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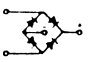
3N246

MINIATURE INTEGRAL DIODE ASSEMBLIES

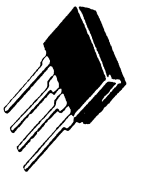
. . . with silicon rectifier chips interconnected and encapsulated into voidless rectifier bridge circuits.

- High Resistance to Shock and Vibration
- High Dielectric Strength
- Built-In Printed Circuit Board Stand-Offs
- UL Recognized
- RO_{JA} = 60°C/W

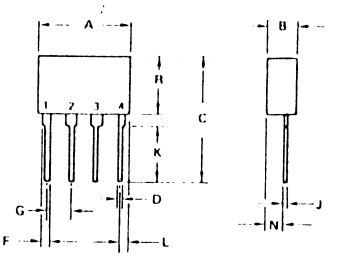


SINGLE-PHASE
FULL-WAVE BRIDGE

1.0 AMPERE
50-1000 VOLTS



MAXIMUM RATINGS Rating (Per Diode)	Symbol	3N246	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	Volts
DC Output Voltage Resistive Load Capacitive Load	Vdc Vdc	32 50	Volts Volts
Sine Wave RMS Input Voltage	$V_{R(RMS)}$	35	Volts
Average Rectified Forward Current (single phase bridge operation, resistive load, 60 Hz, T_A = 75°C)	I_O	1.0	Amp
Non-Repetitive Peak Surge Current (Preceded and followed by rated current and voltage, T_A = 75°C)	I_{FSM}	30 (for 1 cycle)	Amp
Operating and Storage Junction Temperature Range	T_J,T_{stg}	-55 to +150	°C



STYLE 1
TERM 1. POS
2. AC
3. AC
4. NEG

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	14.99	15.49	0.590	0.610
B	4.57	5.08	0.180	0.200
C	-	20.57	-	0.810
D	0.76	1.02	0.030	0.040
F	1.02	1.27	0.040	0.050
G	3.68	3.94	0.145	0.155
J	0.56	0.71	0.022	0.028
K	-	9.02	-	0.355
L	1.78	2.03	0.070	0.080
N	2.54	2.79	0.100	0.110
R	9.40	10.03	0.370	0.395

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Typ	Max	Unit
Instantaneous Forward Voltage (Per Diode) (i_F = 1.57 Amp, T_J = 25°C)	v_F	1.15	1.3	Volts
Reverse Current (Per Diode) (Rated V_R, T_A = 25°C)	I_R		10	µA

MECHANICAL CHARACTERISTICS

CASE: Transfer Molded Plastic
POLARITY: Terminal-designation on case
Pin 1 (+) for DC output
Pin 4 (–) for DC output
Pins 2 and 3 (AC) for AC input
MOUNTING POSITION: Any
WEIGHT: 1.8 grams (approx)
TERMINALS: Readily solderable connections, corrosion resistant.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic		Symbol	Min	Max	Unit
Common Source Power Gain		G_{ps}			dB
(V_{DD} = 18 Vdc, V_{GG} = 7.0 Vdc, f = 200 MHz)	3N211		24	35	
(V_{DD} = 24 Vdc, V_{GG} = 6.0 Vdc, f = 45 MHz)	3N211		29	37	
(V_{DD} = 24 Vdc, V_{GG} = 6.0 Vdc, f = 45 MHz)	3N213		27	35	
(V_{DD} = 18 Vdc, f_{LO} = 245 MHz, f_{RF} = 200 MHz)	3N212	G_c(6)	21	28	
Bandwidth		BW			MHz
(V_{DD} = 18 Vdc, V_{GG} = 7.0 Vdc, f = 200 MHz)	3N211		5.0	12	
(V_{DD} = 18 Vdc, f_{LO} = 245 MHz, f_{RF} = 200 MHz)	3N212		4.0	7.0	
(V_{DD} = 24 Vdc, V_{GG} = 6.0 Vdc, f = 45 MHz)	3N211,213		3.5	6.0	
Gain Control Gate-Supply Voltage(5)		$V_{GG(GC)}$			Vdc
(V_{DD} = 18 Vdc, ΔG_{ps} = −30 dB, f = 200 MHz)	3N211		—	−2.0	
(V_{DD} = 24 Vdc, ΔG_{ps} = −30 dB, f = 45 MHz)	2N211,213		—	±1.0	

(1) Measured after five seconds of applied voltage.

(2) All gate breakdown voltages are measured while the device is conducting rated gate current. This ensures that the gate-voltage limiting network is functioning properly.

(3) Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

(4) This parameter must be measured with bias voltages applied for less than 5 seconds to avoid overheating. The signal is applied to gate 1 with gate 2 at ac ground.

(5) ΔG_{ps} is defined as the change in G_{ps} from the value at V_{GG} = 7.0 Volts (3N211) and V_{GG} = 6.0 Volts (3N213).

(6) Power Gain Conversion. Amplitude at input from local oscillator is adjusted for maximum G_c.