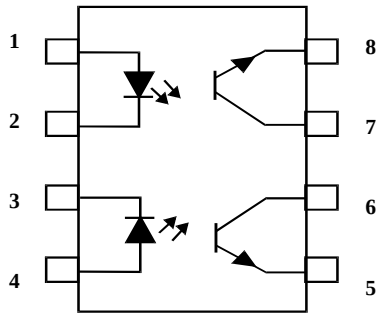
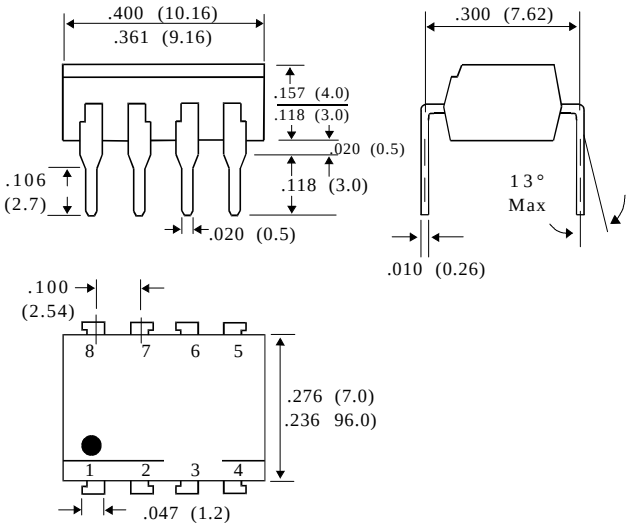
IS829

OPTICALLY COUPLED ISOLATOR TRANSISTOR OUTPUT

SCHEMATIC



PACKAGE DIMENSIONS INCHES (MM)



DESCRIPTION

The IS829 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 = 5mA, V_{CE} = 5V
- Also available in single, quad package
- High Isolation Voltage - 5000 V_{RMS}

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 seconds)	260°C
Input-to-Output Isolation Voltage	5000_{RMS}

INPUT DIODE

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

OUTPUT TRANSISTOR

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

PACKAGE

Total Power Dissipation	170mW
(derate linearly 2.27mW/°C above 25°C)	

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ELECTRICAL CHARACTERISTICS (25^{0}C unless otherwise noted)

	Parameter	Min.	Typ	Max.	Units	Test Condition
Input	Forward Voltage (V_F)			1.4	Volt	I_F = 20 mA
	Reverse Current (I_R)			10	µA	V_R = 4V
Output						
	Collector-emitter Voltage (BV_{CEO})	35			Volt	I_C = 1mA
	Emitter-collector Voltage (BV_{ECO})	6			Volt	I_E = 0.1 mA
	Collector-emitter Dark Current (I_{CEO})			100	nA	V_{CE} = 20 V
Coupled	DC Current Transfer Ratio (CTR)	50		400	%	I_F = 5mA, V_{CE} = 5V
	Collector-emitter Saturation Voltage V_{CE} (Sat)		0.1	0.2	Volt	I_F = 20 mA, I_C = 1 mA
	Floating Capacitance (C_F)		0.6	1.0	pf	V = 0, f = 1 mhz
	Input-to-Output Isolation Resistance Riso	$5x10^{10}$	10^{11}		ohm	V_{IO} = 500V (see note 1)
	Inout to Output Isolation Voltage	5000			V_{RMS}	(note 1)(t = 1 Min)
	Output Turn - on Time (t_{on})		3.0		µS	I_C = 2mA, V_{CC} = 10V
	Output Turn - off Time (t_{off})		2.5		µS	R_L = 100Ω Fig 1

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

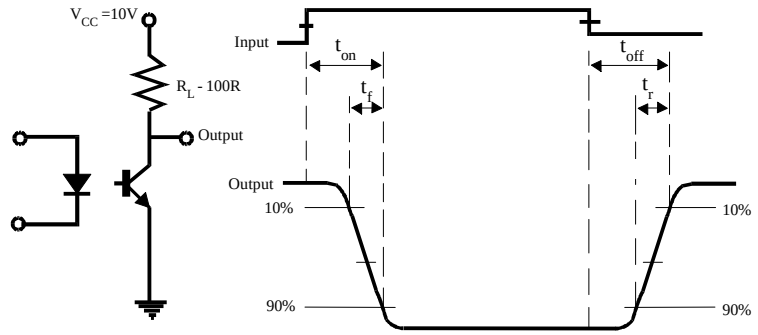

FIG 1