

MDA200 series (3N253 thru 3N259)



MOTOROLA

MINIATURE INTEGRAL DIODE ASSEMBLIES

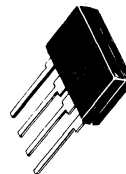
... with silicon rectifier chips interconnected and encapsulated into voidless rectifier bridge circuits.

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



SINGLE-PHASE FULL-WAVE BRIDGE

**2.0 AMPERES
50-1000 VOLTS**



MAXIMUM RATINGS		3N253 MDA200	3N254 MDA201	3N255 MDA202	3N256 MDA204	3N257 MDA206	3N258 MDA208	3N259 MDA210	Unit
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	$V_R(RMS)$	35	70	140	280	420	560	700	Volts
Average Rectified Forward Current (single phase bridge operation, resistive load, 60 Hz, $T_A = 55^{\circ}\text{C}$)	I_O	2.0							Amp
Non-Repetitive Peak Surge Current (Preceded and followed by rated current and voltage, $T_A = 55^{\circ}\text{C}$)	I_{FSM}	60 (for 1 cycle)							Amp
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +165							$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Typ	Max	Unit
Instantaneous Forward Voltage (Per Diode) ($I_F = 3.14 \text{ Amp}$, $T_J = 25^{\circ}\text{C}$)	V_F	1.0	1.1	Volts
Reverse Current (Per Diode) (Rated V_R , $T_A = 25^{\circ}\text{C}$)	I_R	—	10	μA

MECHANICAL CHARACTERISTICS

CASE: Transfer Molded Plastic

POLARITY: Terminal designation on case

Pin 1 (+) for DC output

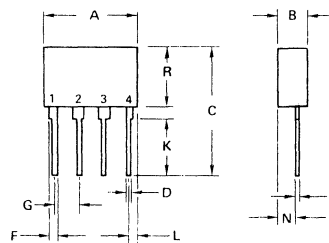
Pin 4 (-) for DC output

Pins 2 and 3 (AC) for AC input

MOUNTING POSITION: Any

WEIGHT: 1.8 grams (approx)

TERMINALS: Readily solderable
connections, corrosion resistant.



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
E	1.02	1.27	0.040	0.050
F	3.68	3.94	0.145	0.155
G	0.56	0.71	0.022	0.028
H	—	9.02	—	0.355
I	1.78	2.03	0.070	0.080
J	2.54	2.79	0.100	0.110
K	9.40	10.03	0.370	0.395

CASE 312-02

MAXIMUM RATINGS, BRIDGE OPERATION

FIGURE 1 – CURRENT DERATING

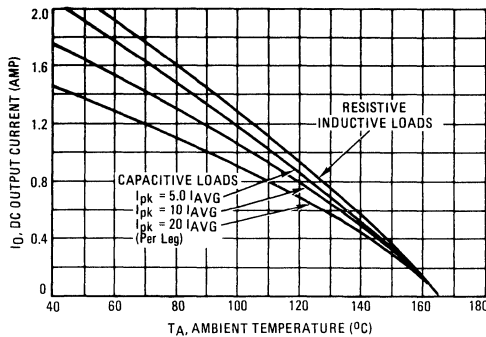


FIGURE 2 – POWER DISSIPATION

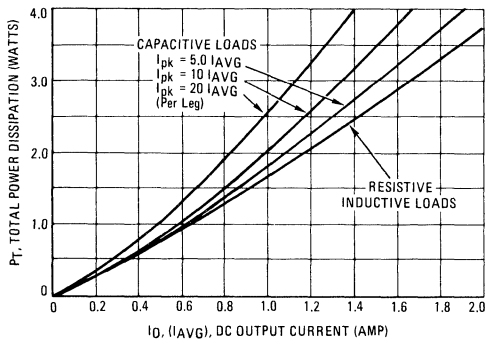
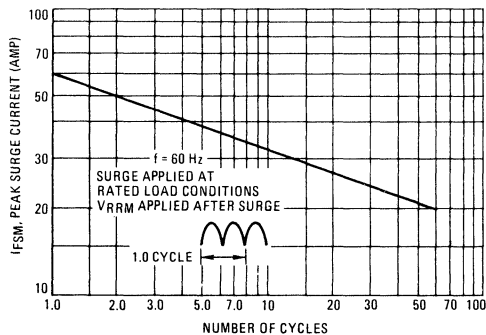


FIGURE 3 – SURGE CURRENT



SINGLE DIODE CHARACTERISTICS

FIGURE 4 – MAXIMUM FORWARD VOLTAGE

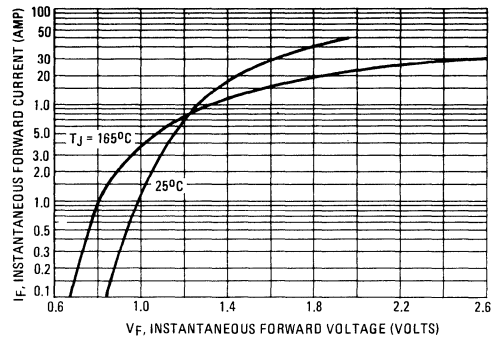


FIGURE 5 – FORWARD RECOVERY TIME

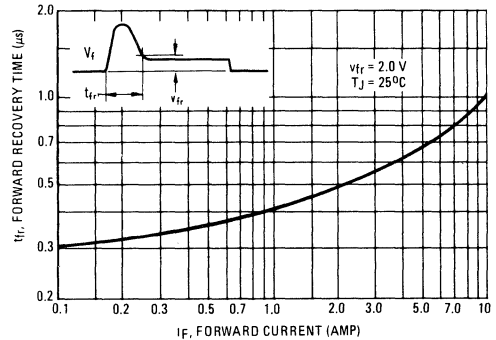


FIGURE 6 – REVERSE RECOVERY TIME

