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TECHNICAL DATA SHEET

HIGH RELIABILITY FAST RECOVERY RECTIFIER

Qualified per MIL-PRF-19500/308

- ***150°C Junction Temperature***
- ***VRRM 50 to 400 Volts***
- ***50 Amps Current Rating***

DEVICES

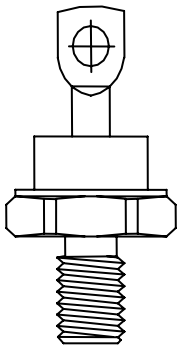
1N3909	**1N3912**	**1N3910A**	**1N3913A**	**1N3911R**	**1N3909AR**	**1N3912AR**
1N3910	**1N3913**	**1N3911A**	**1N3909R**	**1N3912R**	**1N3910AR**	**1N3913AR**
1N3911	**1N3909A**	**1N3912A**	**1N3910R**	**1N3913R**	**1N3911AR**	

LEVELS

JAN
JANTX
JANTXV

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

Parameters / Test Conditions		Symbol	Value	Unit
Peak Reverse Voltage	1N3909 / A / R / AR 1N3910 / A / R / AR 1N3911 / A / R / AR 1N3912 / A / R / AR 1N3913 / A / R / AR	V_{RWM}	50 100 200 300 400	V
Peak Working Reverse Voltage	1N3909 / A / R / AR 1N3910 / A / R / AR 1N3911 / A / R / AR 1N3912 / A / R / AR 1N3913 / A / R / AR	V_{RRM}	50 100 200 300 400	V
Average Forward Current, T_C = 100°		I_F	50	A
Peak Surge Forward Current @ 8.3ms, half sinewave, T_C = 100°C	1N3909 / R Thru 1N3913 / R 1N3909A / AR Thru 1N3913A / AR	I_{FSM}	300 400	A
Thermal Resistance, Junction to Case		$R_{\theta JC}$	0.8	°C/W
Operating Case Temperature Range		T_j	-65°C to 150°C	°C
Storage Temperature Range		T_{STG}	-65°C to 175°C	°C



DO-203AB (DO-5)

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

Parameters / Test Conditions		Symbol	Min.	Max.	Unit
Forward Voltage I_{FM} = 50A, T_C = 25°C*		V_{FM}		1.4	V
Forward Voltage I_{FM} = 400A, T_C = 150°C**		V_{FM}		2.75	V
Reverse Current V_{RM} = 50V, T_C = 25°C V_{RM} = 100V, T_C = 25°C V_{RM} = 200V, T_C = 25°C V_{RM} = 300V, T_C = 25°C V_{RM} = 400V, T_C= 25°C	 1N3909 / A / R 1N3910 / A / R 1N3911 / A / R 1N3912 / A / R 1N3913 / A / R	I_{RM}		15	µA
Reverse Current V_{RM} = 50V, T_C = 150°C V_{RM} = 100V, T_C = 150°C V_{RM} = 200V, T_C = 150°C V_{RM} = 300V, T_C = 150°C V_{RM} = 400V, T_C = 150°C	 1N3909 / A / R 1N3910 / A / R 1N3911 / A / R 1N3912 / A / R 1N3913 / A / R	I_{RM}		6	mA
Reverse Recovery Time V_{RM} = 30V, I_F = 1A	1N3909 / A Thru 1N3913 / A 1N3909A / AR Thru 1N3913A / AR	T_{rr}		200 150	ns

* Pulse test: Pulse width 300 µsec, Duty cycle 2%
** Pulse test: Pulse width 800 µsec

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TECHNICAL DATA SHEET

HIGH RELIABILITY FAST RECOVERY RECTIFIER

GRAPHS

FIGURE 1
TYPICAL FORWARD CHARACTERISTICS

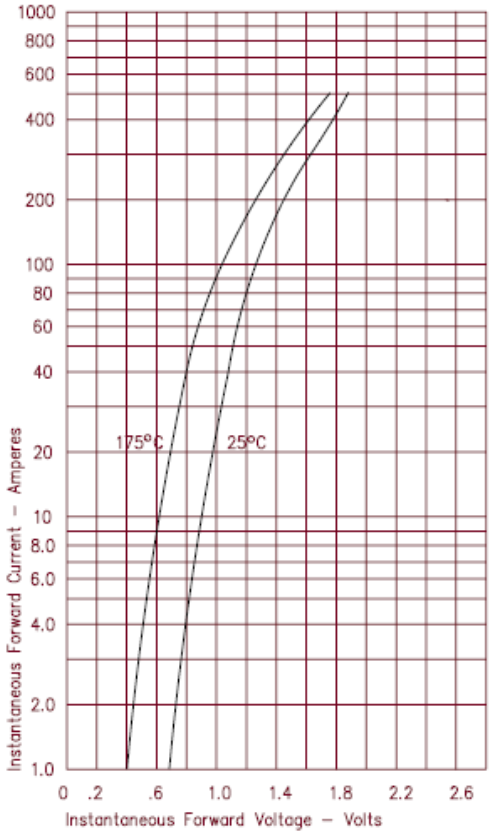


FIGURE 2
TYPICAL REVERSE CHARACTERISTICS

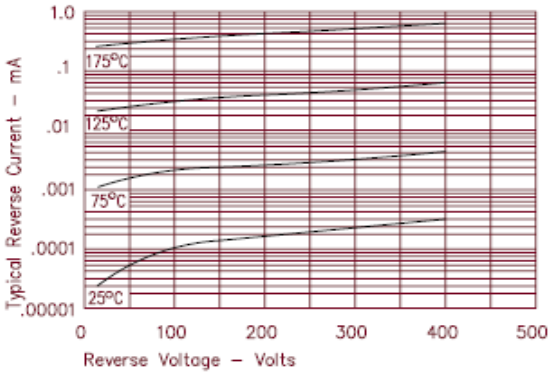


FIGURE 3
TYPICAL JUNCTION CAPACITANCE

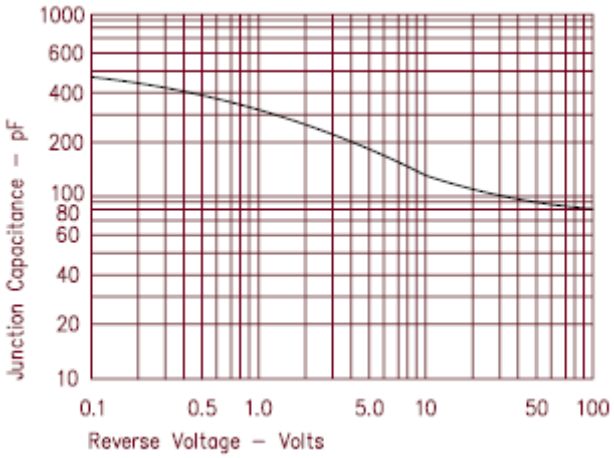
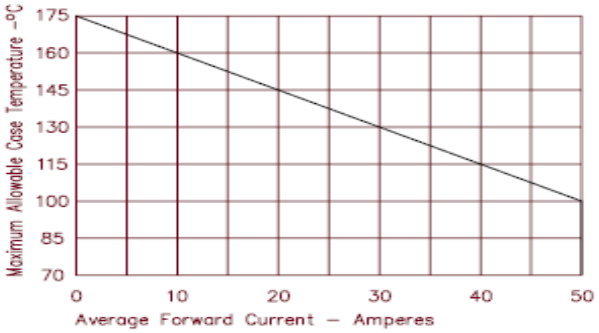


FIGURE 4
FORWARD CURRENT DERATING



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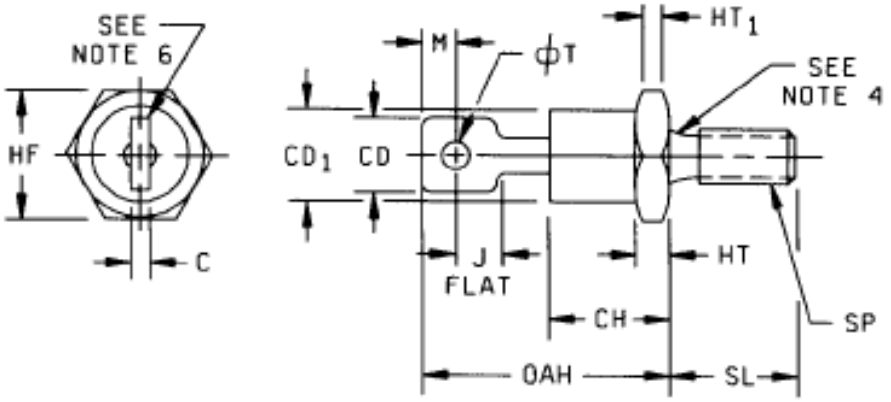
TECHNICAL DATA SHEET

HIGH RELIABILITY FAST RECOVERY RECTIFIER

PACKAGE DIMENSIONS



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Units must not be damaged by torque of 30 inch-pounds applied to 0.250-28 UF-2B nut assembled on thread.
4. Diameter of unthreaded portion 0.249 inch (6.32 mm) max and 0.220 inch (5.59 mm) minimum.
5. Complete threads to extend to within 2.5 threads of seating plane.
6. Angular orientation for this terminal is underlined, however the major surfaces over dimension CD shall be flat and the minimum distance from the hole to any point on the periphery shall be 0.030 inch (0.76mm) outside dimension J.
7. Max pitch diameter of plated threads shall be basic pitch diameter 0.2268 inch (5.76 mm) reference FED-STD-H28.
8. (Screw Thread Standards for Federal Services.)
9. A chamfer or undercut on one or both ends of the hex portion is optional: Minimum bas diameter at seating plane. 0.600 inch (15.24 mm)
10. Reversed (anode to stud) units shall be marked with an "R" following the last digit in the type number.

Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
C	0.030	0.080	0.76	2.03
CD	0.250	0.375	6.35	9.52
CD1		0.667		16.94
CH		0.450		11.43
HF	0.669	0.688	16.99	17.48
HT	0.115	0.200	2.93	5.08
HT1	0.060		1.53	
J	0.156		3.97	
M	0.030		0.77	
OAH	0.750	1.000	19.05	25.40
ϕT	0.140	0.175	3.56	04.44
SL	0.422	0.453	10.72	11.50
SP	.250-28 UNF-2A THD NF optional		6.35-28 UNF-2A THD NF optional	

Physical dimensions (DO-5)