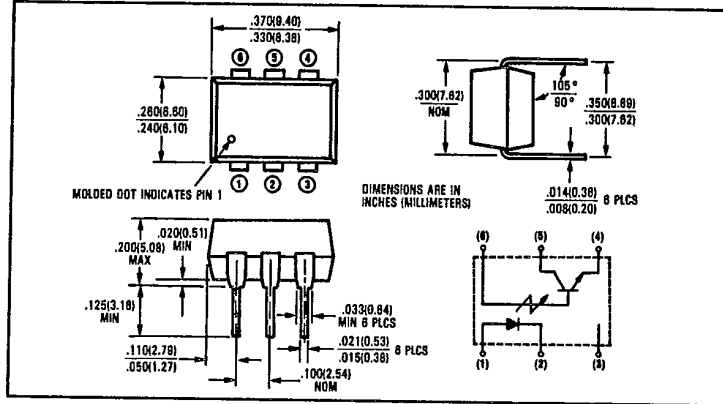
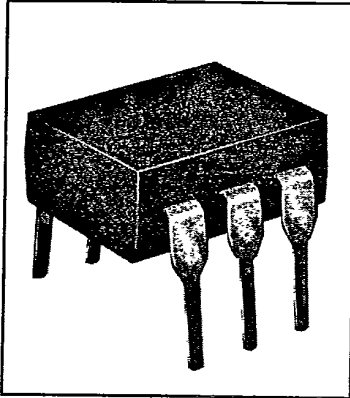


# Optically Coupled Isolators

## Type OPI2100



### Features

- 4 kV isolation
- High current transfer ratio
- Direct interface with up to 10 TTL loads
- UL recognized File No. E58730

### Description

The OPI2100 consists of a gallium arsenide infrared emitting diode and an NPN silicon phototransistor mounted in a standard plastic six pin dual-in-line package. This device is designed to directly drive from 1 to 10 TTL loads and has very good output sinking characteristics at low sink current.

### Absolute Maximum Ratings (T<sub>A</sub> = 25°C unless otherwise noted)

Input-to-Output Isolation Voltage.....	±4000 VDC <sup>(1)</sup>
Storage Temperature Range.....	-55°C to +150°C
Operating Temperature Range.....	-55°C to +100°C
Lead Soldering Temperature (1/16 inch [1.6 mm] from case for 5 sec. with soldering iron) <sup>(2)</sup> .....	260°C

### Input Diode

Forward DC Current.....	60 mA
Peak Forward Current (1 μs pulse, 300 pps).....	3.0 A
Reverse Voltage.....	6.0 V
Power Dissipation.....	100 mW <sup>(3)</sup>

### Output Transistor

Collector-Emitter Voltage.....	30 V
Collector-Base Voltage.....	30 V
Emitter-Collector Voltage.....	6.0 V
Power Dissipation.....	150 mW <sup>(4)</sup>

### Notes:

- (1) Measured with input diode leads shorted together and output leads shorted together.
- (2) RMA flux is recommended. Duration can be extended to 10 sec. max. when flow soldering.
- (3) Derate linearly 1.33 mW/°C above 25°C.
- (4) Derate linearly 2.0 mW/°C above 25°C.

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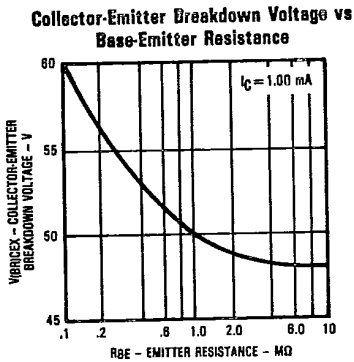
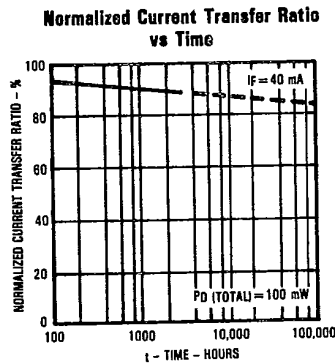
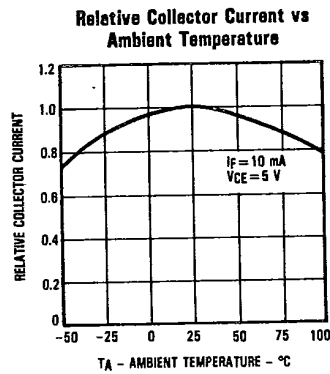
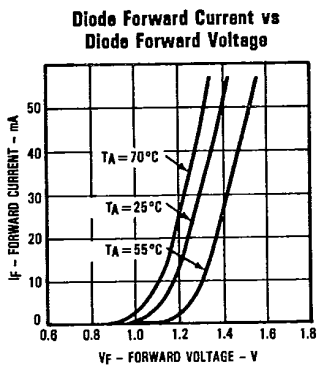
Type OPI2100

Electrical Characteristics (TA = 25°C unless otherwise noted)

Symbol	Parameter	Min.	Typ.	Max.	Units	Test Conditions
<b>Input Diode</b>						
V <sub>F</sub>	Forward Voltage			1.40	V	I <sub>F</sub> = 40 mA
I <sub>R</sub>	Reverse Current			10.0	μA	V <sub>R</sub> = 6.0 V
<b>Output Phototransistor</b>						
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	30			V	I <sub>C</sub> = 1.00 mA
V <sub>(BR)ECO</sub>	Emitter-Collector Breakdown Voltage	6.0			V	I <sub>C</sub> = 100 μA
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	30			V	I <sub>C</sub> = 10.0 μA
I <sub>CEO</sub>	Collector-Emitter Dark Current			50	nA	V <sub>CE</sub> = 5.0 V
h <sub>FE</sub>	DC Current Gain		100			V <sub>CE</sub> = 5.0 V, I <sub>C</sub> = 10.0 mA
<b>Coupled</b>						
I <sub>C</sub> /I <sub>F</sub>	DC Current Transfer Ratio	150			%	V <sub>CE</sub> = 5.0 V, I <sub>F</sub> = 10.0 mA
I <sub>C</sub> /I <sub>F</sub>	DC Current Transfer Ratio	50			%	V <sub>CE</sub> = .60 V, I <sub>F</sub> = 3.2-32 mA
V <sub>CE(SAT)</sub>	Saturation Voltage			0.60	V	I <sub>C</sub> = 16.0 mA, I <sub>F</sub> = 32 mA



Typical Performance Curves



TRW reserves the right to make changes at any time in order to improve design and to supply the best product possible. Plastic color may vary.  
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