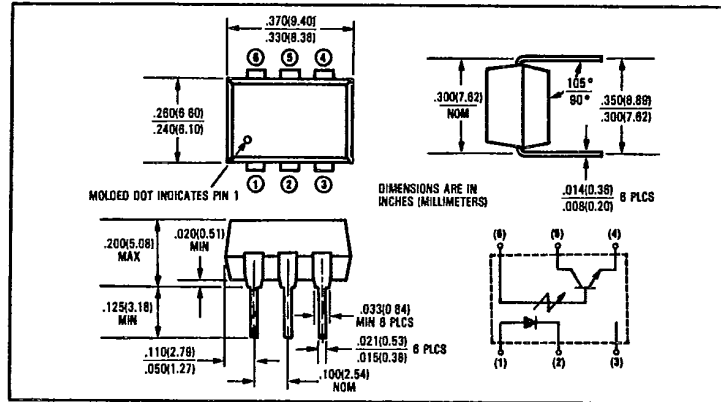
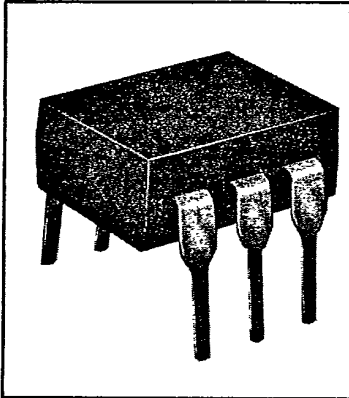


T-41-83

Optically Coupled Isolators

Types OPI2154, OPI2155, OPI2254, OPI2255



Features

- 1500 and 2500 volt isolation
- Very low LED drive current
- UL recognized File No. E58730

Description

The OPI2154, OPI2155, OPI2254, and OPI2255 each consist of a gallium arsenide infrared emitting diode and an NPN silicon phototransistor mounted in a standard plastic six pin dual-in-line package. This series is designed to provide electrical isolation at low operating currents.

Absolute Maximum Ratings (T_A = 25°C unless otherwise noted)

Input-to-Output Isolation Voltage OPI2154, OPI2155	±1500 VDC ⁽¹⁾
OPI2254, OPI2255	±2500 VDC ⁽¹⁾
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) ⁽²⁾	260°C
Input Diode	
Forward DC Current	60 mA
Peak Forward Current (1 μs pulse, 300 pps)	3.0 A
Reverse Voltage	3.0 V
Power Dissipation	100 mW ⁽³⁾
Output Transistor	
Collector-Emitter Voltage	30 V
Collector-Base Voltage	30 V
Emitter-Collector Voltage	5.0 V
Power Dissipation	150 mW ⁽⁴⁾

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.

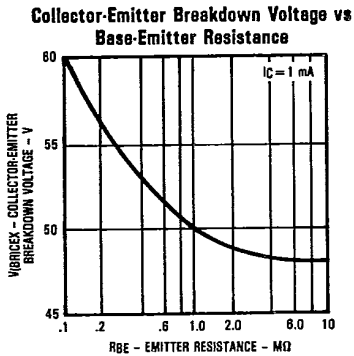
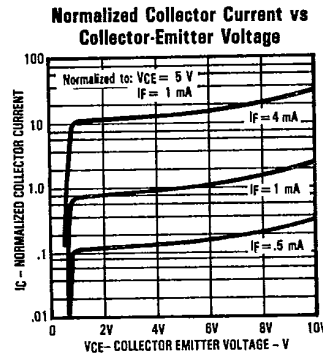
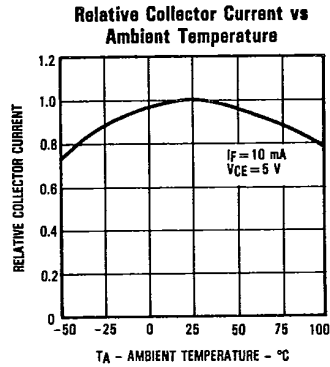
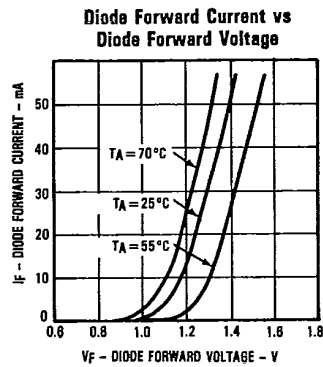
Types OPI2154, OPI2155, OPI2254, OPI2255

T-41-83

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

Symbol	Parameter	Min.	Typ.	Max.	Units	Test Conditions
Input Diode						
V _F	Forward Voltage			1.50	V	I _F = 10.0 mA
I _R	Reverse Current			10.0	μA	V _R = 3.0 V
Output Phototransistor						
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	30			V	I _C = 1.00 mA
V _{(BR)ECO}	Emitter-Collector Breakdown Voltage	5.0			V	I _E = 100 μA
V _{(BR)CBO}	Collector-Base Breakdown Voltage	30			V	I _C = 100 μA
I _{CEO}	Collector-Emitter Dark Current			50	nA	V _{CE} = 10.0 V
C _{CE}	Collector-Emitter Capacitance		8.0		pF	V _{CE} = 0
h _{FE}	DC Current Gain		600			V _{CE} = 5.0 V, I _C = 100 μA
Coupled						
I _C /I _F	DC Current Transfer Ratio OPI2154, OPI2254 OPI2155, OPI2255	10.0			%	V _{CE} = .50 V, I _F = .50 mA V _{CE} = .50 V, I _F = 1.00 mA
V _{CE(SAT)}	Collector-Emitter Saturation Voltage			.35	V	I _F = 5.0 mA, I _C = 1.00 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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