

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

Photon Coupled Isolator

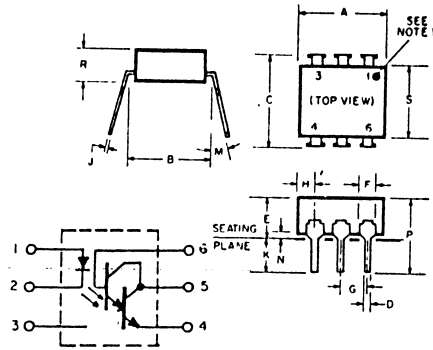
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4N29-4N29A-4N30-4N31 4N32-4N32A-4N33

FEATURES:

- High DC current transfer ratio
- High isolation resistance
- 2500 volts isolation voltage
- I/O compatible with integrated circuits

†Parameters are JEDEC registered values.



SYMBOL	MIN.	MAX.	MILLIMETER	MIN.	MAX.	NOTES
A	3.50	3.50	REF	7.62	REF	2
B	3.00	3.40	REF	7.62	REF	3
C	.016	.020		4.06	5.08	4
D	.040	.070		1.01	1.78	
E	.090	1.10		2.28	2.79	
F	.004	.012		2.03	3.05	
G	.100			2.54		
H	.015	15°		3.81	15°	
J	.015	.375		9.53		
K	1.00	1.85		2.54	4.70	
L	2.25	2.80		5.71	7.12	

NOTES
1. There shall be a permanent indication of terminal orientation in the quadrant adjacent to terminal 1.
2. Installed position lead centers.
3. Overall installed dimension.
4. These measurements are made from the seating plane.
5. Four places.

absolute maximum ratings: (25°C) (unless otherwise specified)

†Storage Temperature -55 to 150°C. Operating Temperature -55 to 100°C. Lead Soldering Time (at 260°C) 10 seconds.

INFRARED EMITTING DIODE			PHOTO-DARLINGTON		
†Power Dissipation	*150	milliwatts	†Power Dissipation	**150	milliwatts
†Forward Current (Continuous)	80	milliamps	†V _{CEO}	30	volts
†Forward Current (Peak) (Pulse width 300µsec, 2% duty cycle)	3	ampere	†V _{CBO}	30	volts
†Reverse Voltage	3	volts	†V _{ECO}	5	volts
			Collector Current (Continuous)	100	milliamps
	*Derate 2.0mW/°C above 25°C ambient.			**Derate 2.0mW/°C above 25°C ambient.	

†Total device dissipation @ T_A = 25°C. P_D 250 mW.

†Derate 3.3 mW/°C above 25°C ambient.

individual electrical characteristics (25°C)

INFRARED EMITTING DIODE	TYP.	MAX.	UNITS	PHOTO-DARLINGTON	MIN.	TYP.	MAX.	UNITS
†Forward Voltage (I _F = 10mA)	1.2	1.5	volts	†Breakdown Voltage - V _{(BR)CBO} (I _C = 100µA, I _F = 0)	30	-	-	volts
†Reverse Current (V _R = 3V)	-	100	microamps	†Breakdown Voltage - V _{(BR)CEO} (I _C = 1mA, I _F = 0)	30	-	-	volts
Capacitance V = 0, f = 1 MHz	50	-	picofarads	†Breakdown Voltage - V _{(BR)ECO} (I _E = 100µA, I _F = 0)	5	-	-	volts
				†Collector Dark Current - I _{CEO} (V _{CE} = 10V, I _F = 0)	-	-	100	nanoamps

coupled electrical characteristics (25°C)

	MIN.	TYP.	MAX.	UNITS
†Collector Output Current (I _F = 10mA, V _{CE} = 10V)	50	-	-	mA
	10	-	-	mA
	5	-	-	mA
†Saturation Voltage - Collector - Emitter (I _F = 8mA, I _C = 2mA)	-	-	1.0	volts
Resistance - IRED to Photo-Transistor (@ 500 volts)	-	100	-	gigaohms
Capacitance - IRED to Photo-Transistor (@ 0 volts, f = 1 MHz)	-	1	-	picofarad
†Isolation Voltage 60 Hz with the input terminals (diode) shorted together and the output terminals (transistor) shorted together	2500	-	-	volts (peak)
	1500	-	-	volts (peak)
	1775	-	-	volts (RMS) (1 sec.)
†Switching Speeds: I _C = 50mA, I _F = 200mA) Figure 1				
Turn-On Time - t _{on}	-	-	5	microseconds
Turn-Off Time - t _{off}	-	-	40	microseconds
	-	-	100	microseconds

