

Photon Coupled Isolator 4N35

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

INFRARED EMITTING DIODE

- Power Dissipation $T_A = 25^\circ\text{C}$ ☆100 milliwatts
- Power Dissipation $T_C = 25^\circ\text{C}$ ☆100 milliwatts
(T_C indicates collector lead temperature 1/32" from case)
- Forward Current (Continuous) 60 milliamps
- Forward Current (Peak) 3 ampere
(Pulse width 1 usec, 300 pps)
- Reverse Voltage 6 volts

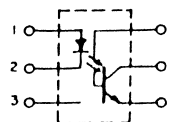
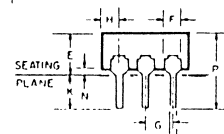
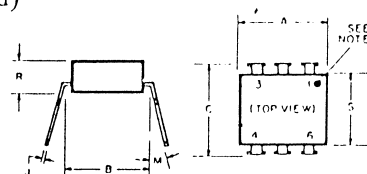
☆Derate 1.33mW/°C above 25°C

PHOTO-TRANSISTOR

- Power Dissipation $T_A = 25^\circ\text{C}$ ☆☆300 milliwatts
- Power Dissipation $T_C = 25^\circ\text{C}$ ☆☆☆500 milliwatts
(T_C indicates collector lead temperature 1/32" from case)
- V_{CEO} 30 volts
- V_{CBO} 70 volts
- V_{ECO} 7 volts
- Collector Current (Continuous) 100 milliamps

☆☆Derate 4.0mW/°C above 25°C

☆☆☆Derate 6.7mW/°C above 25°C



SYMBOL	MIN.	MAX.	MIN.	MAX.
A	3.30	3.50	8.4	8.6
B	3.00	3.15	7.62	7.87
C	1.40	1.50	3.54	3.81
D	0.16	0.20	4.06	5.08
E	0.10	0.13	2.54	3.18
F	0.40	0.70	1.01	1.78
G	0.30	1.10	2.29	2.79
H	0.15	0.15	2.16	2.16
J	0.08	0.12	2.03	3.05
K	1.00	1.00	2.54	2.54
M	1.5*	1.5*	1.5*	1.5*
N	0.15	0.15	3.81	3.81
P	0.375	0.375	9.53	9.53
R	1.00	1.85	2.54	47.0
S	2.25	2.80	5.71	7.12

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

TOTAL DEVICE

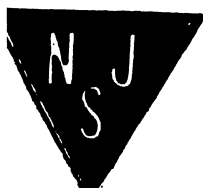
- Storage Temperature -55 to 150°C
- Operating Temperature -55 to 100°C.
- Lead Soldering Time (at 260°C) 10 seconds.
- Relative Humidity 85%@85°C
- Input to Output Isolation Voltage

4N35 2500 V(RMS) 3550 V(peak)

* Indicates JEDEC registered values

individual electrical characteristics (25°C) (unless otherwise specified)

INFRARED EMITTING DIODE	SYMBOL	MIN.	MAX.	UNITS	PHOTO-TRANSISTOR	SYMBOL	MIN.	TYP.	MAX.	UNITS
• Forward Voltage ($I_F = 10\text{ mA}$)	V_F	.8	1.5	volts	• Breakdown Voltage ($I_C = 10\text{ mA}$, $I_F = 0$)	$V_{(BR)} CEO$	30	—	—	volts
• Forward Voltage ($I_F = 10\text{ mA}$) $T_A = -55^\circ\text{C}$	V_F	.9	1.7	volts	• Breakdown Voltage ($I_C = 100\text{ uA}$, $I_F = 0$)	$V_{(BR)} CBO$	70	—	—	volts
• Forward Voltage ($I_F = 10\text{ mA}$) $T_A = +100^\circ\text{C}$	V_F	.7	1.4	volts	• Breakdown Voltage ($I_F = 100\text{ uA}$, $I_F = 0$)	$V_{(BR)} ECO$	7	—	—	volts
• Reverse Current ($V_R = 6\text{ V}$)	I_R	—	10	microamps	Collector Dark Current ($V_{CE} = 10\text{ V}$, $I_F = 0$)	I_{CEO}	—	5	50	nanoamps
Capacitance ($V = 0$, $f = 1\text{ MHz}$)	C_J	—	100	picofarads	• Collector Dark Current ($V_{CE} = 30\text{ V}$, $I_F = 0$) $T_A = 100^\circ\text{C}$	I_{CEO}	—	—	500	microamps
					Capacitance ($V_{CE} = 10\text{ V}$, $f = 1\text{ MHz}$)	C_{CE}	—	2	—	picofarads



coupled electrical characteristics (25°C) (unless otherwise specified)

	MIN.	TYP.	MAX.	UNITS
• DC Current Transfer Ratio ($I_F = 10\text{mA}$, $V_{CE} = 10\text{V}$)	100	—	—	%
• DC Current Transfer Ratio ($I_F = 10\text{mA}$, $V_{CE} = 10\text{V}$) $T_A = -55^\circ\text{C}$	40	—	—	%
• DC Current Transfer Ratio ($I_F = 10\text{mA}$, $V_{CE} = 10\text{V}$) $T_A = +100^\circ\text{C}$	40	—	—	%
• Saturation Voltage—Collector To Emitter ($I_F = 10\text{mA}$, $I_C = 0.5\text{mA}$)	—	—	0.3	volts
• Input to Output Isolation Current (Pulse Width = 8 msec) (See Note 1) Input to Output Voltage = 3550 V _(peak) 4N35	—	—	100	microamps
• Input to Output Resistance (Input to Output Voltage = 500V - See Note 1)	100	—	—	gigaohms
• Input to Output Capacitance (Input to Output Voltage = 0, $f = 1\text{MHz}$ - See Note 1)	—	—	2.5	picofarads
• Turn on Time – t_{on} ($V_{CC} = 10\text{V}$, $I_C = 2\text{mA}$, $R_L = 100\Omega$) (See Figure 1)	—	5	10	microseconds
• Turn off Time – t_{off} ($V_{CC} = 10\text{V}$, $I_C = 2\text{mA}$, $R_L = 100\Omega$) (See Figure 1)	—	5	10	microseconds

Note 1: Tests of input to output isolation current resistance, and capacitance are performed with the input terminals (diode) shorted together and the output terminals (transistor) shorted together

- Indicates JEDEC registered values.