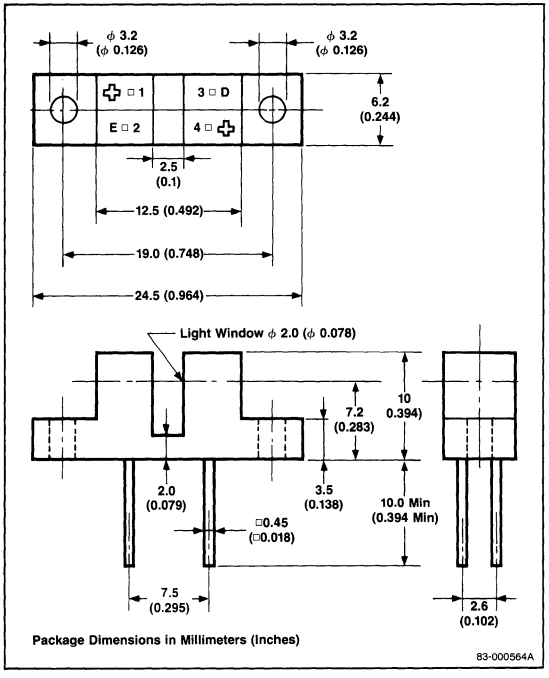
Description

The PS4014 is a photo coupled interrupter module containing a GaAs light emitting diode and an NPN silicon photo transistor.

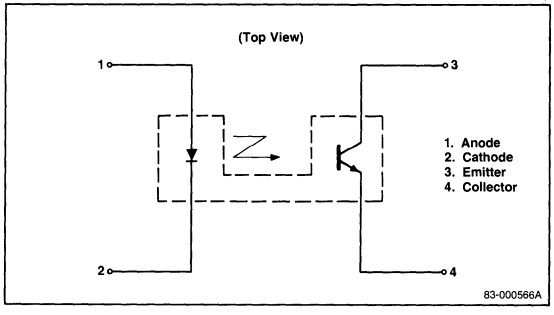
Package Dimensions



Package Dimensions in Millimeters (Inches)

83-000564A

Pin Connection



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Absolute Maximum Ratings

T_A = +25°C

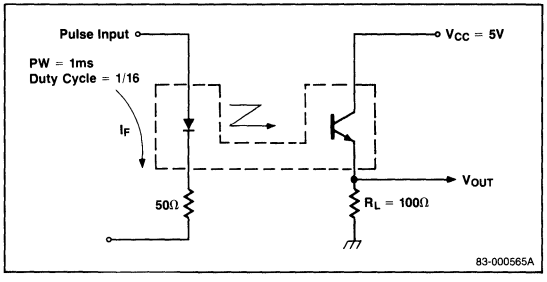
Diode	
Reverse Voltage, V_R	5.0V
Forward Current, I_F	50mA
Power Dissipation, P_D	100mW
Transistor	
Collector to Emitter Voltage, V_{CEO}	30V
Collector Current, I_C	40mA
Power Dissipation, P_D	100mW
Storage Temperature, T_{STG}	−40°C to +100°C
Operating Temperature, T_{OPT}	−20°C to +80°C

Electrical Characteristics

T_A = +25°C

Parameter	Symbol	Limits Min	Typ	Max	Unit	Test Conditions
Diode						
Forward Voltage	V_F		1.1	1.4	V	I_F = 20mA
Reverse Current	I_R			20	μA	V_R = 4.0V
Junction Capacitance	C		100		pF	V = 0, f = 1.0MHz
Transistor						
Collector to Emitter Dark Current	I_{CEO}			100	nA	V_{CE} = 10V, I_F = 0
Coupled						
Output Current	I_C	200	500		μA	I_F = 20mA, V_{CE} = 5.0V
Collector Saturation Voltage	$V_{CE(sat)}$			0.3	V	I_F = 10mA, I_C =50μA
Rise Time	t_r		5		μs	V_{CC} = 5.0V, I_C = 50μA R_L = 100Ω
Fall Time	t_f		5		μs	V_{CC} = 5.0V, I_C = 50μA R_L = 100Ω

Note: 1. Test circuit for switching time



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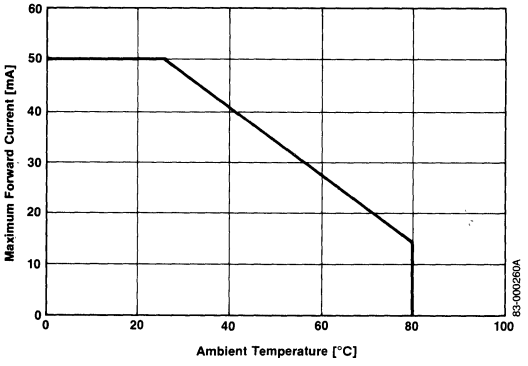
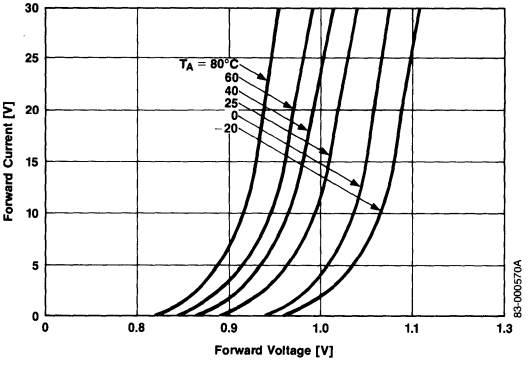
Typical Characteristics
T_A = +25°C

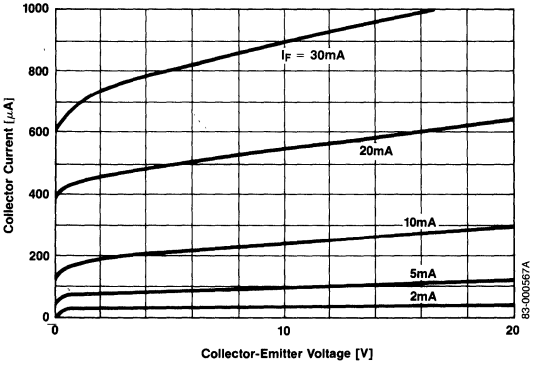
Forward Current vs Ambient Temperature



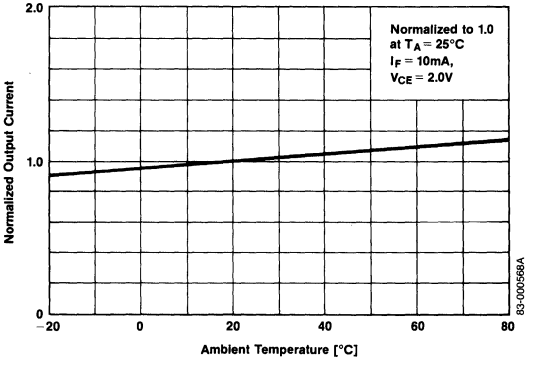
Forward Current vs Forward Voltage



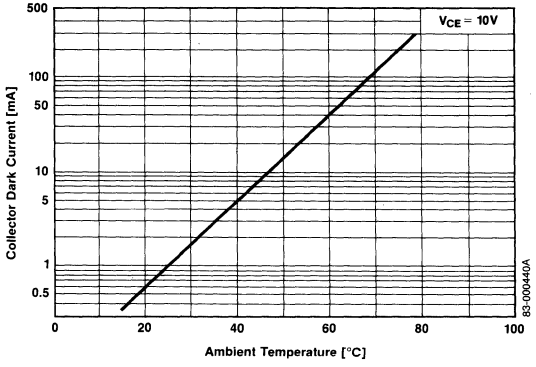
Collector Current vs Collector Emitter Voltage



Normalized Output Current vs Ambient Temperature



Collector Dark Current vs Ambient Temperature



Output Characteristic