

Photon Coupled Isolator CNY48

Ga As Infrared Emitting Diode & NPN Silicon Photo-Darlington Amplifier

The GE Solid State CNY48 consists of a gallium arsenide, infrared emitting diode coupled with a silicon photo-darlington amplifier in a dual-in-line package. This device is also available in Surface-Mount packaging.

absolute maximum ratings: (25°C)

INFRARED EMITTING DIODE

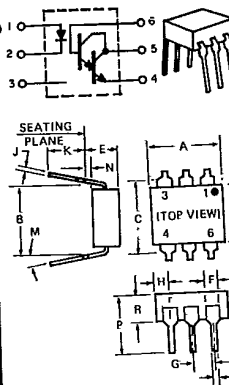
Power Dissipation	*100	milliwatts
Forward Current (Continuous)	60	milliamps
Forward Current (Peak) (Pulse width 1 μ s 300 pps)	3	ampere
Reverse Voltage	3	volts

*Derate 1.33mW/°C above 25°C ambient.

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Power Dissipation	**150	milliwatts
V _{CEO}	30	volts
V _{CBO}	30	volts
V _{EBO}	6	volts
Collector Current (Continuous)	100	milliamps

**Derate 2.0mW/°C above 25°C ambient.



SYMBOL	MILLIMETERS		INCHES		NOTES
	MIN.	MAX.	MIN.	MAX.	
A	8.38	8.89	.330	.350	1
B	7.62 REF.		300 REF.		2
C		8.64		.340	
D	.406	508	.016	.020	3
E		5.08		.200	
F	1.01	1.78	.040	.110	
G	2.28	2.60	.090	.100	4
H		2.16		.085	
J	.203	.305	.008	.012	
K	2.54		.100		
L		15		.15	
M	.381		.015		
N		9.53		.375	
P	2.92	3.43	.115	.135	
R	6.10	6.86	.240	.270	

NOTES:

1. INSTALLED POSITION LEAD CENTERS.
2. OVERALL INSTALLED DIMENSION.
3. THESE MEASUREMENTS ARE MADE FROM THE SEATING PLANE.
4. FOUR PLACES.

TOTAL DEVICE

Storage Temperature -65 to 150°C
 Operating Temperature -55 to 100°C
 Lead Soldering Time (at 260°C) 10 seconds
 Surge Isolation Voltage (Input to Output).
 2120_(peak) 1500V_(RMS)
 Steady-State Isolation Voltage (Input to Output).
 1270V_(peak) 900V_(RMS)

individual electrical characteristics (25°C)

INFRARED EMITTING DIODE	TYP.	MAX.	UNITS
Forward Voltage (I _F = 10mA)	1.1	1.3	volts
Reverse Current (V _R = 3V)	—	10	microamps
Capacitance (V = 0, f = 1 MHz)	50	—	picofarads

PHOTO-DARLINGTON	MIN.	TYP.	MAX.	UNITS
Breakdown Voltage—V _{(BR)CEO} (I _C = 10mA, I _F = 0)	30	—	—	volts
Breakdown Voltage—V _{(BR)CBO} (I _C = 100 μ A, I _F = 0)	30	—	—	volts
Breakdown Voltage—V _{(BR)EBO} (I _F = 100 μ A, I _F = 0)	6	—	—	volts
Collector Dark Current—I _{CEO} (V _{CE} = 10V, I _F = 0)	—	5	100	nanoamps
Capacitance (V _{CE} = 10V, f = 1 MHz)	—	6	—	picofarads

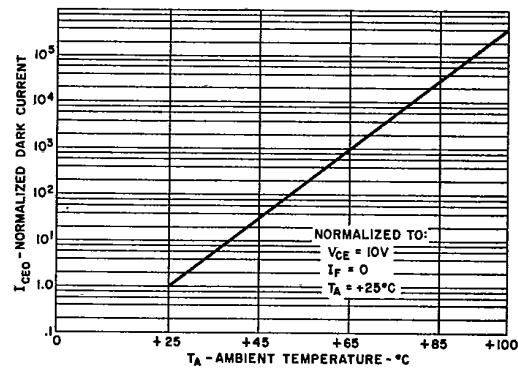
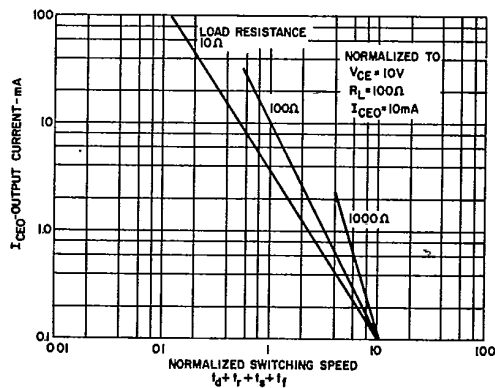
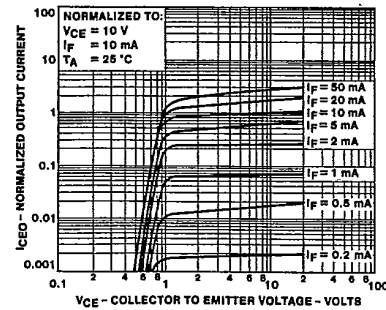
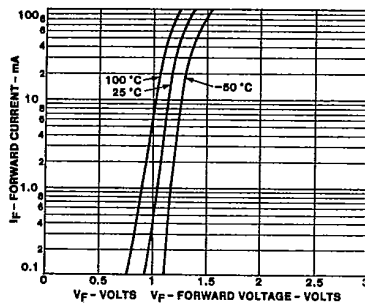
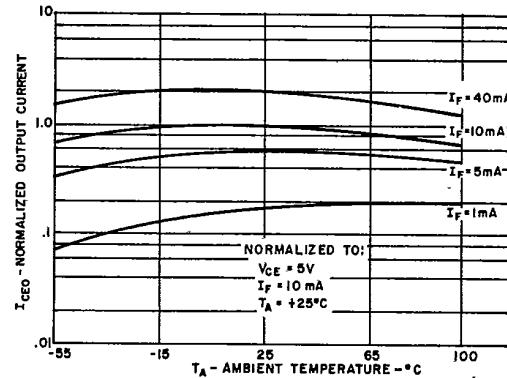
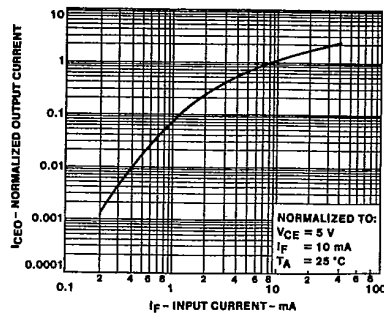
coupled electrical characteristics (25°C)

	MIN.	TYP.	MAX.	UNITS
DC Current Transfer Ratio (I _F = 10mA, V _{CE} = 1V)	600	—	—	%
Saturation Voltage—Collector to Emitter (I _F = 1mA I _C = 2mA)	—	—	.8	volts
(I _F = 5mA I _C = 10mA)	—	—	.8	volts
(I _F = 10mA, I _C = 60mA)	—	—	1.0	volts
Isolation Resistance (V _{IO} = 500V _{DC})	100	—	—	gigaohms
Input to Output Capacitance (V _{IO} = 0, f = 1MHz)	—	—	2	picofarads
Switching Speeds: (V _{CE} = 10V, I _C = 10mA, R _L = 100 Ω)	On-Time	125	—	microseconds
Off-Time	—	100	—	microseconds

VDE Approved to 0883/6.80 0110b Certificate # 35025

TYPICAL CHARACTERISTICS

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