



ISOCOM
COMPONENTS

ISQ201, ISQ02, ISQ03



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

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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					%
ISQ201		$10\text{mA}, I_F 10\text{V } V_{CE}$ $1\text{mA}, I_F 10\text{V } V_{CE}$	75 10		450	
ISQ202		$10\text{mA}, I_F 10\text{V } V_{CE}$ $1\text{mA}, I_F 10\text{V } V_{CE}$	125 30		450	
ISQ203		$10\text{mA}, I_F 10\text{V } V_{CE}$ $1\text{mA}, I_F 10\text{V } V_{CE}$	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



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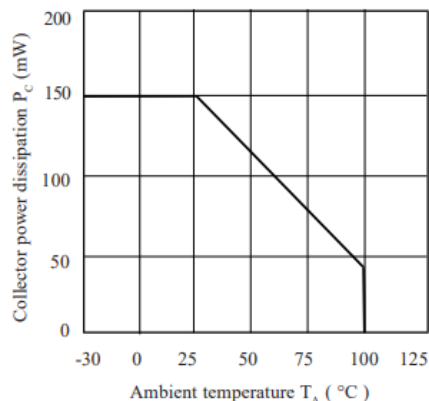


Fig 1 Collector Power Dissipation vs Ambient Temperature

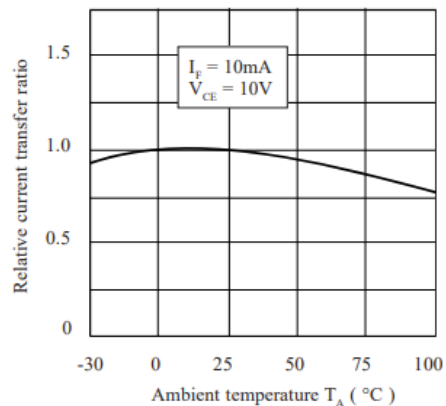


Fig 2 Relative Current Transfer Ratio vs Ambient Temperature

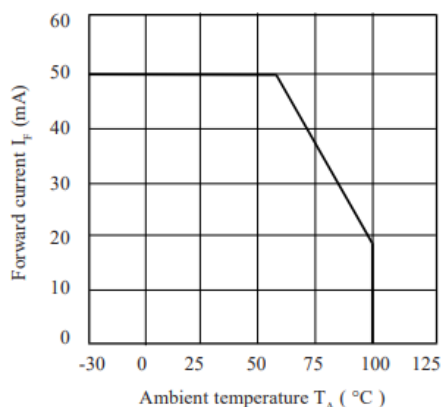


Fig 3 Forward Current vs Ambient

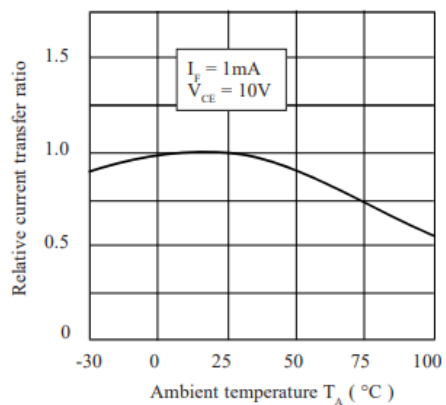


Fig 4 Relative Current Transfer Ratio vs Ambient Temperature

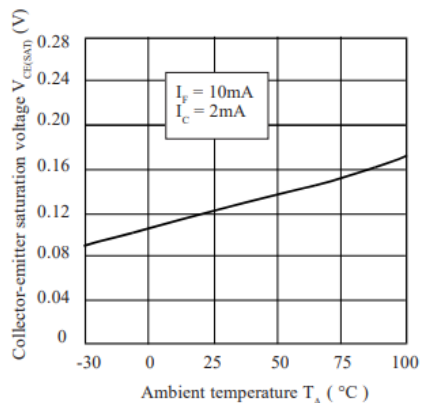


Fig 5 Collector-Emitter Saturation Voltage vs Ambient Temperature

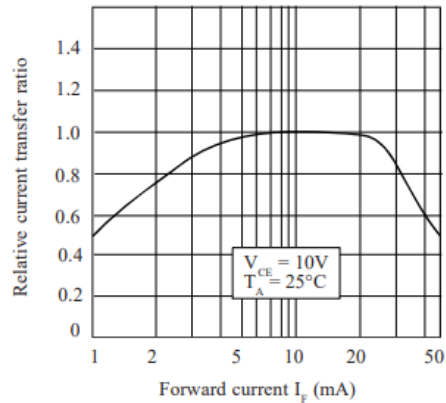


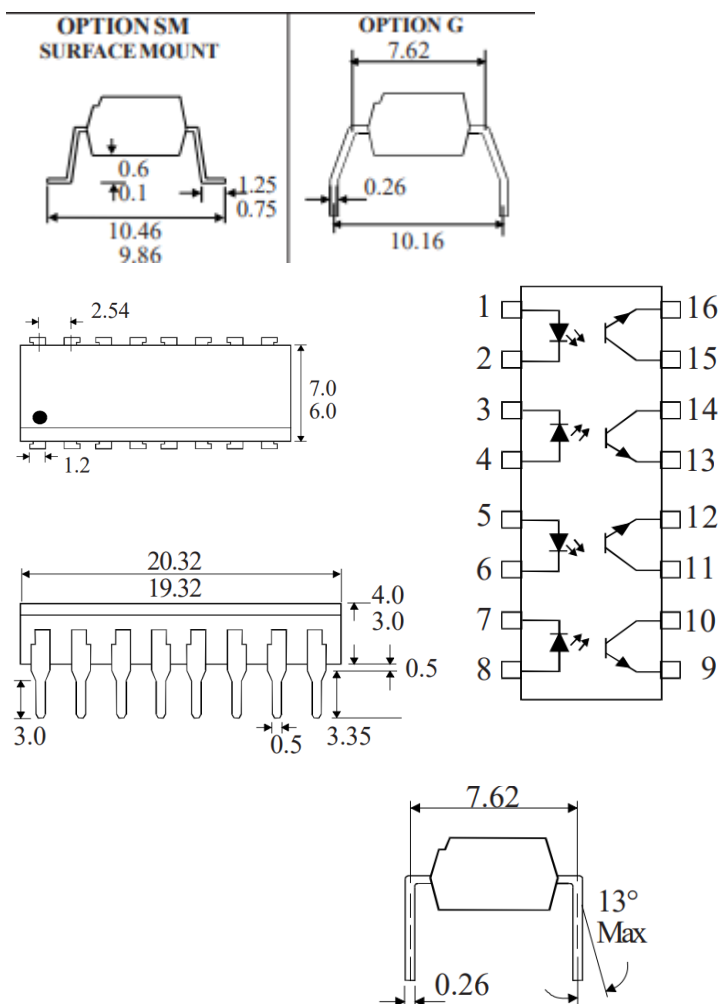
Fig 6 Relative Current Transfer Ratio vs Forward Current



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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.

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