

AC/DC TO LOGIC INTERFACE OPTOCOUPLER

HCPL-3700

DESCRIPTION

The HCPL-3700 voltage/current threshold detection optocoupler consists of an AlGaAs LED connected to a threshold sensing input buffer IC which are optically coupled to a high gain darlington output. The input buffer chip is capable of controlling threshold levels over a wide range of input voltages with a single resistor. The output is TTL and CMOS compatible.

FEATURES

- AC or DC input
- Programmable sense voltage
- Logic level compatibility
- Threshold guaranteed over temperature (0°C to 70°C)
- Optoplanar™ construction for high common mode immunity
- UL recognized (file # E90700)

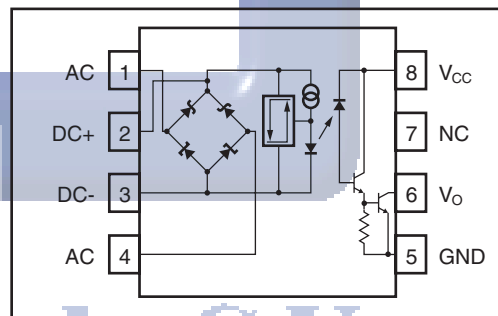
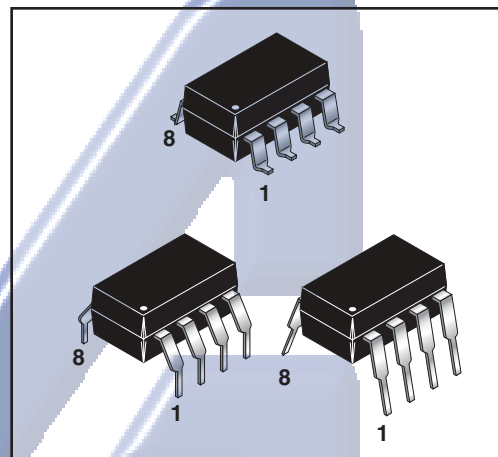
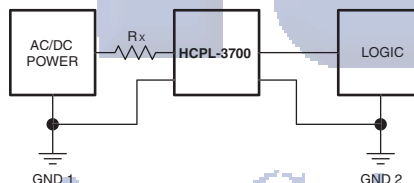
APPLICATIONS

- Low voltage detection
- 5 V to 240 V AC/DC voltage sensing
- Relay contact monitor
- Current sensing
- Microprocessor Interface
- Industrial controls

TRUTH TABLE
(Positive Logic)

Input	Output
H	L
L	H

A 0.1 μ F bypass capacitor must be connected between pins 8 and 5.



ABSOLUTE MAXIMUM RATINGS (No derating required up to 70°C)

Parameter		Symbol	Value	Units
Storage Temperature		T_{STG}	-55 to +125	°C
Operating Temperature		T_{OPR}	-40 to +85	°C
Lead Solder Temperature		T_{SOL}	260 for 10 sec	°C
EMITTER	Average	I_{IN}	50 (MAX)	mA
	Surge 3 ms, 120 Hz Pulse Rate		140 (MAX)	
	Transient 10 μ s, 120 Hz Pulse Rate		500 (MAX)	
Input Voltage (Pins 2-3)		V_{IN}	-0.5 (MIN)	V
Input Power Dissipation (Note 1)		P_{IN}	230 (MAX)	mW
Total Package Power Dissipation (Note 2)		P_T	305 (MAX)	mW
DETECTOR				
Output Current (Average) (Note 3)		I_O	30 (MAX)	mA
Supply Voltage (Pins 8-5)		V_{CC}	-0.5 to 20	V
Output Voltage (Pins 6-5)		V_O	-0.5 to 20	V
Output Power Dissipation (Note 4)		P_O	210 (MAX)	mW