HIGH VOLTAGE SILICON RECTIFIERS

MULTISTAC

Medium Recovery, High Current

FEATURES

- PIV: From 2.5kV to 20kV
- 2uS Reverse Recovery
- High Surge Current Ratings
- Low Reverse Leakage
- Corona Free

DESCRIPTION

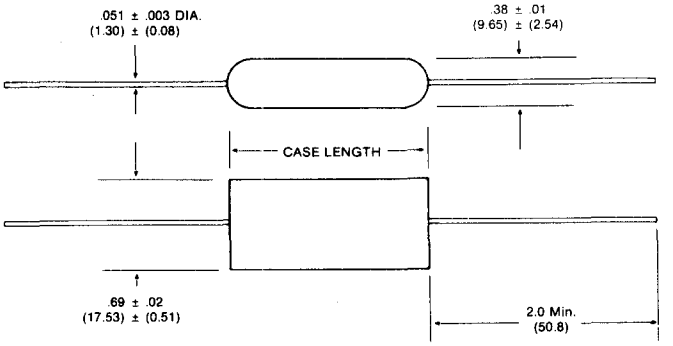
The HVHS MULTISTAC high current, high voltage silicon rectifier's convenient size and high power capability meets the reliability requirements of commercial, industrial and military applications. Reliability with economy are obtained through the use of proprietary innovations in manufacturing technique. Cylindrical die construction and metallurgical bonds minimize electrical and mechanical stress, contributing to long life.

ABSOLUTE MAXIMUM RATINGS

Peak Inverse Voltage	2.5 kV to 20kV
Maximum Average Rectified Current	See Electrical Specifications
Maximum One Cycle Surge 8.3mS	See Electrical Specifications
Operating and Storage Temperature Range	-55° C to +150° C

MECHANICAL SPECIFICATIONS

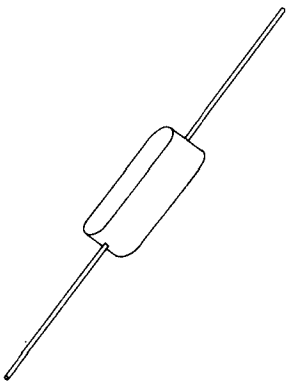
HVHS2500-20000



PART NUMBER	CASE LENGTH	
	INCHES	MILLIMETERS
HVHS2500	1.5 ± .03	38.1 ± 0.76
HVHS5000	2.5 ± .03	63.5 ± 0.76
HVHS7500	3.5 ± .03	88.9 ± 0.76
HVHS10000	4.5 ± .03	114.3 ± 0.76
HVHS12500	5.5 ± .03	139.7 ± 0.76
HVHS15000	6.5 ± .03	165.1 ± 0.76
HVHS17500	6.5 ± .03	165.1 ± 0.76
HVHS20000	6.5 ± .03	165.1 ± 0.76

Dimensions in inches and (millimeters)

PC

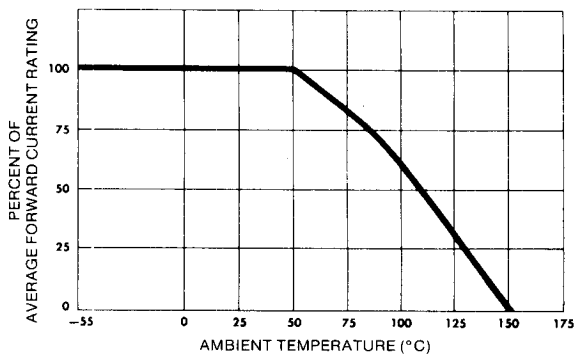


UNITRODE

Type	ELECTRICAL SPECIFICATIONS (at 25°C unless noted)					MAXIMUM RATINGS				Case Length	
	Peak Inverse Voltage*	Maximum Reverse Current @ PIV		Maximum Forward Voltage @ I_O	Maximum Reverse Recovery Time	Maximum Average Rectified Current†		Maximum One Cycle Surge 8.3mS			
	PIV	I_R		V_F	T_{RR}	I_O		I_F(surge)			
	V	25°C	100°C	V	μS	55°C	100°C	25°C	100°C		
		μA	μA			A	A	A	A	Ins.	MM
HVHS2500	2500	10	120	5	2	2.2	1.3	200	100	1.5	38.1
HVHS5000	5000	10	120	10	2	2.2	1.3	200	100	2.5	63.5
HVHS7500	7500	10	120	15	2	2.2	1.3	200	100	3.5	88.9
HVHS10000	10000	10	120	20	2	2.2	1.3	200	100	4.5	114.9
HVHS12500	12500	10	120	25	2	2.2	1.3	200	100	5.5	139.7
HVHS15000	15000	10	120	30	2	2.2	1.3	200	100	6.5	165.1
HVHS17500	17500	10	120	35	2	2.2	1.3	200	100	6.5	165.1
HVHS20000	20000	10	120	40	2	2.2	1.3	200	100	6.5	165.1

*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.

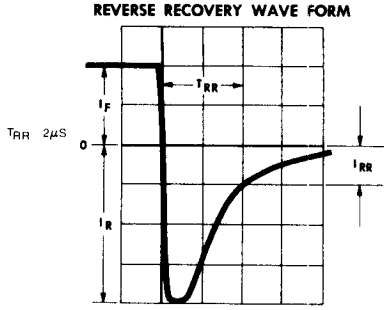
MAXIMUM FORWARD CURRENT VS AMBIENT TEMPERATURE



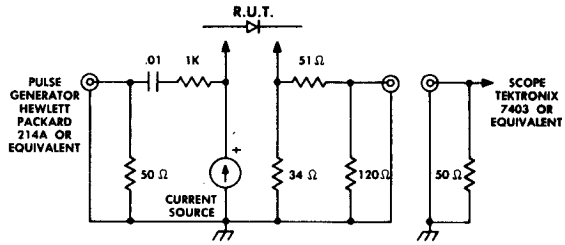
VII

REVERSE RECOVERY TEST CONDITIONS: I_F =0.4mA, I_R =0.8mA, I_{RR} =0.2mA

REVERSE RECOVERY WAVE FORM



REVERSE RECOVERY TEST CIRCUIT



Reverse recovery is measured on each rectifier stack prior to manufacture of the assembly.

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