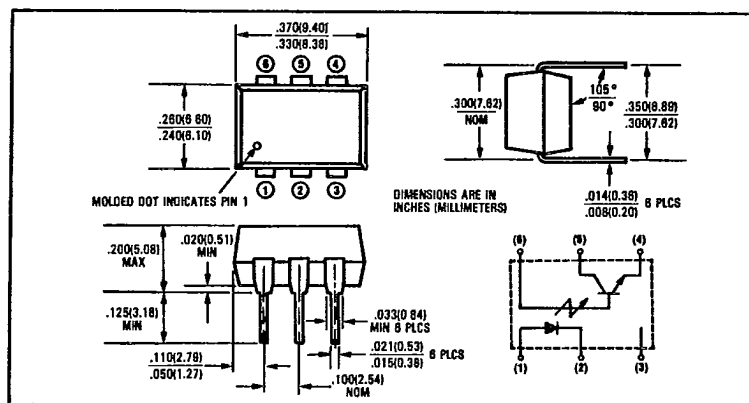
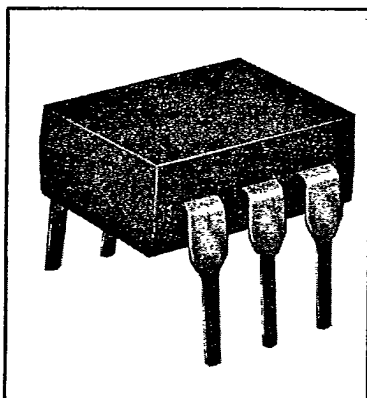


T-41-83

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.

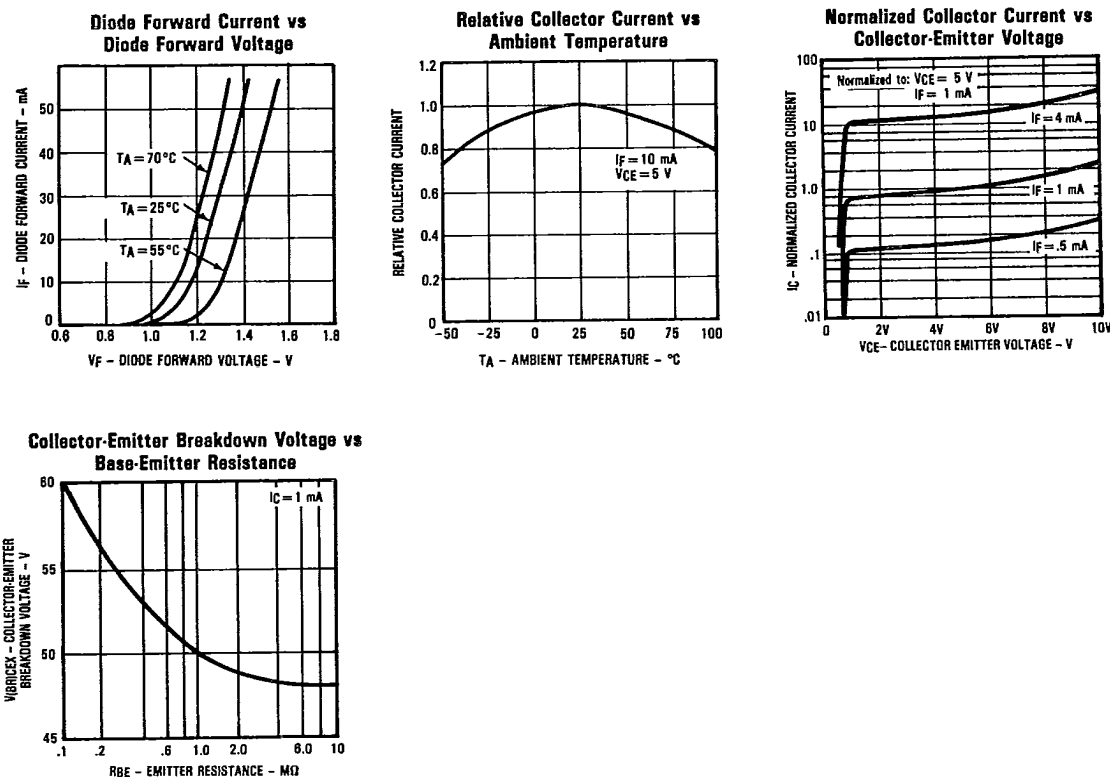
Types OPI2154, OPI2155, OPI2254, OPI2255

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} (CBO)	Collector-Emitter Breakdown Voltage	30			V	I _C = 1.00 mA
V _{BR} (CEO)	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		500			V _{CE} = 5.0 V, I _C = 100 μA
Coupled						
I _C /I _F	DC Current Transfer Ratio	10.0			%	V _{CE} = .50 V, I _F = .50 mA
	OPI2154, OPI2254	20			%	V _{CE} = .50 V, I _F = 1.00 mA
	OPI2155, OPI2255					
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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