

MDA100A series (3N246 thru 3N252)



MOTOROLA

MINIATURE INTEGRAL DIODE ASSEMBLIES

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

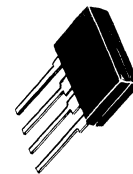
- High Resistance to Shock and Vibration
- High Dielectric Strength
- Built-In Printed Circuit Board Stand-Offs
- UL Recognized
- $RO_{JA} = 60^{\circ}\text{C}/\text{W}$

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SINGLE-PHASE FULL-WAVE BRIDGE

1.0 AMPERE
50-1000 VOLTS



MAXIMUM RATINGS		3N246 MDA100A	3N247 MDA101A	3N248 MDA102A	3N249 MDA104A	3N250 MDA106A	3N251 MDA108A	3N252 MDA110A	Unit
Rating (Per Diode)	Symbol								
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Working Peak Reverse Voltage	V_{RWM}								
DC Blocking Voltage	V_R								
DC Output Voltage									
Resistive Load	V_{dc}	32	64	127	255	382	510	640	Volts
Capacitive Load	V_{dc}	50	100	200	400	600	800	1000	Volts
Sine Wave RMS Input Voltage	$V_R(\text{RMS})$	35	70	140	280	420	560	700	Volts
Average Rectified Forward Current (single phase bridge operation, resistive load, 60 Hz, $T_A = 75^{\circ}\text{C}$)	I_O	1.0							Amp
Non-Repetitive Peak Surge Current (Preceded and followed by rated current and voltage, $T_A = 75^{\circ}\text{C}$)	I_{FSM}	30 (for 1 cycle)							Amp
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150							$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Typ	Max	Unit
Instantaneous Forward Voltage (Per Diode) ($I_F = 1.57$ Amp, $T_J = 25^{\circ}\text{C}$)	v_F	1.15	1.3	Volts
Reverse Current (Per Diode) (Rated V_R , $T_A = 25^{\circ}\text{C}$)	I_R	—	10	μA

MECHANICAL CHARACTERISTICS

CASE: Transfer Moulded Plastic

POLARITY: Terminal-designation on case

Pin 1 (+) for DC output

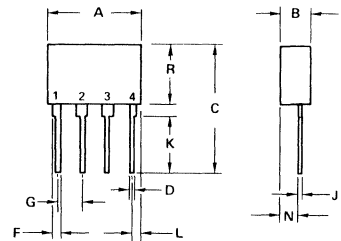
Pin 4 (-) for DC output

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		INCHES	
	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

CASE 312-02

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MAXIMUM RATINGS, BRIDGE OPERATION

FIGURE 1 – CURRENT DERATING

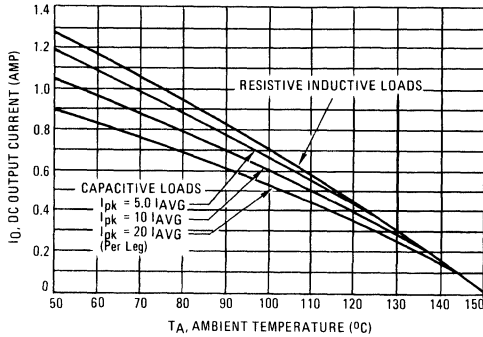


FIGURE 2 – POWER DISSIPATION

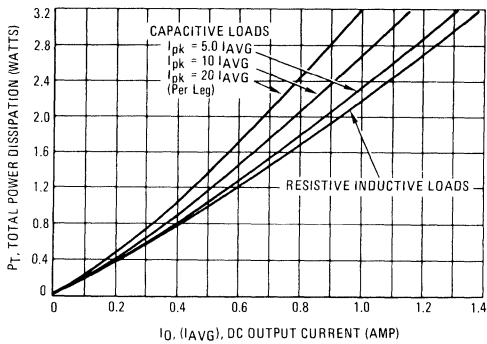
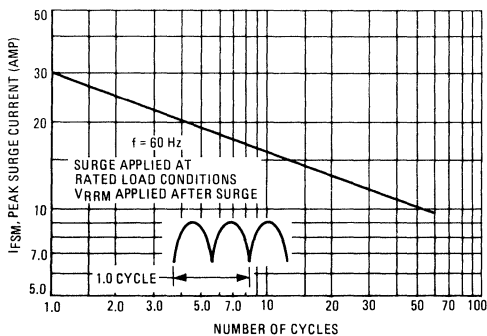


FIGURE 3 – SURGE CURRENT



SINGLE DIODE CHARACTERISTICS

FIGURE 4 – MAXIMUM FORWARD VOLTAGE

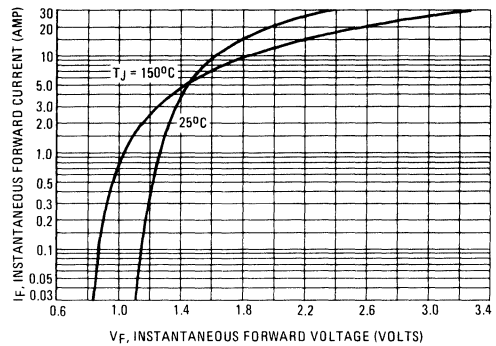


FIGURE 5 – FORWARD RECOVERY TIME

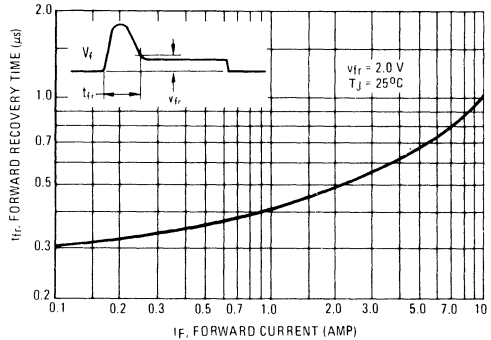


FIGURE 6 – REVERSE RECOVERY TIME

