

# High Voltage Diffused Rectifiers

# VA & VB Series

1KV To 3.5KV  $V_{RRM}$  (VA Series)

1KV To 15 KV  $V_{RRM}$  (VB Series)

Low Leakage Current

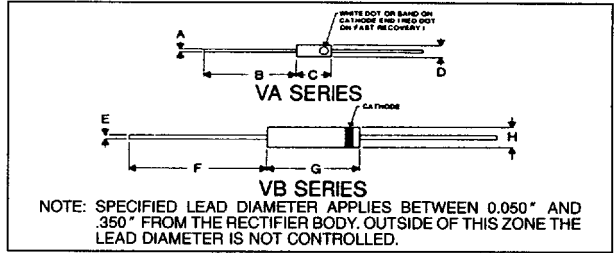
Fast Recovery Series With 250 Nanosecond  $t_r$

Minimum Sized Epoxy Encapsulation



LTR.	INCHES	MILLIMETERS
A	.015 Dia.	.381 Dia.
B	.40 Min.	10,16 Min.
C	.150	3,81
D	.080 Dia.	1,52 Dia.
E	.020 Dia.	.51 Dia.
F	.60 Min.	15,24 Min.
G	.40	10,16
H	.100 Dia.	2,54 Dia.

NOTE:  
ALL PARTS MUST BE OVERMOLDED WITH HIGHLY FILLED EPOXY TO MEET THE STATED CURRENT RATINGS. TYPE VA PARTS ABOVE 1500V AND VB PARTS ABOVE 3000V MUST BE OVERMOLDED TO MEET  $V_{RRM}$  RATING. DIMENSIONAL TOLERANCES .XX ± .02", .XXX ± .005".



NOTE: SPECIFIED LEAD DIAMETER APPLIES BETWEEN 0.050" AND .350" FROM THE RECTIFIER BODY. OUTSIDE OF THIS ZONE THE LEAD DIAMETER IS NOT CONTROLLED.

NOTES:

- SUFFIX "X" ADDED TO PART NUMBER DENOTES FAST RECOVERY.
- MAXIMUM LEAD AND TERMINAL TEMPERATURE FOR SOLDERING  $\frac{3}{16}$ " FROM CASE, 5 SECONDS AT 250°C.

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS at  $T_A = 25^\circ\text{C}$  (unless otherwise specified)**

STANDARD TYPES								
MQSI PART NO.	Repetitive Peak Reverse Voltage $V_{RRM}$ (Volts)	Peak Surge Current $\frac{1}{2}$ Cycle at 60 Hz $I_{FSM}$ (Amps)	DC Forward Current at $T_A = 50^\circ\text{C}$ $I_{FO}(mA)$ (Fig. 1)	Ambient Operating Temperature Range $T_A$ ( $^\circ\text{C}$ )	Max. Forward Voltage Drop @ 10mA (Volts)	Max. Reverse Current At Rated $V_{RRM}$ $I_{RM}$ ( $\mu\text{A}$ ) (Fig. 2)	Max. Reverse Current At Rated $V_{RRM}$ $I_{RM}(\mu\text{A})$	$t_r(\text{max})$ $I_F = 2 \text{ ma}$ $I_R = -4 \text{ ma}$ $I_{RR} = -1 \text{ ma}$ (ns) (Fig. 3)
VA-10	1000	3	140	-55 to +150	4	.05	5.0 at $T_A = 100^\circ\text{C}$	NA
VA-15	1500		140		4			
VA-20	2000		140		4			
VA-25	2500		140		4			
VA-30	3000		140		6			
VA-35	3500		140		6			
VB-10	1000		150		5			
VB-20	2000		150		5			
VB-30	3000		80		10			
VB-40	4000		80		10			
VB-50	5000	80	10					
VB-60	6000	80	10					
VB-75	7500	60	16					
VB-100	10000	50	18					
FAST RECOVERY TYPES								
VA-10X	1000	3	70	-55 to +135	6	0.3	10.0 at $T_A = 100^\circ\text{C}$	250 nsec
VA-15X	1500		70		6			
VA-20X	2000		70		6			
VA-25X	2500		70		8			
VA-30X	3000		70		8			
VB-10X	1000		80		6			
VB-20X	2000		80		6			
VB-30X	3000		40		12			
VB-40X	4000		40		12			
VB-50X	5000		40		12			
VB-75X	7500	25	18					
VB-100X	10,000	25	20					
VB-150X	15,000	1	5	42				

DC FORWARD CURRENT,  $I_{o1}$ , (PERCENT)  
VS  
AMBIENT TEMPERATURE (FREE AIR)

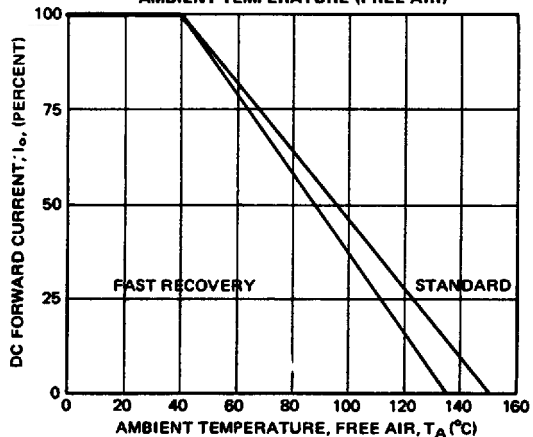


FIGURE 1

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

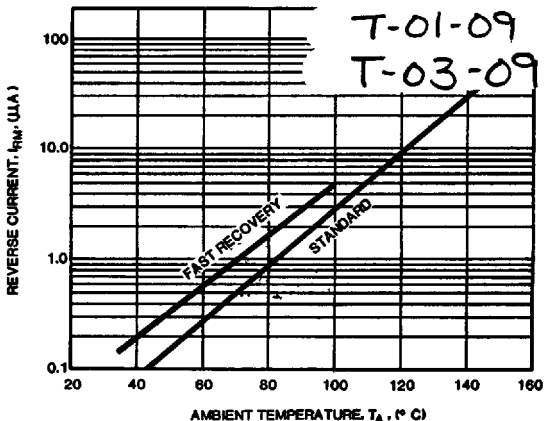


FIGURE 2

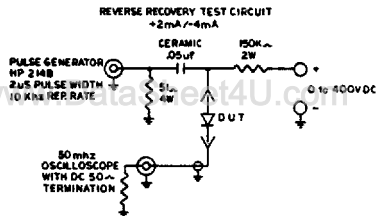


FIGURE 3

RECOVERY WAVE FORM

