MDA100A series (3N246 thru 3N252)

MOTOROLA

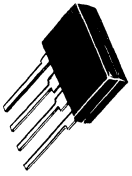
MINIATURE INTEGRAL DIODE ASSEMBLIES

. . . 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



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MAXIMUM RATINGS Rating (Per Diode)	Symbol	3N246 MDA100A	3N247 MDA101A	3N248 MDA102A	3N249 MDA104A	3N250 MDA106A	3N251 MDA108A	3N252 MDA110A	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	Volts
DC Output Voltage Resistive Load Capacitive Load	Vdc Vdc	32 50	64 100	127 200	255 400	382 600	510 800	640 1000	Volts Volts
Sine Wave RMS Input Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	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

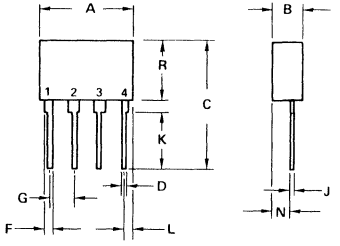
ELECTRICAL CHARACTERISTICS

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.



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

DIM	MILLIMETERS MIN	MILLIMETERS MAX	INCHES MIN	INCHES 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

CASE 312-02

MAXIMUM RATINGS, BRIDGE OPERATION

FIGURE 1 – CURRENT DERATING

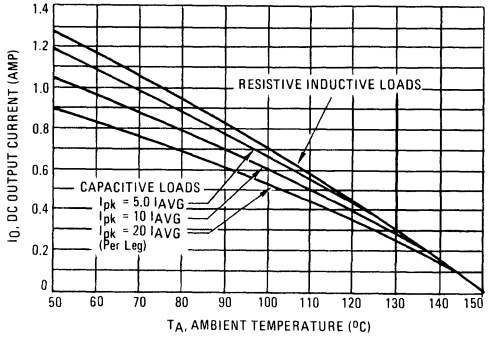


FIGURE 2 – POWER DISSIPATION

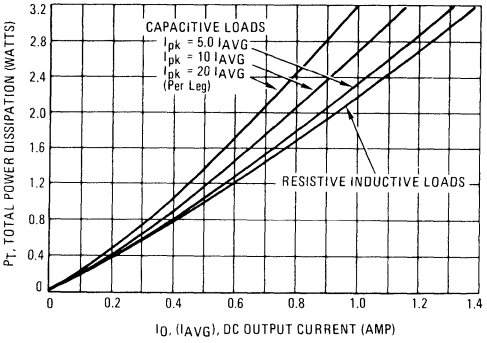
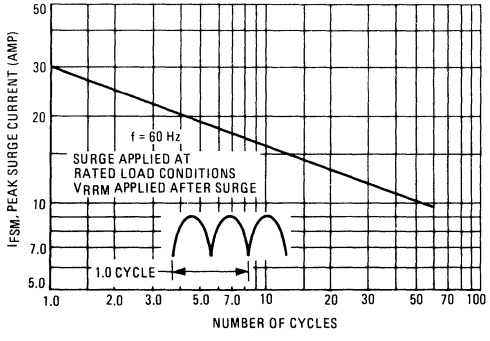


FIGURE 3 – SURGE CURRENT



SINGLE DIODE CHARACTERISTICS

FIGURE 4 – MAXIMUM FORWARD VOLTAGE

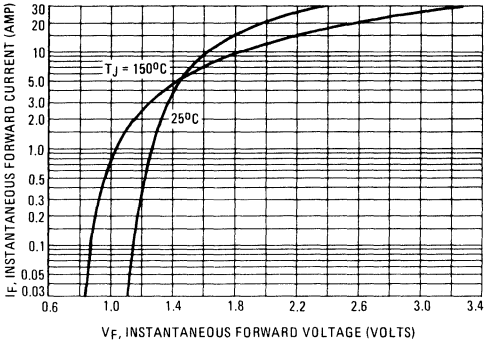


FIGURE 5 – FORWARD RECOVERY TIME

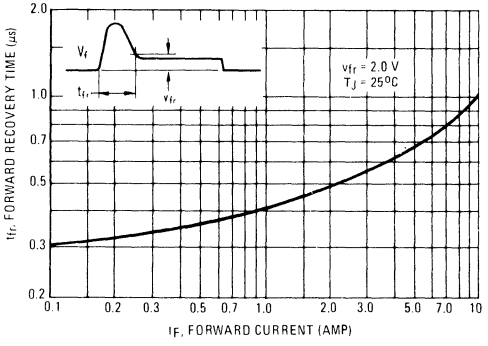
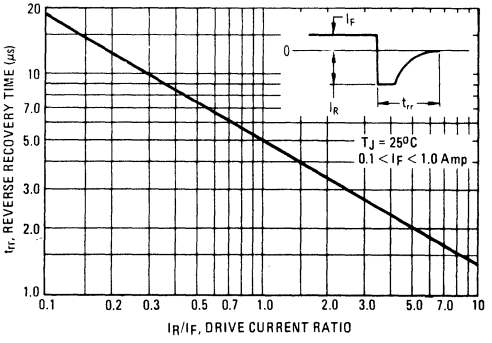


FIGURE 6 – REVERSE RECOVERY TIME



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