

# RECTIFIER ASSEMBLIES

High Voltage Stacks, .125 Amp to 1 Amp,  
Standard and Fast Recovery

US12-US200A  
USR12-USR180A

3

## FEATURES

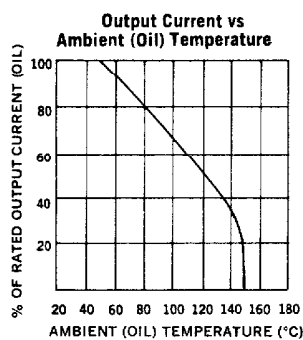
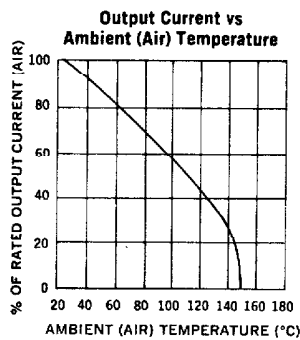
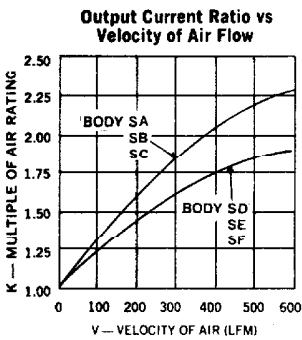
- Controlled Avalanche Characteristics
- Recovery Times: to 500ns
- Transfer Molded for Voidless Encapsulation
- High Forward and Reverse Surge Capability
- PIV: from 1200 to 20,000V
- Only Fused-in-Glass Diodes Used

## DESCRIPTION

This series of High Voltage, Medium Current Stacks are assembled from hermetically sealed, controlled avalanche individual diodes. Therefore, they offer the ultimate in reliability for such applications as clipper diodes, back swing diodes and hold-off diodes in pulse modulators.

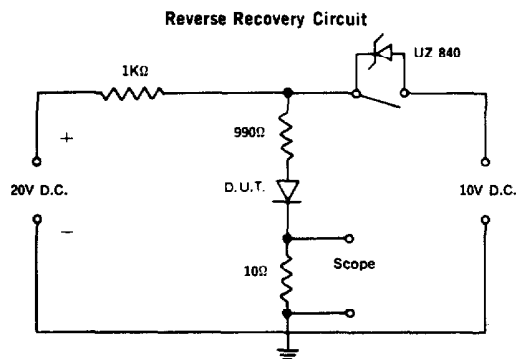
## ABSOLUTE MAXIMUM RATINGS

Peak Inverse Voltage ..... 1200 to 20,000V  
 Maximum Average D.C. Output Current ..... See Electrical Specifications  
 Non-Repetitive Sinusoidal Surge (8.3ms) ..... 20A  
 Operating and Storage Temperature Range ..... -65°C to +150°C

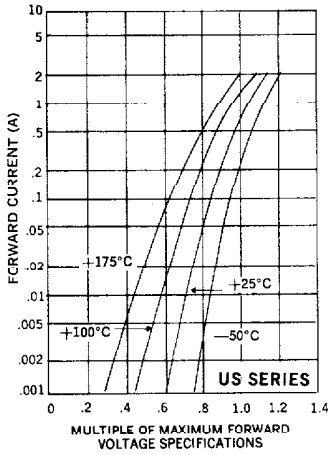


Electrical Specifications (at 25°C unless noted)							Maximum Ratings		
Type	PIV	Maximum Leakage Current at PIV		Maximum Forward Voltage Drop	Maximum Reverse Recovery Time†	Body Size	Max. Avg. D.C. Output Current		
		T <sub>A</sub> = 25°C	T <sub>A</sub> = 100°C				T <sub>A</sub> = 25°C (Air)	T <sub>A</sub> = 50°C (Oil)	
	V	µA	µA		ns		mA	mA	
<b>Standard Recovery</b>									
US 12	1200	2	100	2.0V @ 400mA	—	SA	1000	2500	
US 15	1500	2	100	3.0V @ 400mA	—	SA	800	2000	
US 18	1800	2	100	3.0V @ 400mA	—	SA	700	1750	
US 20	2000	2	100	4.0V @ 400mA	—	SA	600	1500	
US 25	2500	2	100	5.0V @ 400mA	—	SB	600	1500	
US 30	3000	2	100	6.0V @ 400mA	—	SB	500	1250	
US 35	3500	2	100	7.0V @ 200mA	—	SC	400	1000	
US 40	4000	2	100	7.0V @ 200mA	—	SC	350	850	
US 45A	4500	2	100	8.0V @ 200mA	—	SD	330	750	
US 50A	5000	2	100	9.0V @ 200mA	—	SD	330	750	
US 60A	6000	2	100	10.0V @ 200mA	—	SD	300	620	
US 70A	7000	2	100	12.0V @ 200mA	—	SD	300	620	
US 80A	8000	2	100	14.0V @ 100mA	—	SE	250	500	
US 100A	10000	2	100	17.0V @ 100mA	—	SE	250	500	
US 120A	12000	2	100	21.0V @ 100mA	—	SE	200	400	
US 150A	15000	2	100	26.0V @ 100mA	—	SF	200	400	
US 180A	18000	2	100	31.0V @ 100mA	—	SF	180	360	
US 200A	20000	2	100	34.0V @ 100mA	—	SF	180	360	
<b>Fast Recovery</b>									
USR 12	1200	5	150	3.3V @ 400mA	500	SA	750	1850	
USR 15	1500	5	150	4.0V @ 400mA	500	SA	600	1500	
USR 20	2000	5	150	5.5V @ 400mA	500	SB	500	1250	
USR 25	2500	5	150	6.6V @ 400mA	500	SB	400	1000	
USR 30	3000	5	150	7.7V @ 400mA	500	SC	400	1000	
USR 35	3500	5	150	8.8V @ 200mA	500	SC	350	850	
USR 40A	4000	5	150	9.9V @ 200mA	500	SD	300	750	
USR 45A	4500	5	150	11.0V @ 100mA	500	SD	250	625	
USR 50A	5000	5	150	13.0V @ 100mA	500	SD	250	625	
USR 60A	6000	5	150	15.4V @ 100mA	500	SD	220	500	
USR 70A	7000	5	150	17.6V @ 100mA	500	SE	220	500	
USR 80A	8000	5	150	20.0V @ 100mA	500	SE	200	400	
USR 100A	10000	5	150	24.0V @ 100mA	500	SE	200	400	
USR 120A	12000	5	150	31.0V @ 100mA	500	SF	150	300	
USR 150A	15000	5	150	33.0V @ 100mA	500	SF	150	300	
USR 180A	18000	5	150	35.0V @ 100mA	500	SF	125	250	

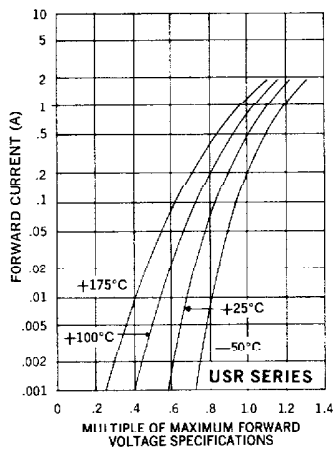
†Measured in a reverse recovery circuit switching from 10mA forward to 10mA reverse current recovering to 5mA.



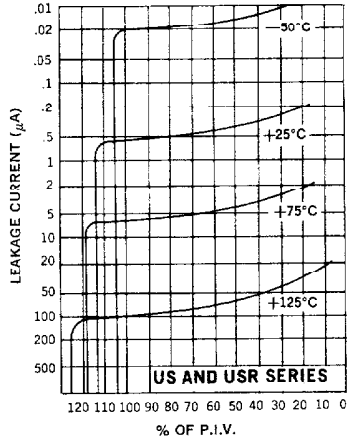
Typical Forward Current vs. Forward Voltage



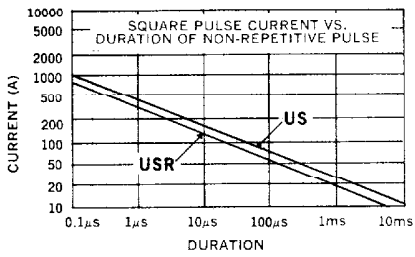
Typical Forward Current vs. Forward Voltage



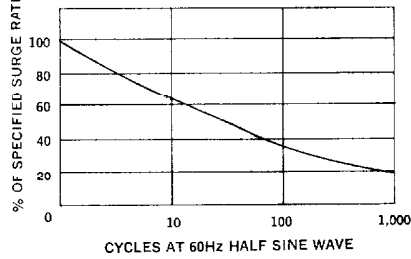
Typical Leakage Current vs. Voltage



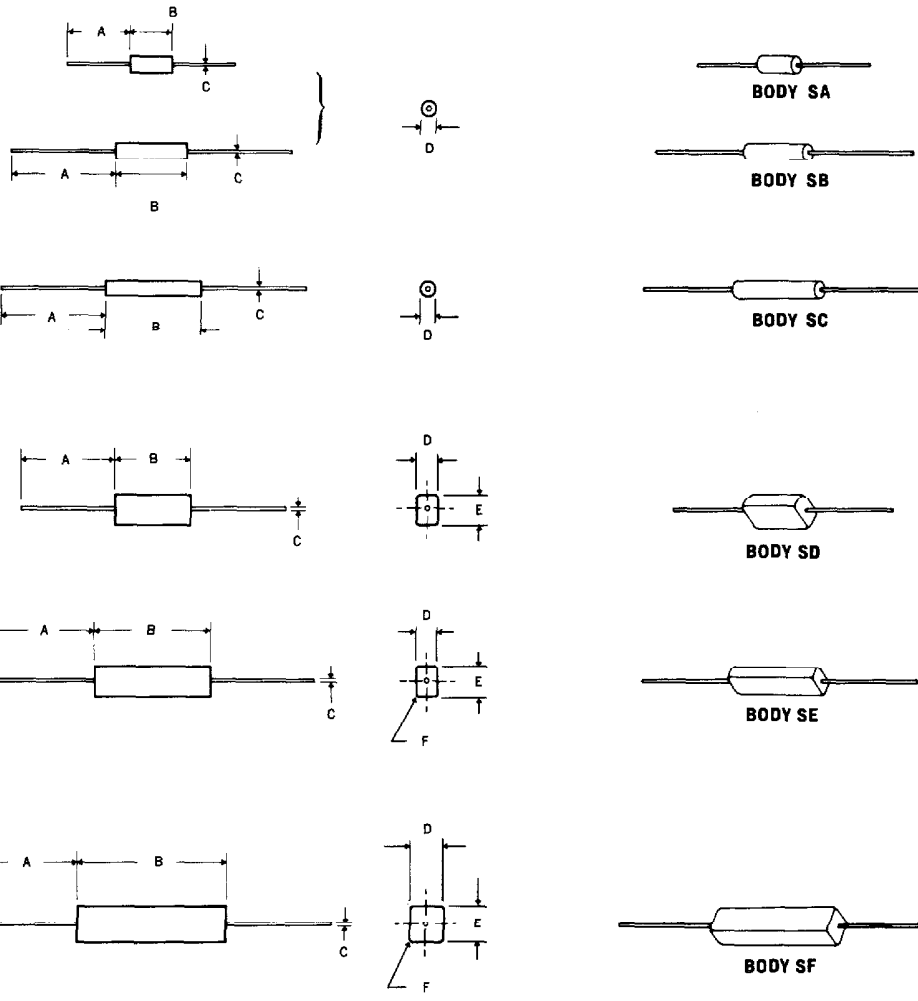
Forward Pulse Current vs Duration



Multiple Forward Surge Rating



**MECHANICAL SPECIFICATIONS**



	SA		SB		SC		SD		SE		SF	
	ins.	mm.	ins.	mm.	ins.	mm.	ins.	mm.	ins.	mm.	ins.	mm.
A	.75 MIN.	19.05 MIN.	1.25 MIN.	31.75 MIN.	1.25 MIN.	31.75 MIN.	1.25 MIN.	31.75 MIN.	1.25 MIN.	31.75 MIN.	1.25 MIN.	31.75 MIN.
B	.50 MAX.	12.70 MAX.	0.85 MAX.	21.59 MAX.	1.125 MAX.	28.58 MAX.	.875 MAX.	22.23 MAX.	1.375 MAX.	34.93 MAX.	1.75 MAX.	44.45 MAX.
C	.028 DIA.	.71 DIA.	.032 DIA.	.81 DIA.	.032 DIA.	.81 DIA.	.032 DIA.	.81 DIA.	.032 DIA.	.81 DIA.	.032 DIA.	.81 DIA.
D	.107 MAX.	4.75 MAX.	.107 MAX.	4.75 MAX.	.107 MAX.	4.75 MAX.	.250 MAX.	6.35 MAX.	.250 MAX.	6.35 MAX.	.400 MAX.	10.16 MAX.
E							.375 MAX.	9.53 MAX.	.375 MAX.	9.53 MAX.	.400 MAX.	10.16 MAX.
F									.078	1.98	.078	1.98