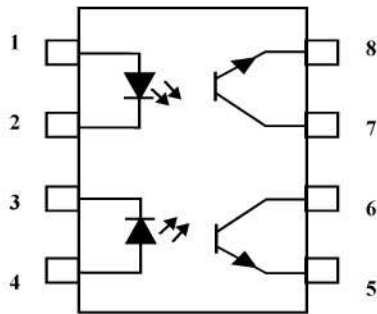




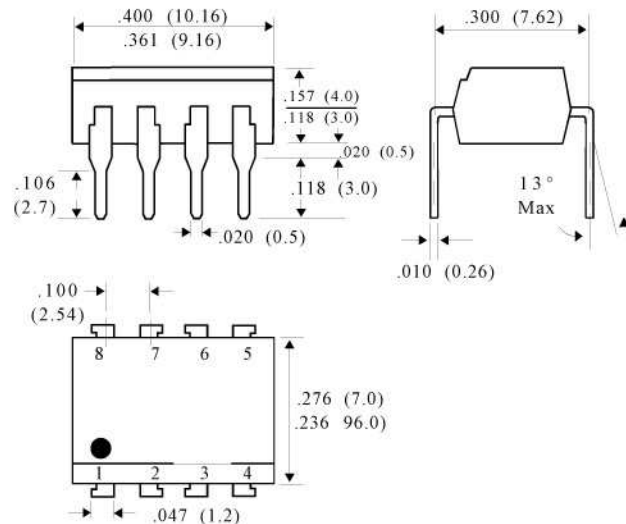
## OPTICALLY COUPLED ISOLATOR TRANSISTOR OUTPUT



### SCHEMATIC



### PACKAGE DIMENSIONS INCHES (MM)



### DESCRIPTION

The PC829H is an optically coupled isolator consisting of Gallium Arsenide infrared emitting diodes and NPN silicon phototransistors mounted in a standard 8-pin dual-in-line package with two channels per unit.

### FEATURES

- High Current Transfer Ratio 50% Min at  $I_F = 5\text{mA}$ ,  $V_{CE} = 5\text{V}$
- Also available in single, quad package
- High Isolation Voltage -  $5000\text{V}_{\text{RMS}}$

### ABSOLUTE MAXIMUM RATINGS ( 25°C unless otherwise noted)

Storage Temperature	-40°C to +125°C
Operating Temperature	-25°C to +100°C
Lead Soldering Temperature (2mm from case for 10 seconds)	260°C
Input-to-Output Isolation Voltage	5000 <sub>RMS</sub>

### INPUT DIODE

Forward D.C. Current	50mA
Reverse D.C. Voltage	6V
Peak Forward Current (p.w. ≤ 100μs, duty ratio 0.001)	1A
Power Dissipation (derate linearly 0.93mW/°C above 25°C)	70mW

### OUTPUT TRANSISTOR

Collector-emitter Voltage $BV_{CEO}$	35V
Power Dissipation (derate linearly 2.00mW/°C above 25°C)	150mW

### PACKAGE

Total Power Dissipation (derate linearly 2.27mW/°C above 25°C)	170mW
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**ISOCOM COMPONENTS LTD**  
 Unit 25B, Park View Road West,  
 Park View Industrial Estate, Brenda Road  
 Hartlepool, Cleveland, TS25 1YD  
 Tel: (0429) 863609 Fax :(0429) 863581

**ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)**

Parameter		Min.	Typ	Max.	Units	Test Condition
Input	Forward Voltage ( $V_F$ )			1.4	Volt	$I_F = 20 \text{ mA}$
	Reverse Current ( $I_R$ )			10	$\mu\text{A}$	$V_R = 4\text{V}$
Output	Collector-emitter Voltage ( $BV_{CEO}$ )	35			Volt	$I_C = 1 \text{ mA}$
	Emitter-collector Voltage ( $BV_{ECO}$ )	6			Volt	$I_E = 0.1 \text{ mA}$
	Collector-emitter Dark Current ( $I_{CEO}$ )			100	nA	$V_{CE} = 20 \text{ V}$
Coupled	DC Current Transfer Ratio (CTR)	50		400	%	$I_F = 5 \text{ mA}, V_{CE} = 5 \text{ V}$
	Collector-emitter Saturation Voltage $V_{CE}(\text{Sat})$		0.1	0.2	Volt	$I_F = 20 \text{ mA}, I_C = 1 \text{ mA}$
	Floating Capacitance ( $C_F$ )		0.6	1.0	pf	$V = 0, f = 1 \text{ mhz}$
	Input-to-Output Isolation Resistance Riso	$5 \times 10^{10}$	$10^{11}$		ohm	$V_{IO} = 500\text{V}$ (see note 1)
	Inout to Output Isolation Voltage	5000			$V_{RMS}$	(note 1)(t = 1 Min)
	Output Turn - on Time ( $t_{on}$ )		3.0		$\mu\text{S}$	$I_C = 2 \text{ mA}, V_{CC} = 10 \text{ V}$
Output Turn - off Time ( $t_{off}$ )		2.5		$\mu\text{S}$	$R_L = 100\Omega$	
Fig 1						

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

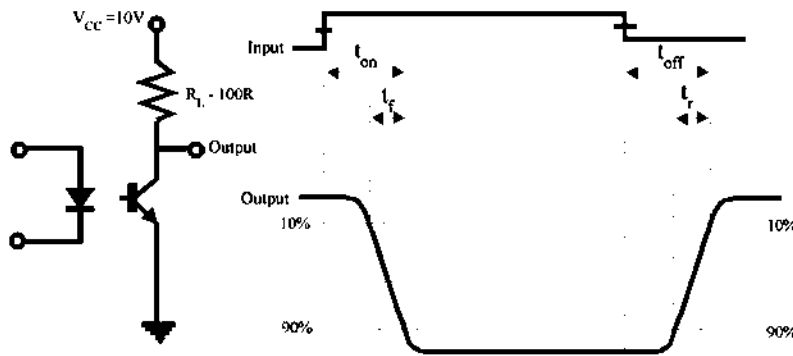


FIG 1