



**MOTOROLA**

**3N253 thru  
3N259  
(MDA200 series)**

**MINIATURE INTEGRAL DIODE ASSEMBLIES**

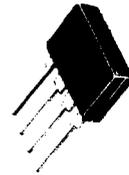
... with silicon rectifier chips interconnected and encapsulated into voidless rectifier bridge circuits.

- High Resistance to Shock and Vibration
- High Dielectric Strength
- Built-In Printed Circuit Board Stand-Offs
- UL Recognized



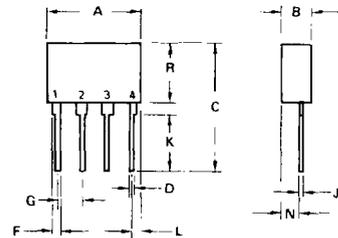
**SINGLE-PHASE  
FULL-WAVE BRIDGE**

**2.0 AMPERES  
50-1000 VOLTS**



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



**ELECTRICAL CHARACTERISTICS**

Characteristic	Symbol	Typ	Max	Unit
Instantaneous Forward Voltage (Per Diode) ( $I_F = 3.14$ Amp, $T_J = 25^\circ C$ )	$v_F$	1.0	1.1	Volts
Reverse Current (Per Diode) (Rated $V_R$ , $T_A = 25^\circ C$ )	$I_R$		10	$\mu A$

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

**MECHANICAL CHARACTERISTICS**

**CASE:** Transfer Molding Plastic  
**POLARITY:** Terminal designation on case  
 (+) for DC output  
 (-) for DC output  
 (AC) for AC input

**MOUNTING POSITION:** Any  
**WEIGHT:** 1.8 grams (approx)  
**TERMINALS:** Readily solderable  
 connections, corrosion resistant

CASE 312 02

# 3N253 thru 3N259 (MDA200 Series)

## MAXIMUM RATINGS, BRIDGE OPERATION

FIGURE 1 - CURRENT DERATING

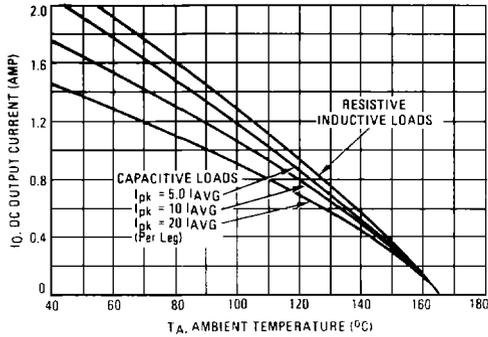


FIGURE 2 - POWER DISSIPATION

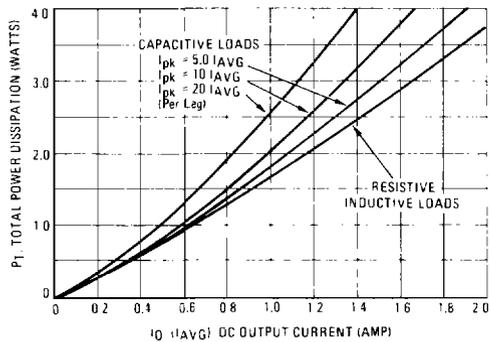
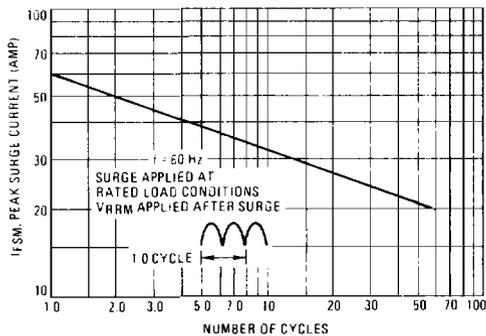


FIGURE 3 - SURGE CURRENT



## SINGLE DIODE CHARACTERISTICS

FIGURE 4 - MAXIMUM FORWARD VOLTAGE

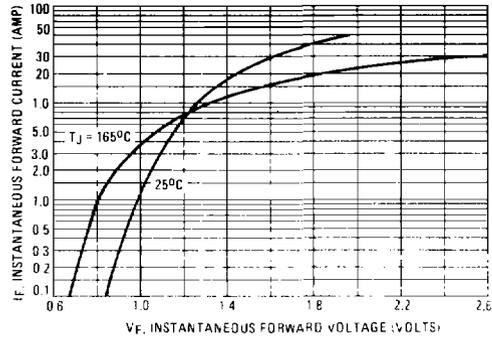


FIGURE 5 - FORWARD RECOVERY TIME

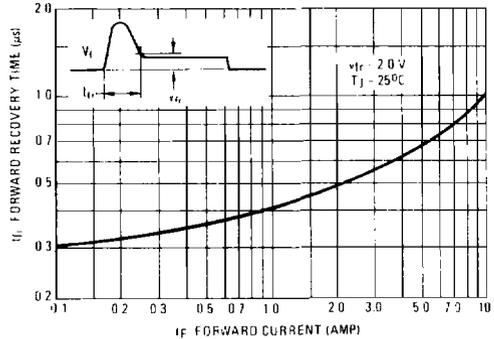


FIGURE 6 - REVERSE RECOVERY TIME

