this document shall be made at the customer's own risk.

Gallium arsenide (GaAs) is a substance used in the products described in this document. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them. When disposing of the products, follow the appropriate regulations. Do not dispose of the products with other industrial waste or with domestic garbage.

The products described in this document are subject to the foreign exchange and foreign trade laws.

The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by Isocom Components for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of Isocom Components or others.

The information contained herein is subject to change without notice.