HIGH VOLTAGE SILICON RECTIFIERS

15-200mA
Fast Recovery, Miniature

MA15-120
MX15-200

FEATURES

- PIV: From 1.5kV to 20kV
- 250nS Reverse Recovery
- High Surge Current Ratings
- Low Reverse Leakage
- Corona Free

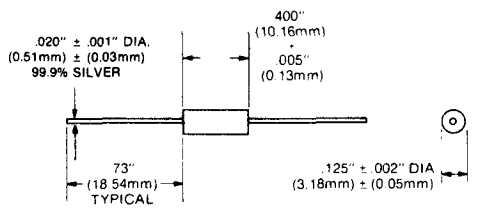
DESCRIPTION

The MX/MA silicon rectifier series utilizes manufacturing techniques that meet the reliability standards of commercial, industrial and military users. Cylindrical die construction and metallurgical bonds minimize electrical and mechanical stress, contributing to long life. The fast reverse recovery characteristics enhance applications in high frequency power supply circuits and voltage multipliers for television, CRT displays and instruments.

ABSOLUTE MAXIMUM RATINGS	MA	MX
Peak Inverse Voltage	1.5kV to 12kV	1.5kV to 20kV
Maximum Average Rectified Current	See Electrical Specifications	
Maximum One Cycle Surge 8.3mS	See Electrical Specifications	
Maximum Recurrent Peak Current Surge	See Electrical Specifications	
Operating Temperature Range	-55°C to +150°C	
Storage Temperature Range	-65°C to +175°C	

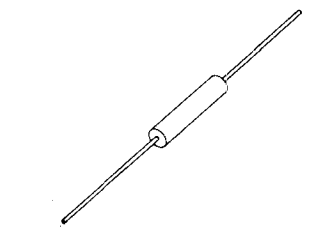
MECHANICAL SPECIFICATIONS

MX15-200

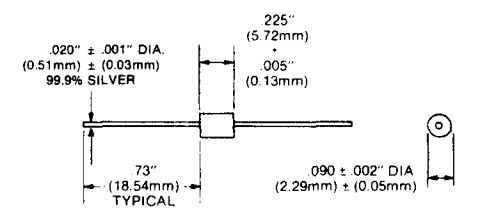


Dimensions in inches and (millimeters)

SG

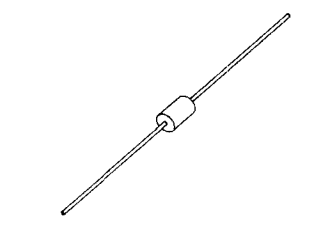


MA15-120



Dimensions in inches and (millimeters)

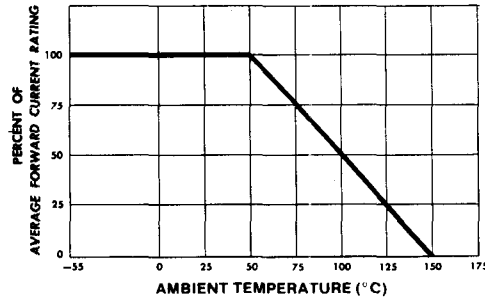
SH



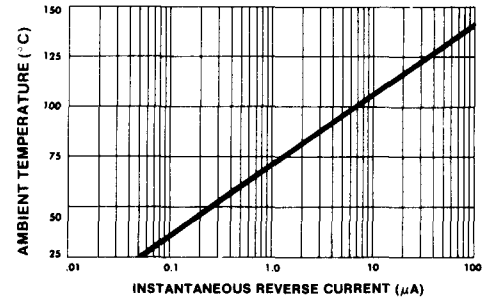
Type	Type	ELECTRICAL SPECIFICATIONS (@ 25°C unless noted)						MAXIMUM RATINGS				
		Peak Inverse Voltage*	Maximum Reverse Current @ PIV		Maximum Forward Voltage @ I_O	Maximum Reverse Recovery Time §	Maximum Junction Capacitance @ 100 Volts	Maximum Average Rectified Current †			Max. Recurrent Peak Current Surge	Max. One Cycle Surge 8.3mS
Pkg. Style SG	Pkg. Style SH	PIV	I_R		V_F	T_{RR}	C_J	I_O			I_F	I_F(surge)
			25°C	100°C	25°C			50°C	100°C	125°C		
		V	μA	μA	V	nS	pF	mA	mA	mA	A	A
MX15	MA15	1500	0.1	10	5	250(A)	2.0	80	40	20	0.8	8
MX20	MA20	2000	0.1	10	5	250(A)	2.0	80	40	20	0.8	8
MX25	MA25	2500	0.1	10	5	250(A)	2.0	80	80	20	0.8	8
MX30	MA30	3000	0.1	10	8	250(B)	1.0	40	20	10	0.4	4
MX40	MA40	4000	0.1	10	8	250(B)	1.0	40	20	10	0.4	4
MX50	MA50	5000	0.1	10	8	250(B)	1.0	40	20	10	0.4	4
MX60	MA60	6000	0.1	10	12	250(C)	1.0	25	12.5	6.25	0.2	2
MX80	MA80	8000	0.1	10	12	250(C)	1.0	25	12.5	6.25	0.2	2
MX100	MA100	10000	0.1	10	12	250(C)	1.0	25	12.5	6.25	0.2	2
MX120	MA120	12000	0.1	10	24	250(D)	1.0	10	5	2.5	0.1	1
MX150		15000	0.1	10	24	250(D)	1.0	10	5	2.5	0.1	1
MX200		20000	0.1	10	24	250(D)	1.0	10	5	2.5	0.1	1

*Operation and testing of devices over 10,000 V/inch may require re-encapsulation or immersion in a suitable dielectric material.
† The stated, AVERAGE RECTIFIED CURRENT ratings require no heat sinking, special mounting or forced air across the body of the device.
NOTE: Maximum lead temperature for soldering is 250°C 3/8" (9.5mm) from case for 5 seconds.

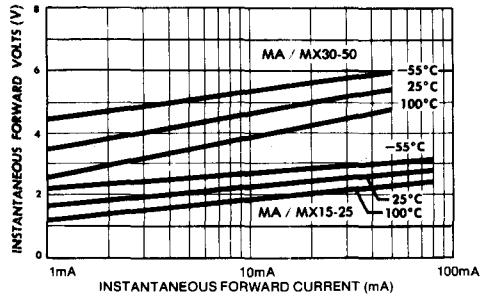
MAXIMUM FORWARD CURRENT VS AMBIENT TEMPERATURE

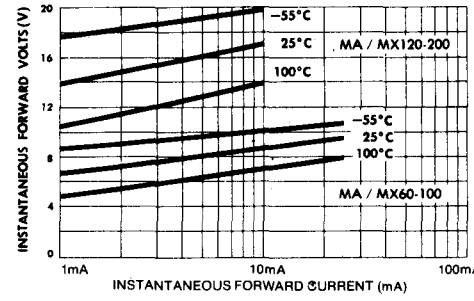


TYPICAL DYNAMIC REVERSE CHARACTERISTICS AT RATED PIV



TYPICAL FORWARD CHARACTERISTICS AT VARIOUS JUNCTION TEMPERATURES

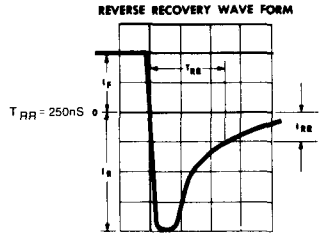




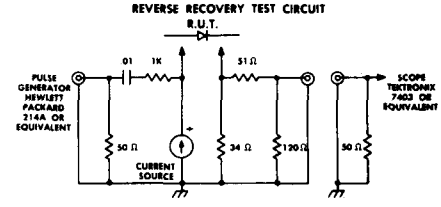
REVERSE RECOVERY TEST CONDITIONS §

TEST	I_F mA	I_R mA	I_{RR} mA
A	40	80	20
B	20	40	10
C	12.5	25	6.25
D	5	10	2.5

REVERSE RECOVERY WAVE FORM



REVERSE RECOVERY TEST CIRCUIT



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