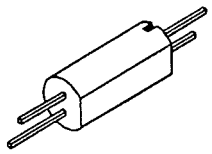
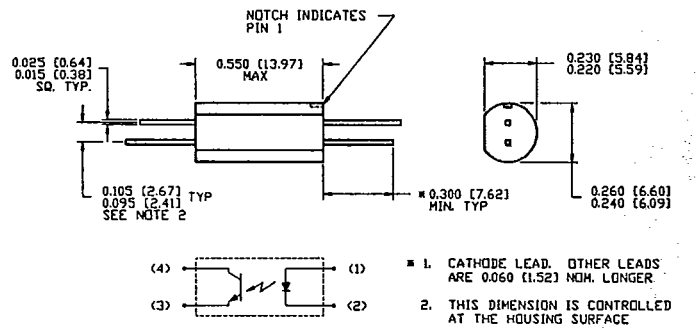
C-100 Series

Optically Coupled Isolators

HAWKER SIDDELEY SENISYS SENSOR INTEGRATED SYSTEMS

FASCO INDS/ SENISYS





* 1. CATHODE LEAD. OTHER LEADS ARE 0.060 [1.52] NOM. LONGER

2. THIS DIMENSION IS CONTROLLED AT THE HOUSING SURFACE

3. DIMENSIONS ARE IN INCHES [MILLIMETERS]

Features

- 10KV I/O isolation
- high current-transfer-ratio (CTR)
- small physical size
- UL listed

Description

The C-100 series of optically coupled isolators consists of a gallium arsenide infrared-emitting diode and a silicon npn phototransistor, coaxially mounted in an injection-molded, black plastic housing, sealed against all external sources of optical radiation. The series is designed for applications simultaneously requiring high voltage isolation and high CTR; the C-100-C is tested and guaranteed for a minimum unity CTR. Call Senisys for applications assistance.

Absolute Maximum Ratings ($T_A = 25°C$ unless otherwise stated.)

Storage and Operating Temperature ..... -40°C to +85°C
Lead Soldering Temperature[1] ..... 240°C[2]

IRED

Continuous Forward Current 50mA
Peak Forward Current (1μs pulse width, 300pps) 3A
Reverse Voltage 3V
Power Dissipation ..... 100mW[3]

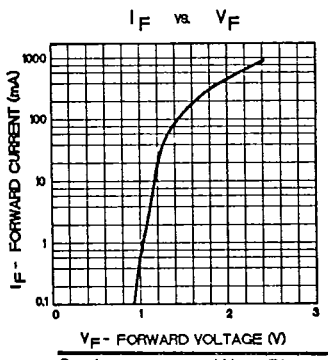
Sensor

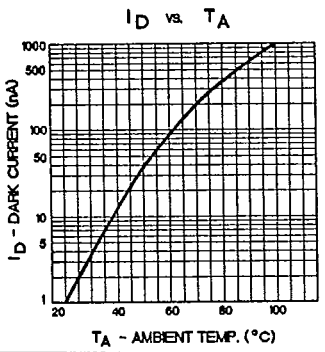
Collector-Emitter Voltage 30V
Emitter-Collector Voltage 5V
Power Dissipation ..... 100mW[3]

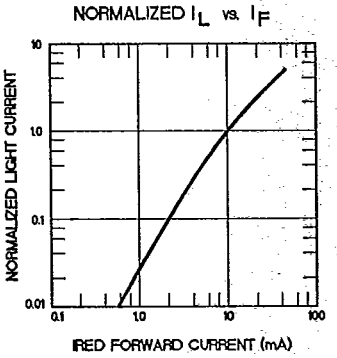
Notes:

1. 0.06" (1.5mm) from the case for 5 seconds maximum.
2. 260°C maximum when wave soldering.
3. Derate linearly from 25°C at -1.33 mW/°C.

Fundamental Characteristics







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C-100 Series

Optically Coupled Isolators

FASCO INDS/ SENISYS

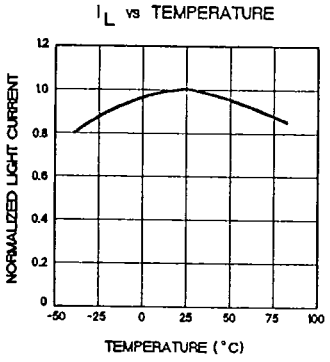
Electrical Characteristics ($T_A = 25°C$ unless otherwise stated)

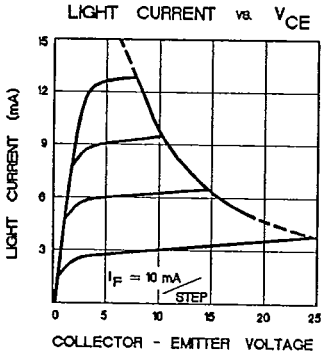
Symbol	Parameter	min	max	units	Test Conditions
Input Diode					
V_F	Forward Voltage	-	1.50	V	$I_F = 20mA$
I_R	Reverse Current	-	10	μA	$V_R = 3.0V$
Output Phototransistor					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30	-	V	$I_C = 1.0mA$
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5.0	-	V	$I_E = 100\mu A$
I_D	Dark Current	-	200	nA	$V_{CE} = 20V$
Coupled					
$CTR^{(1)}$	DC Current-Transfer-Ratio				
	C-100-A	25	-	%	$I_F = 10mA$, $V_{CE} = 5V$
	C-100-B	50	125	%	$I_F = 10mA$, $V_{CE} = 5V$
	C-100-C	100	-	%	$I_F = 10mA$, $V_{CE} = 5V$
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	-	0.4	V	$I_F = 10mA$, $I_C = 1.6mA$
V_{ISO}	Isolation Voltage	10	-	kVDC	

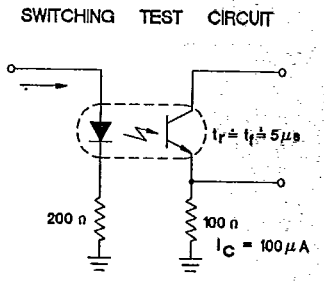
Notes:

1. Current-Transfer-Ratio is defined as the quotient of output current and input current; $CTR = I_{out}/I_{in}$. Other ranges of current transfer ratio can be specified; call Senisys for applications assistance.

Typical Characteristics







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