MDA200 series (3N253 thru 3N259)

MOTOROLA

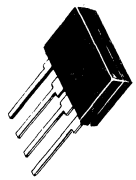
MINIATURE INTEGRAL DIODE ASSEMBLIES

. . . 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°C/W

SINGLE-PHASE
FULL-WAVE BRIDGE

2.0 AMPERES
50-1000 VOLTS



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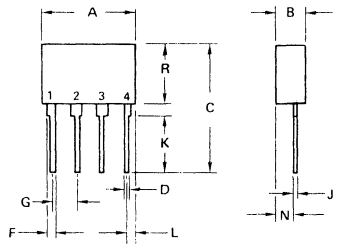
MAXIMUM RATINGS Rating (Per Diode)	Symbol	3N253 MDA200	3N254 MDA201	3N255 MDA202	3N256 MDA204	3N257 MDA206	3N258 MDA208	3N259 MDA210	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	Volts
DC Output Voltage Resistive 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 = 55°C)	I_O	2.0							Amp
Non-Repetitive Peak Surge Current (Preceded and followed by rated current and voltage, T_A = 55°C)	I_{FSM}	60 (for 1 cycle)							Amp
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +165							°C



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

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Typ	Max	Unit
Instantaneous Forward Voltage (Per Diode) (i_F = 3.14 Amp, T_J = 25°C)	v_F	1.0	1.1	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.

MAXIMUM RATINGS, BRIDGE OPERATION

FIGURE 1 – CURRENT DERATING

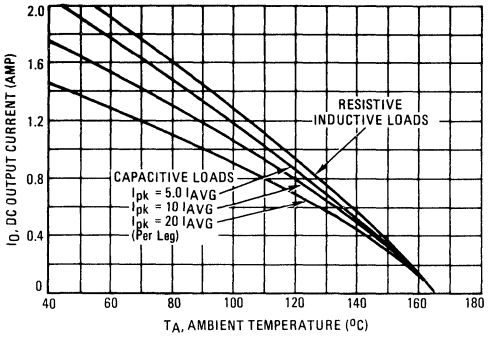


FIGURE 2 – POWER DISSIPATION

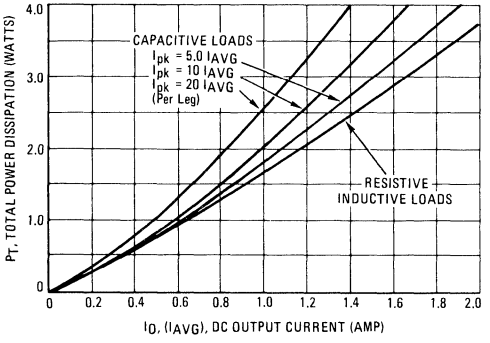
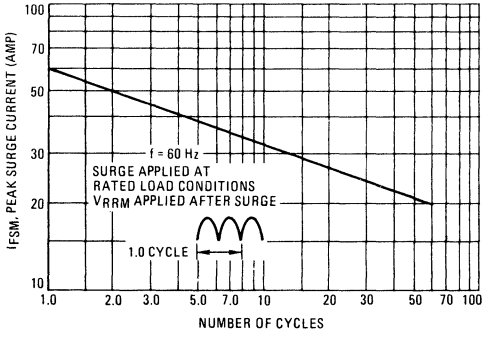


FIGURE 3 – SURGE CURRENT



SINGLE DIODE CHARACTERISTICS

FIGURE 4 – MAXIMUM FORWARD VOLTAGE

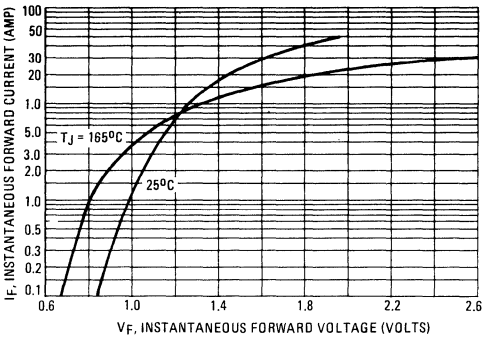


FIGURE 5 – FORWARD RECOVERY TIME

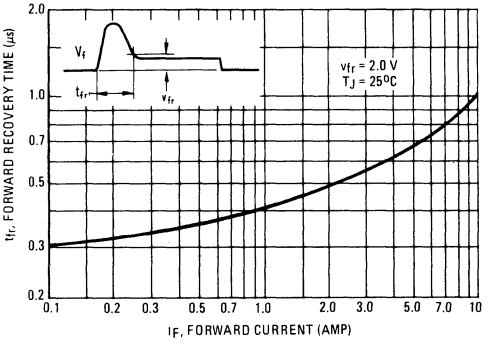
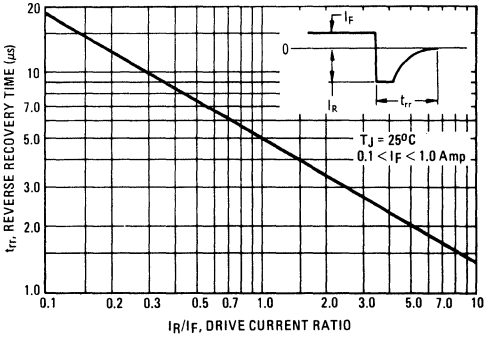


FIGURE 6 – REVERSE RECOVERY TIME



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