

HIGH RELIABILITY SILICON POWER RECTIFIER

Qualified per MIL-PRF-19500/297

- Glass Passivated Die
- Glass to Metal Seal Construction
- 500 Amps Surge Rating
- VRRM to 1000 Volts

DEVICES

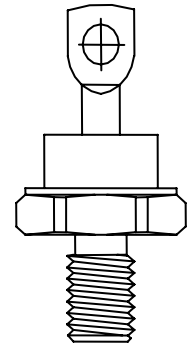
1N1184	1N1190	1N1184R	1N1190R
1N1186	1N3766	1N1186R	1N3766R
1N1188	1N3768	1N1188R	1N3768R

LEVELS

JAN
JANTX
JANTXV

ABSOLUTE MAXIMUM RATINGS ($T_C = +25^\circ\text{C}$ unless otherwise noted)

Parameters / Test Conditions	Symbol	Value	Unit
Peak Reverse Voltage	V_R	100	V
		200	
		400	
		600	
		800	
		1000	
Average Forward Current, $T_C = 150^\circ$	I_F	35	A
Peak Surge Forward Current @ $t_p = 8.3\text{ms}$, half sinewave, $T_C = 150^\circ\text{C}$	I_{FSM}	500	A
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.8	$^\circ\text{C/W}$
Operating Case Temperature Range	T_j	-65°C to 175°C	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65°C to 175°C	$^\circ\text{C}$



DO-203AB (DO-5)

ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted)

Parameters / Test Conditions	Symbol	Min.	Max.	Unit		
Forward Voltage $I_{FM} = 110\text{A}$, $T_C = 25^\circ\text{C}^*$	V_{FM}		1.4	V		
Forward Voltage $I_{FM} = 500\text{A}$, $T_C = 150^\circ\text{C}^*$	V_{FM}		2.3	V		
Reverse Current	I_{RM}		10	μA		
$V_{RM} = 100$, $T_j = 25^\circ\text{C}$					1N1184	1N1184R
$V_{RM} = 200$, $T_j = 25^\circ\text{C}$					1N1186	1N1186R
$V_{RM} = 400$, $T_j = 25^\circ\text{C}$					1N1188	1N1188R
$V_{RM} = 600$, $T_j = 25^\circ\text{C}$					1N1190	1N1190R
$V_{RM} = 800$, $T_j = 25^\circ\text{C}$					1N3766	1N3766R
$V_{RM} = 1000$, $T_j = 25^\circ\text{C}$	1N3768	1N3768R				
Reverse Current	I_{RM}		1	mA		
$V_{RM} = 100$, $T_j = 150^\circ\text{C}$					1N1184	1N1184R
$V_{RM} = 200$, $T_j = 150^\circ\text{C}$					1N1186	1N1186R
$V_{RM} = 400$, $T_j = 150^\circ\text{C}$					1N1188	1N1188R
$V_{RM} = 600$, $T_j = 150^\circ\text{C}$					1N1190	1N1190R
$V_{RM} = 800$, $T_j = 150^\circ\text{C}$					1N3766	1N3766R
$V_{RM} = 1000$, $T_j = 150^\circ\text{C}$	1N3768	1N3768R				

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

Note:

HIGH RELIABILITY SILICON POWER RECTIFIER

GRAPHS

FIGURE 1
TYPICAL FORWARD CHARACTERISTICS

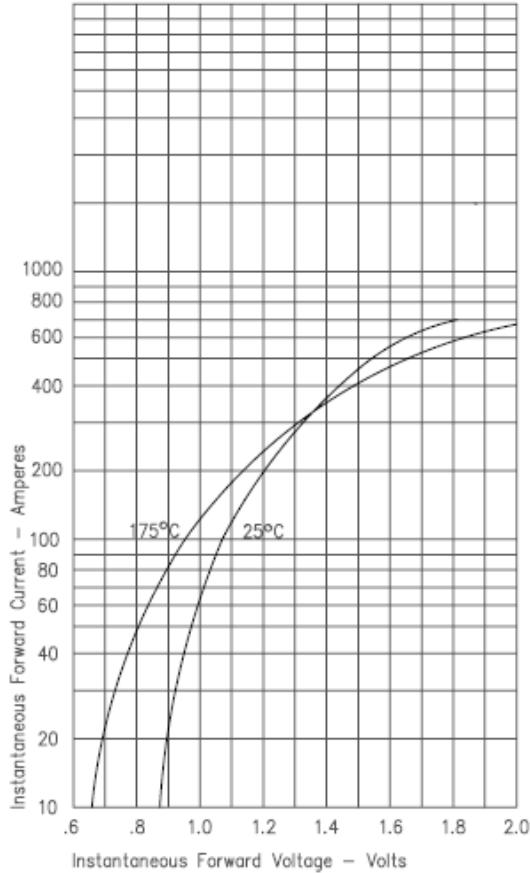


FIGURE 3
FORWARD CURRENT DERATING

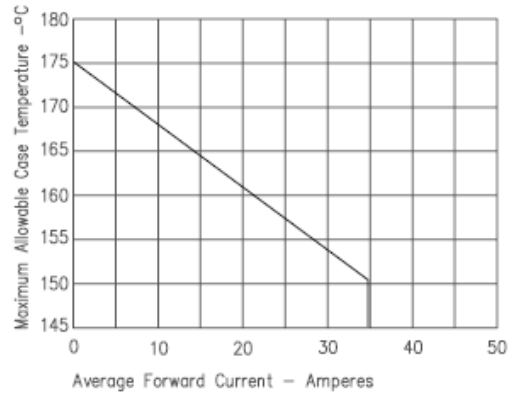


FIGURE 4
TRANSIENT THERMAL IMPEDANCE

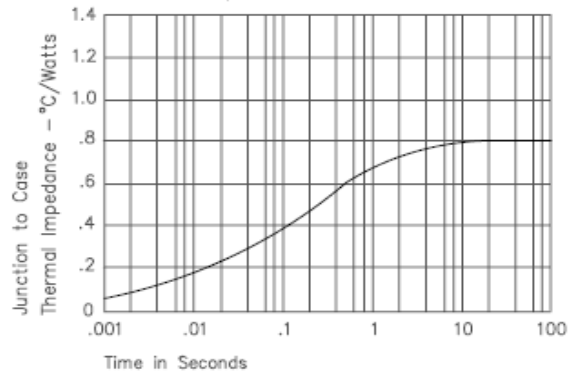
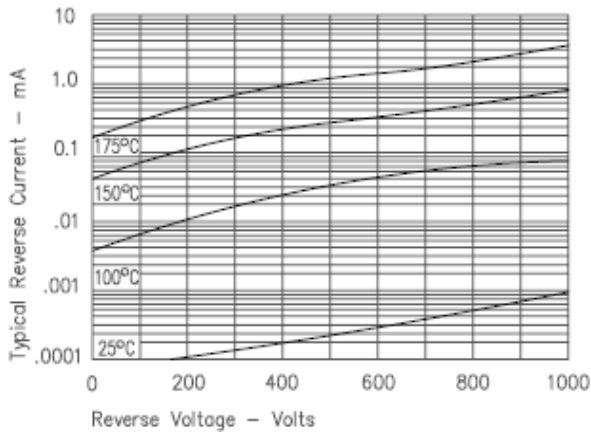
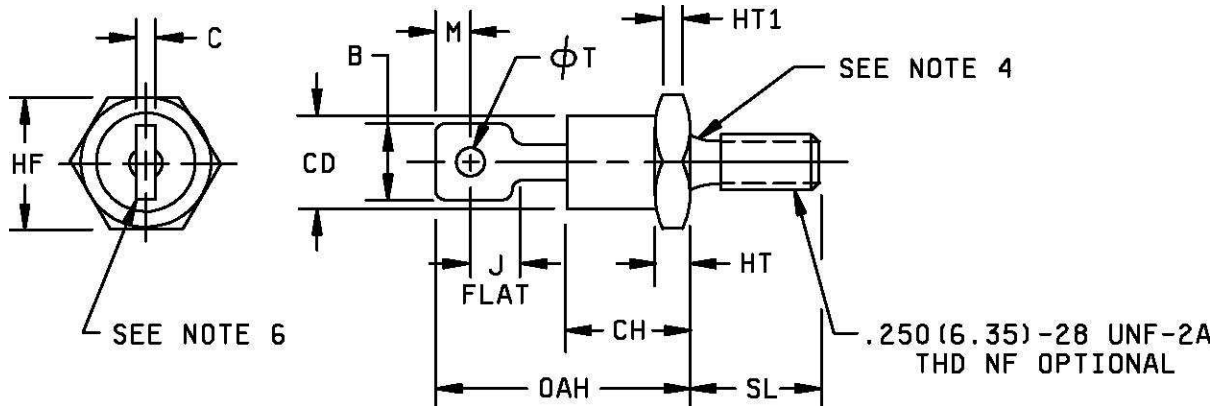


FIGURE 2
TYPICAL REVERSE CHARACTERISTICS



HIGH RELIABILITY SILICON POWER RECTIFIER

PACKAGE DIMENSIONS



NOTES:

- 1 Dimensions are in inches.
- 2 Millimeters are given for general information only.
- 3 Units must not be damaged by torque of 30 inch-pounds applied to .250-28 UNF-28 nut assembled on thread.
- 4 Diameter of unthreaded portion .249 inch (6.32 mm) max and .220 inch (5.59 mm) min.
- 5 Complete threads to extend to within 2.5 threads of seating plane.
- 6 Angular orientation of this terminal is undefined.
- 7 Max pitch diameter of plated threads shall be basic pitch diameter .2268 inch (5.76 mm) reference FEDSTD-H28.
- 8 A chamfer or undercut on one or both ends of the hex portion is optional; minimum base diameter at seating plane. .600 inch (15.24 mm).
- 9 In accordance with ASME Y14.5M, diameters are equivalent to ϕx symbology.

Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
OAH		1.000		25.40
CH		.450		11.43
HT	.115	.200	2.93	5.08
SL	.422	.453	10.72	11.50
HT1	.060		1.53	
B	.250	.375	6.35	9.52
CD		.667		16.94
HF	.667	.687	16.95	17.44
J	.156		3.97	
ϕT	.140	.175	3.56	04.44
C		.080		2.03
M	.030		0.77	

Physical dimensions, (all device types) DO-5