

CNX82A



OPTICALLY COUPLED ISOLATOR TRANSISTOR OUTPUT

DESCRIPTION

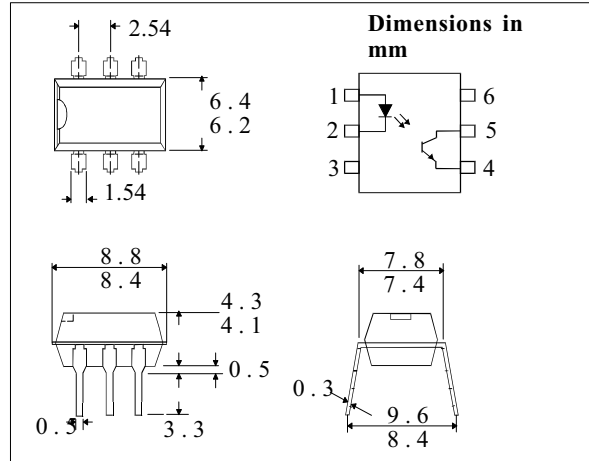
This series of optically coupled isolators consist of a Gallium Arsenide infrared emitting diode and NPN silicon photo transistor mounted in a standard 6-pin dual-in-line package

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	_____	260°C
(2mm from case for 10 secs)		
Input to Output Insulation Voltage	_____	5.3kVDC

INPUT DIODE

Forward D.C. Current	_____	60mA
Reverse D.C. Voltage	_____	5V
Peak Forward Current (tp ≤ 10µs)	_____	3A
Power Dissipation	_____	100mW
(derate linearly 1.33mW/°C above 25°C)		
Junction Temperature	_____	125°C

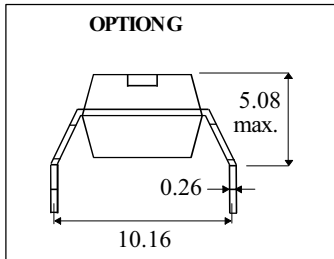


OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	_____	50V
Emitter-collector Voltage BV_{ECO}	_____	7V
Collector Current	_____	50mA
Collector Current (t ≤ 1µs)	_____	100mA
Power Dissipation	_____	150mW
(derate linearly 2.00W/°C above 25°C)		
Junction Temperature	_____	125°C

PACKAGE

Total Power Dissipation	_____	250mW
(derate linearly 3.33W/°C above 25°C)		



ISOCOM COMPONENTS LTD

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

ISOCOM INC

1024 S. Greenville Ave, Suite 240,
Allen, TX 75002 USA
Tel: (214) 495-0755 Fax: (214) 495-0901
e-mail info@isocom.com
http://www.isocom.com

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input	Forward Voltage (V_F)		1.2	1.5	Volt	$I_F = 10 \text{ mA}$
	Capacitance		30		pF	$V_R = 0, f = 1 \text{ MHz}$
	Reverse Current (I_R)			10	μA	$V_R = 5\text{V}$
	Reverse Breakdown Voltage (V_R)	5			Volt	$I_R = 100 \mu\text{A}$
Output	Collector emitter Voltage (BV_{CEO})	50			Volt	$I_C = 1 \text{ mA}$
	Emitter-collector Voltage (BV_{ECO})		7		Volt	$I_E = 100 \mu\text{A}$
	Collector Cutoff Current I_{CEO}		2	50	nA	$V_{CE} = 10\text{V}$
	I_{CEO}			10	μA	$V_{CE} = 10\text{V}, T_A = 70^\circ\text{C}$
Coupled	DC Current Transfer Ratio I_C/I_F	0.4				$I_F = 10\text{mA}, V_{CE} = 0.4\text{V}$
	Collector Cut off Current (light) $I_{CE(L)}$			15	μA	$V_F = 0.8\text{V}, V_{CE} = 15\text{V}, T_A < 70^\circ\text{C}$
	$I_{CE(L)}$	150			μA	$I_F = 2\text{mA}, V_{CE} = 0.4\text{V}, T_A = < 70^\circ\text{C}$
	Collector Cut off Current (dark) I_{CEW}			200	nA	$V_{CC} = 10\text{V}, T_J = 25^\circ\text{C}$ (note 2&3)
	at working voltage $V_w = 2.5\text{kVDC}$			100	μA	$V_{CC} = 10\text{V}, T_J = 70^\circ\text{C}$ (note 2&3)
	Input to Output Isolation Voltage	5.3			kVDC	Note 1
Input to Output Isolation Resistance (R_{IO})	10^{12}			Ω	$V_{IO} = \pm 1000\text{V}$	
Collector Emitter Saturation Voltage $V_{CE(SAT)}$		0.2	0.4	Volt	$I_F = 10\text{mA}, I_C = 4\text{mA}$	
Capacitance Input to Output (C_{IO})			0.4	pF	$F = 1\text{Mhz}$ (note 1)	

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

2 This parameter is the maximum emitter leakage current measured when a high voltage is applied between the shorted diode leads and the transistor emitter. (see fig 1)

3 For quality assurance, the two parameters are tested on a sample basis for 1000 hours

FIGURE 1

