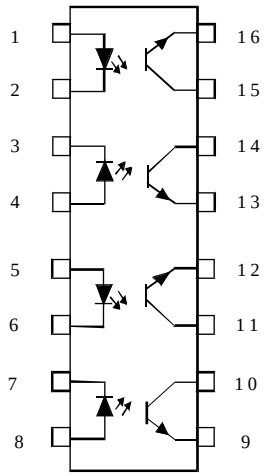
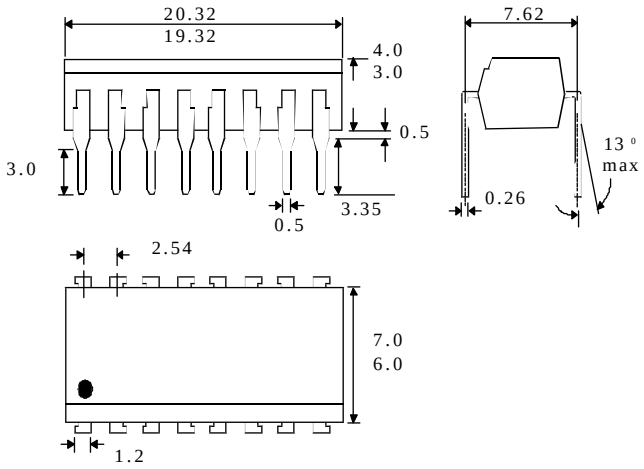
ISQ203B.I.

OPTICALLY COUPLED ISOLATOR TRANSISTOR OUTPUT

SCHEMATIC



PACKAGE DIMENSIONS INCHES (MM)



DESCRIPTION

The ISQ203 B.I. are optically coupled isolators consisting of Gallium Arsenide infrared emitting diodes and NPN silicon phototransistors mounted in a standard 16-pin dual-in-line package with four channels per unit.These devices are burnt in for 168 hours.

ABSOLUTE MAXIMUM RATINGS

(25 °C unless otherwise noted)

Storage Temperature	-55°C to +125°C
Operating Temperature	-55°C to +100°C
Lead Soldering Temperature (2mm from case for 10 secs)	260°C
Input to Output Isolation Voltage	7500V $_{Pk}$

INPUT DIODE

Forward D.C.Current	60mA
Reverse D.C.Voltage	3V
Peak Forward Current (pw ≤100µs, duty ratio 0.001)	1A
Power Dissipation (derate linearly 1.33W/°C above 25°C)	100mW

OUTPUT TRANSISTOR

Collector Emitter Voltage BV_{CEO}	30V
Emitter Collector Voltage BV_{ECO}	7V
Power Dissipation	150mW
(derate linearly 2.00mW/°C above 25°C)	

PACKAGE

Total Power Dissipation	500mW
(derate linearly 6.67mW/°C above 25°C)	

ISOCOM COMPONENTS LTD
Unit 25B, Park Road West,
Park View Industrial Estate, Brenda Road
Hartlepool, Cleveland, TS25 1YD
Tel: (01429) 863609 Fax :(01429) 863581

ISOCOM INC
720 E., Park Boulevard, Suite 104,
Plano, TX 75074 USA
Tel: (214) 423-5521
Fax: (214) 422-4549

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

	Parameter	Min.	Typ	Max.	Units	Test Condition
Input	Forward Voltage (V_F)		1.2	1.5	Volt	I_F = 20 mA
	Forward Voltage (V_F)		1.0	1.2	Volt	I_F = 1mA
	Reverse Current (I_R)			10	µA	V_R = 3V
Output						
	Collector-emitter Voltage (BV_{CEO})	30	50		Volt	I_C = 1mA
	Emitter-collector Voltage (BV_{ECO})	7	9		Volt	I_E = 0.1 mA
	Collector-emitter Dark Current (I_{CEO})			50	nA	V_{CE} = 10 V
Coupled	DC Current Transfer Ratio (CTR)	225		450	%	I_F = 10 mA, V_{CE} = 10V
	DC Current Transfer Ratio (CTR)	50			%	I_F = 1mA, V_{CE} = 10V
	Collector-emitter Saturation Voltage V_{CE} (Sat)				Volt	I_F = 10 mA, I_C = 2 mA
	Floating Capacitance (C_F)			0.4	pF	V = 0 f = 1 MHz
	Input-to-Output Isolation Resistance Riso	10^{12}		10	ohm	V_{IO} = 500V (see note 1)
	Input to Output Isolation Voltage	7500			Vpk	(note 1)
	Output Rise Time (t_r)				µS	I_F = 10mA, V_{CC} = 5V
	Output Turn - on Time (t_{on})		0.2		µS	R_L = 75R,
	Output Fall Time (t_f)		0.6		µS	Fig 1
	Output Turn - off Time (t_{off})				µS	
			2.0			
			3.0			
			2.0			
			2.5			

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

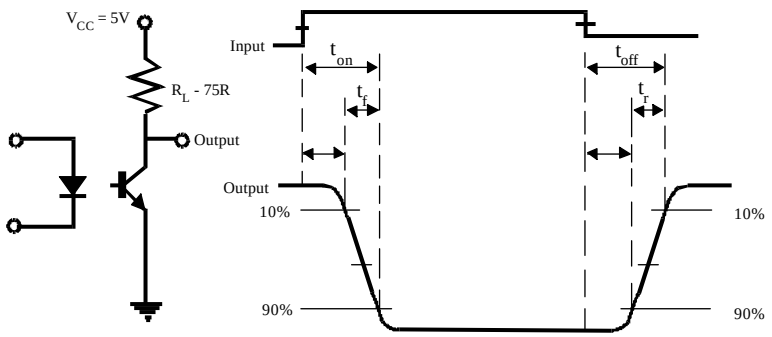


FIG 1

Current Transfer Ratio vs Forward Current

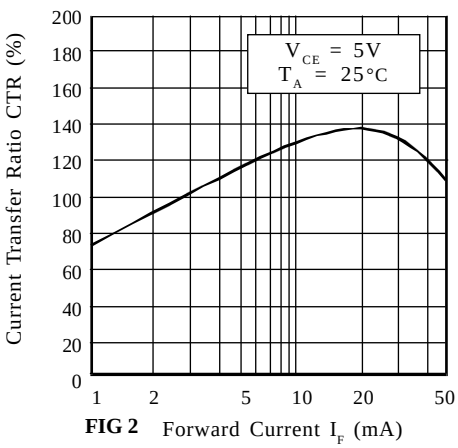


FIG 2