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## High Voltage Diffused Silicon Rectifiers VG Series

Minimum size

 $V_{RRM}$  1KV to 20KV

Diffused Silicon Junction

Low Leakage Current

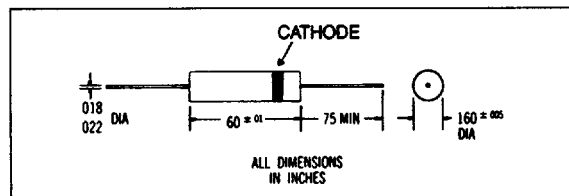
250 Nanosec. Reverse Recovery\*

### STANDARD TYPES

MQSI Part No.	Repetitive Peak Reverse Voltage $V_{RRM}$ (Volts)	Avg. Fwd. Current $I_F$ @ 40°C (mA) (Fig. 2)	Max. Fwd. Voltage Drop @ 10mA
VG-1	1,000	200	6
VG-2	2,000	200	7
VG-3	3,000	200	8
VG-4	4,000	125	10
VG-5	5,000	125	12
VG-7	7,000	125	14
VG-10	10,000	80	16
VG-12	12,000	80	18
VG-15	15,000	60	25
VG-20	20,000	50	30

### FAST RECOVERY TYPES

MQSI Part No.	Repetitive Peak Reverse Voltage $V_{RRM}$ (Volts)	Avg. Fwd. Current $I_F$ @ 40°C (mA) (Fig. 2)	Max. Fwd. Voltage Drop @ 10mA (Volts)
VG-1X	1,000	70	8
VG-2X	2,000	70	10
VG-3X	3,000	70	12
VG-4X	4,000	45	12
VG-5X	5,000	45	14
VG-7X	7,000	35	18
VG-10X	10,000	35	20
VG-12X	12,000	35	22
VG-15X	15,000	15	30
VG-20X	20,000	15	34



The series VG high voltage and high voltage fast recovery time diffused silicon rectifiers are designed for industrial and commercial applications that require high reliability at an economical cost. This series offers high voltage ranges in minimum-sized, epoxy-encapsulated packages with low leakage current. All ratings are obtained without the use of special heat sinks or mounting techniques. (See Note 3)

These rectifiers can withstand 500 G shock and vibration of 100 Hz with a peak acceleration of 10 G.

These rectifiers are technically and economically suitable for use in television receivers, electrostatic power supplies, electrostatic copiers, electrostatic air filters and precipitators, and cathode ray tube power supplies.

### ELECTRICAL CHARACTERISTICS (At $T_A = 25^\circ\text{C}$ Unless Otherwise Specified)

CHARACTERISTICS	
Max. DC Reverse Current @ $V_{RRM}$ and $25^\circ\text{C}$ , $I_R$ (Fig. 3)	1 $\mu\text{A}$
Max. DC Reverse Current @ $V_{RRM}$ and $100^\circ\text{C}$ , $I_R$ (Fig. 3)	10 $\mu\text{A}$
Max. Reverse Recovery Time, $t_r$ , @ $I_F = 2\text{mA}$ and $I_R = -4\text{mA}$ , Recovery to $-1.0\text{mA}$ (FIG. 3)	250 nsec*
Ambient Operating Temperature Range, $T_A$	VG VG-X -55°C to +150°C -55°C to +135°C
Storage Temperature Range $T_{STG}$	-50°C to +150°C
Max. One-Half Cycle Surge Current, $I_{FSM}$ (Surge) @ 60Hz	3 A

\*Fast Recovery Series

### NOTES:

- Suffix (X) denotes Fast Recovery Series.
- Maximum lead and terminal temperature for soldering,  $\frac{3}{16}$  inch from case, 5 seconds at  $250^\circ\text{C}$ .
- If operated over 10,000 V/inch in length, devices should be immersed in oil or re-encapsulated.

TYPICAL REVERSE CURRENT VS  
AMBIENT TEMPERATURE AT  $V_{RRM}$

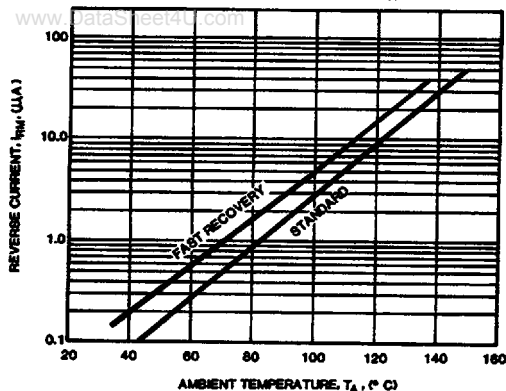


FIGURE 1

RECTIFIER DERATING CURVE

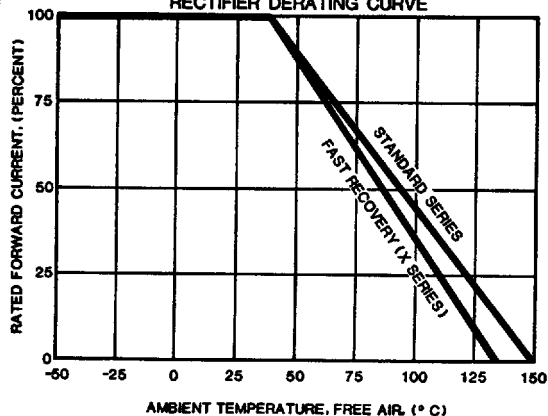


FIGURE 2

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RECOVERY WAVE FORM

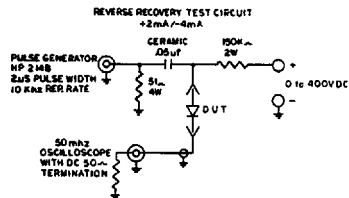
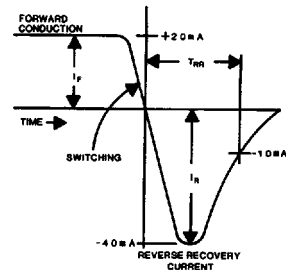


FIGURE 3