TECHNICAL DATA SHEET

6 Lake Street, Lawrence, MA 01841
1-800-446-1158 / (978) 620-2600 / Fax: (978) 689-0803
Website: http://www.microsemi.com

HIGH RELIABILITY SILICON POWER RECTIFIER

Qualified per MIL-PRF-19500/246

- ***Glass Passivated Die***
- ***Glass to Metal Header Construction***
- ***VRRM to 1000V***
- ***1600 Amps Surge Rating***

DEVICES

1N3289	**1N3294**	**1N3289R**	**1N3294R**
1N3291	**1N3295**	**1N3291R**	**1N3295R**
1N3293		**1N3293R**	

LEVELS

JAN
JANTX
JANTXV

ABSOLUTE MAXIMUM RATINGS (T_C = +25°C unless otherwise noted)

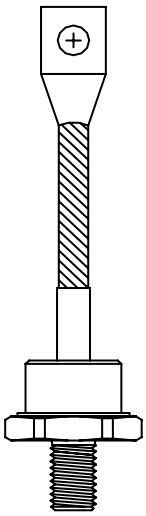
Parameters / Test Conditions			Symbol	Value	Unit
Peak Repetitive Reverse Voltage	1N3289 1N3291 1N3293 1N3294 1N3295	1N3289R 1N3291R 1N3293R 1N3294R 1N3295R	V_{RWM}	200 400 600 800 1000	V
Average Forward Current, T_C = 134°			I_F	100	A
Peak Surge Forward Current @ t_p = 8.3ms, half sinewave, T_C = 150°C			I_{FSM}	1600	A
Thermal Resistance, Junction to Case			$R_{\theta JC}$	0.4	°C/W
Operating Case Temperature Range			T_j	-65°C to 200°C	°C
Storage Temperature Range			T_{STG}	-65°C to 200°C	°C

ELECTRICAL CHARACTERISTICS (T_A = +25°C, unless otherwise noted)

Parameters / Test Conditions			Symbol	Min.	Max.	Unit
Forward Voltage I_{FM} = 310A, T_C = 25°C *			V_{FM}		1.55	V
Reverse Current V_{RM} = 200, T_C = 25°C V_{RM} = 400, T_C = 25°C V_{RM} = 600, T_C = 25°C V_{RM} = 800, T_C = 25°C V_{RM} = 1000, T_C= 25°C	 1N3289 1N3291 1N3293 1N3294 1N3295	 1N3289R 1N3291R 1N3293R 1N3294R 1N3295R	I_{RM}		10	mA
Reverse Current V_{RM} = 200, T_C = 200°C V_{RM} = 400, T_C = 200°C V_{RM} = 600, T_C = 200°C V_{RM} = 800, T_C = 200°C V_{RM} = 1000, T_C = 200°C	 1N3289 1N3291 1N3293 1N3294 1N3295	 1N3289R 1N3291R 1N3293R 1N3294R 1N3295R	I_{RM}		30	mA

* Pulse test: Pulse width 300µsec. Duty cycle 2%

Note:



DO-205AA (DO-8)

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GRAPHS

FIGURE 1
TYPICAL FORWARD CHARACTERISTICS

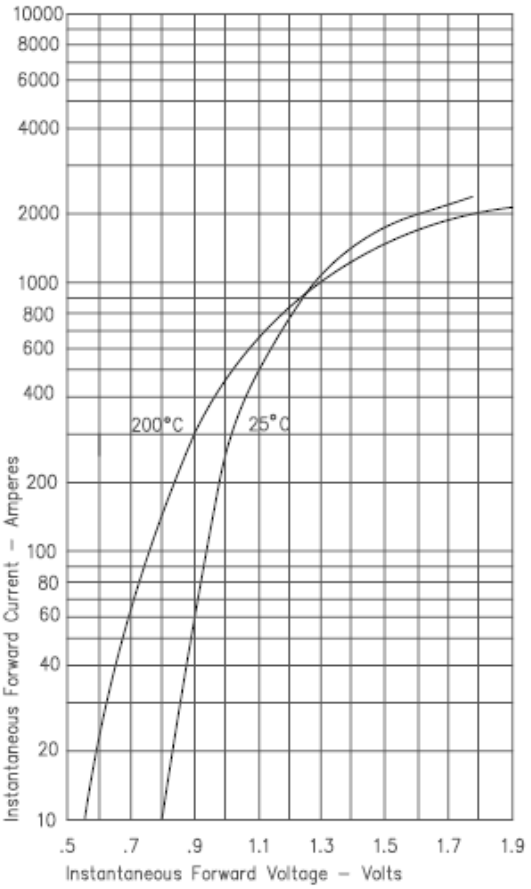


FIGURE 2
TYPICAL REVERSE CHARACTERISTICS

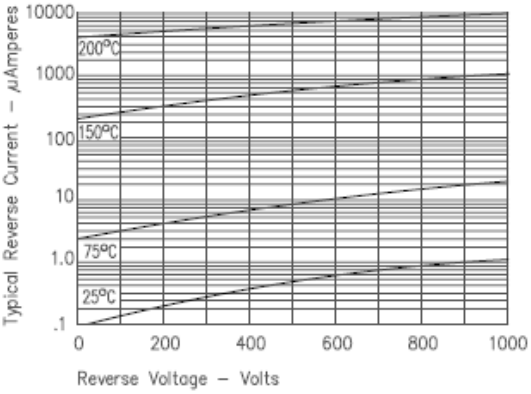


FIGURE 3
FORWARD CURRENT DERATING

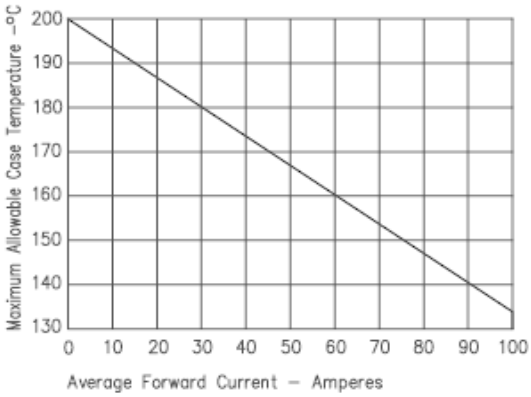


FIGURE 5
TRANSIENT THERMAL IMPEDANCE

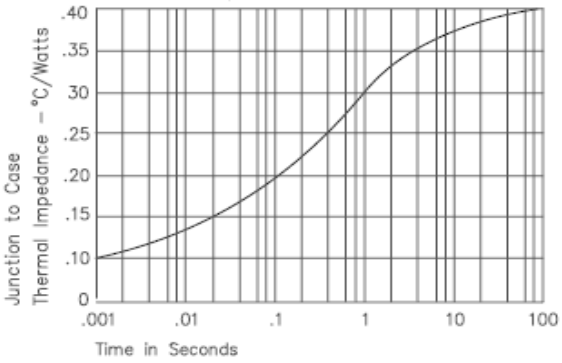
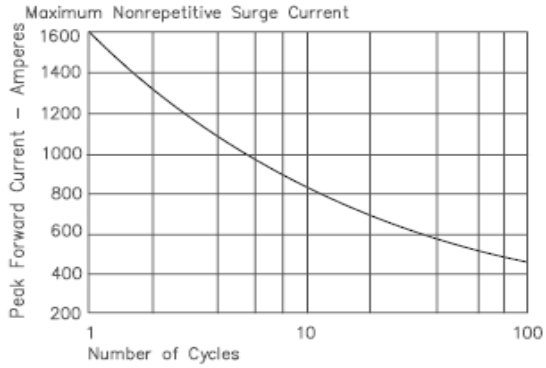


FIGURE 7
MAXIMUM NONREPETITIVE SURGE CURRENT

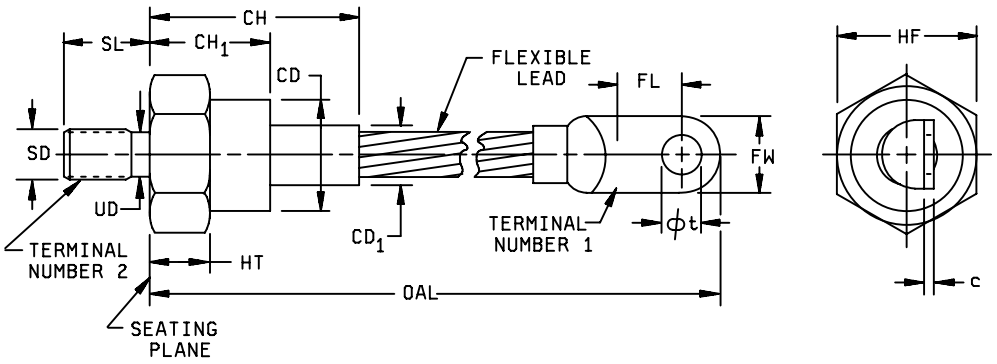


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PACKAGE DIMENSIONS



NOTES:

1. Dimensions are in inches.
2. Millimeter equivalents are given for general information only.
3. Complete threads to extend to within 2.5 threads of seating plane.
4. 375-24 UNF-2A. Maximum pitch diameter of plated threads shall be basic pitch diameter (.3479 inch (8.837 mm) reference.
5. A chamfer or undercut on one or both ends of hexagonal portions is optional.
6. Minimum flat.
7. For marking (see 3.5).
8. The body of the device, with the exception of the hexagon and flexible lead extensions, lies within cyclinder defined by CD_1 and CH, CD_1 not to exceed actual HF.
9. Terminal shape is optional.
10. In accordance with ASME Y14.5M, diameters are equivalent to ϕx symbology.

Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
CD	.625	1.000	15.88	25.40	8
CD_1		.500		12.70	
CH		1.750		44.45	
CH_1		1.140		28.96	
c	.050	.120	1.27	3.05	
FL	.300	.450	7.62	11.43	6
FW		.670		17.02	
HF	1.031	1.063	26.19	27.00	
HT	.125	.500	3.18	12.70	5
OAL	4.300	5.065	109.22	128.65	
SD					4
SL	.605	.645	15.37	16.38	
UD	.343	.373	8.71	9.47	
ϕt	.250	.310	6.35	7.87	4

Physical dimensions