

IS849

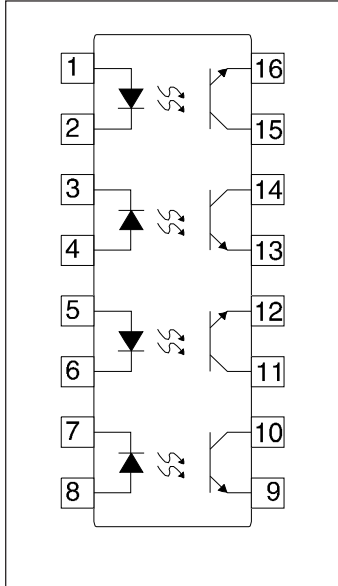


**ISOCOM**  
COMPONENTS

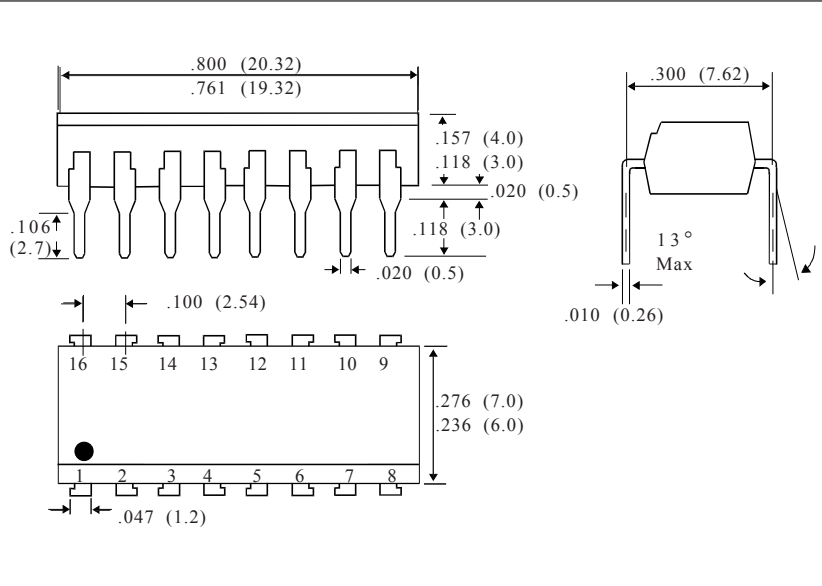


**OPTICALLY COUPLED ISOLATOR  
TRANSISTOR OUTPUT**

**SCHEMATIC**



**PACKAGE DIMENSIONS INCHES (MM)**



**DESCRIPTION**

The IS849 is an optically coupled isolator 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.

**FEATURES**

- Also available in single, dual package

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

Storage Temperature	-55°C to +125°C
Operating Temperature	-30°C to +100°C
Lead Soldering Temperature (2mm from case for 10 seconds)	260°C
Input-to-Output Isolation Voltage	5000V <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 1.33mW/°C above 25°C)	70mW

**OUTPUT TRANSISTOR**

Collector-emitter Voltage BV <sub>CEO</sub>	35V
Power Dissipation (derate linearly 1.50mW/°C above 25°C)	150mW

**PACKAGE**

Total Power Dissipation	170mW
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**APPROVALS**

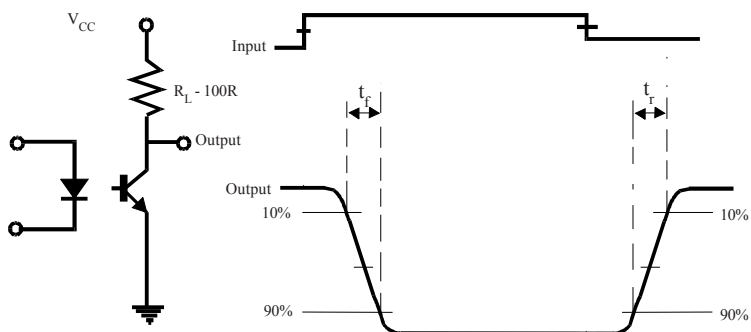
- UL Approved Package System " FF "

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

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage ( $V_F$ )		1.2	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 ( $BV_{ECO}$ )	7	9		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 $V_{CE}(\text{Sat})$			0.2	Volt	$I_F = 20 \text{ mA}, I_C = 1 \text{ mA}$
	Floating Capacitance ( $C_F$ )		0.6	1	pf	$V = 0, f = 1 \text{ Mhz}$
	Input-to-Output Isolation Resistance $R_{iso}$	$5 \times 10^{10}$	$10^{11}$		$\Omega$	$V_{IO} = 500\text{V}$ (see note 1)
	Inout to Output Isolation Voltage	5000			$V_{RMS}$	(note 1)
	Response Time Rise( $t_r$ )			15	$\mu\text{S}$	$I_C = 2\text{mA}, V_{CE} = 2\text{V}$
	Response Time Fall ( $t_f$ )			15	$\mu\text{S}$	$R_L = 100\Omega$

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



**FIG 1**