

PC829 H PC849 H

High Density Mounting Optocouplers

Electrically Tested to PC829 and PC849

Generic Specifications

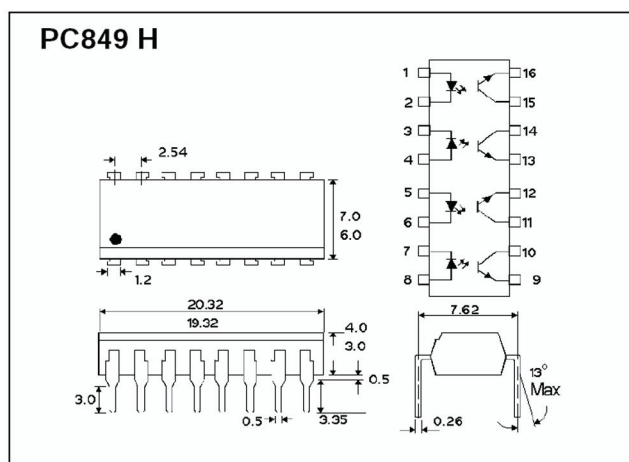
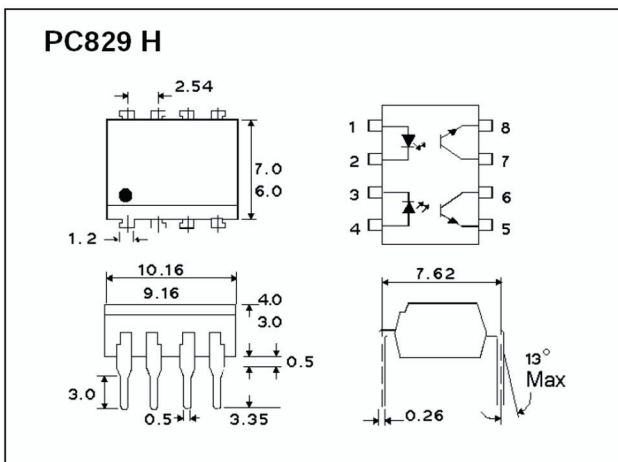
Features

- PC829 H 2-channel
- PC849 H 4-channel
- Symmetrical terminal configuration
- High current transfer ratio (CTR: Minimum 50% at $I_F = 5\text{mA}$, $V_{CE} = 5\text{V}$)
- High isolation voltage input to output ($V_{iso}: 5,000V_{RMS}$)
- UL approval
- RoHS Compliant

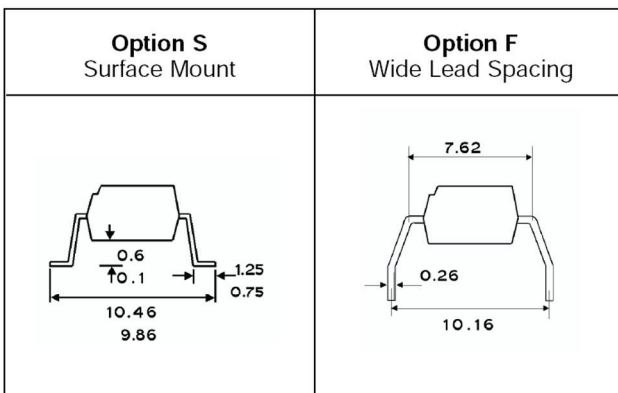
Applications

- Telecommunication circuits
- Digital I/O
- Instrumentation
- Signal transmission

Outline Dimensions (Units: mm)



Lead Forming Options



Ordering Information

Part No.	DIL Package Style	Pack Size
PC849 H	Standard	100 per tube
PC849 HF	Wide lead spacing	100 per tube
PC849 HS	Surface mount lead-form	100 per tube
PC829 H	Standard	100 per tube
PC829 HF	Wide lead spacing	100 per tube
PC829 HS	Surface mount lead-form	100 per tube
PC829 HSTR	Surface mount lead-form taped & reeled	1000 per reel

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Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	IF	50	mA
	Peak forward current*1	IFM	1	A
	Reverse voltage	VR	6	V
	Power dissipation*2	P	70	mW
Output	Collector-emitter voltage	BVCEO	35	V
	Emitter-collector voltage	BVECO	6	V
	Collector current	IC	50	mA
	Collector power dissipation*3	PC	150	mW
Total power dissipation		Ptot	170	mW
Isolation voltage*4		Viso	5,000	VRMS
Operating temperature		Topr	-25 to +100	°C
Storage temperature		Tstg	-40 to +125	°C
Soldering temperature*5		Tsol	260	°C

*1 Pulse width $\leq 100\mu\text{s}$, Duty ratio : 0.001

*2 Derate linearly 1.33mW/°C above 25°C

*3 Derate linearly 1.50mW/°C above 25°C

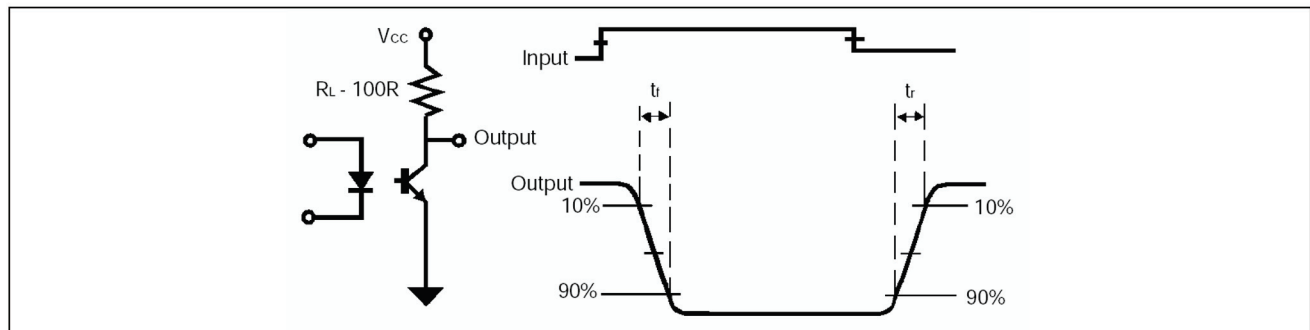
*4 40 to 60% RH, AC for 1 minute

*5 For 10 seconds. Suitable for Lead-free IR reflow soldering

Electro-optical Characteristics (Ta=25°C)

Parameter		Symbol	Test Conditions	MIN	TYP	MAX.	Unit
Input	Forward voltage	VF	IF = 20mA	-	1.2	1.4	V
	Reverse current	IR	VR = 4V	-	-	10	μA
Output	Collector dark current	ICEO	VCE = 20V, IF = 0	-	-	100	nA
Transfer Characteristics	Current transfer ratio	CTR	IF = 5mA, VCE = 5V	50	-	400	%
	Collector-emitter saturation voltage	VCE(sat)	IF = 20mA, IC = 1mA	-	0.1	0.2	V
	Isolation resistance	RISO	DC 500V, 40 to 60% RH	5x10 ¹⁰	10 ¹¹	-	Ω
	Floating capacitance	Cf	V = 0, f = 1MHz	-	0.6	1.0	pF
	Response time	Rise time	tr	VCE = 2V, IC = 2mA, RL = 100Ω	-	-	15
Fall time		tr	-		-	15	μs

Test Circuit for Response Time



Also available in this series are: PC824 H, PC825 H and PC827 H

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Characteristic Curves

Fig.1 Forward Current vs. Ambient Temperature

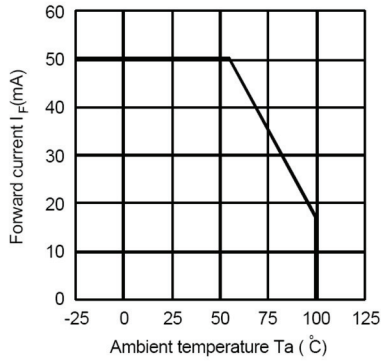


Fig.2 Collector Power Dissipation vs. Ambient Temperature

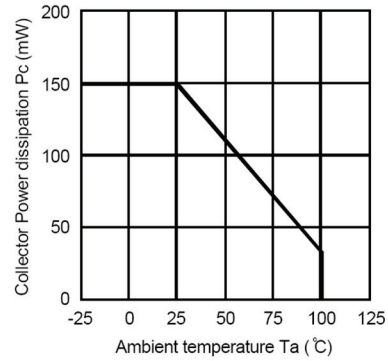


Fig.3 Collector-emitter Saturation Voltage vs. Forward Current

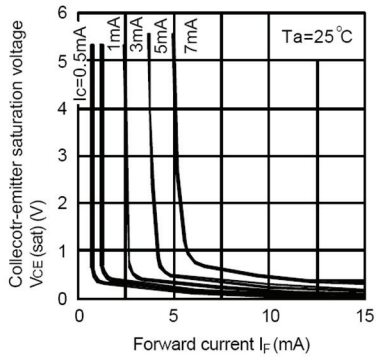


Fig.4 Forward Current vs. Forward Voltage

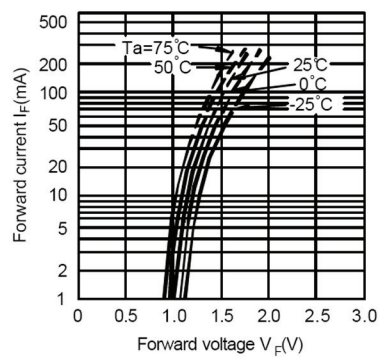


Fig.5 Current Transfer Ratio vs. Forward Current

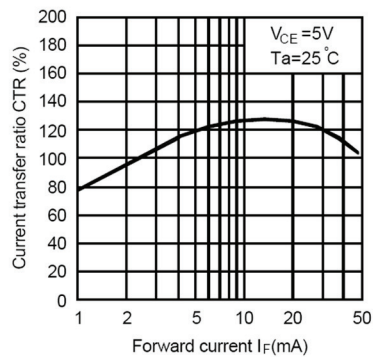
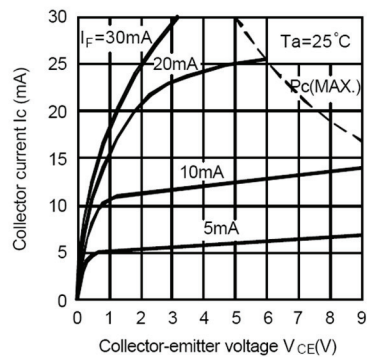


Fig.6 Collector Current vs. Collector-emitter Voltage



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Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

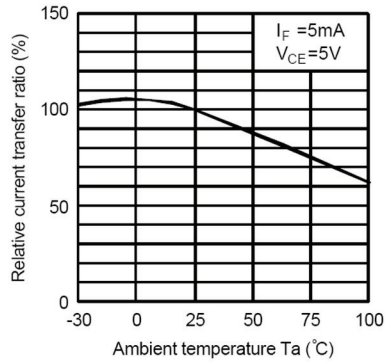


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

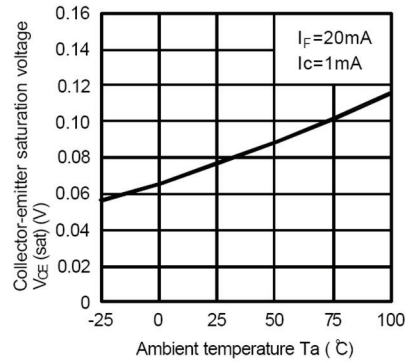


Fig.9 Collector Dark Current vs. Ambient Temperature

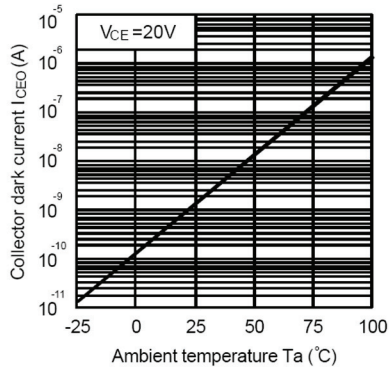


Fig.10 Response Time vs. Load Resistance

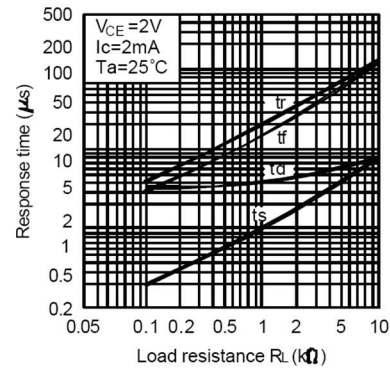
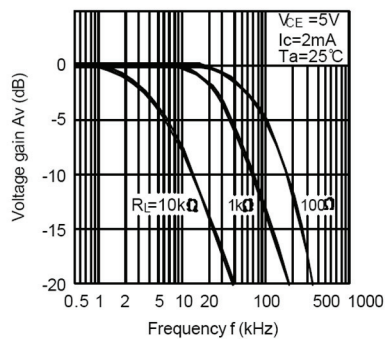
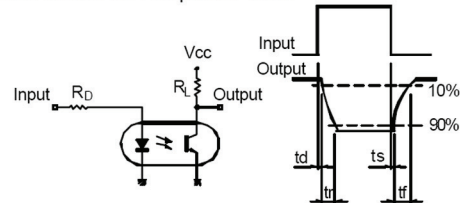


Fig.11 Frequency Response



Test Circuit for Response Time



Test Circuit for Frequency Response

