

## 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

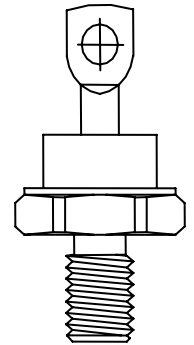
<b>1N1184</b>	<b>1N1190</b>	<b>1N1184R</b>	<b>1N1190R</b>
<b>1N1186</b>	<b>1N3766</b>	<b>1N1186R</b>	<b>1N3766R</b>
<b>1N1188</b>	<b>1N3768</b>	<b>1N1188R</b>	<b>1N3768R</b>

### LEVELS

<b>JAN</b>
<b>JANTX</b>
<b>JANTXV</b>

### 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	$^\circ\text{C}/\text{W}$
Operating Case Temperature Range	$T_j$	$-65^\circ\text{C}$ to $175^\circ\text{C}$	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	$-65^\circ\text{C}$ to $175^\circ\text{C}$	$^\circ\text{C}$



**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	$\mu\text{A}$
$V_{RM} = 100$ , $T_j = 25^\circ\text{C}$				
$V_{RM} = 200$ , $T_j = 25^\circ\text{C}$				
$V_{RM} = 400$ , $T_j = 25^\circ\text{C}$				
$V_{RM} = 600$ , $T_j = 25^\circ\text{C}$				
$V_{RM} = 800$ , $T_j = 25^\circ\text{C}$				
Reverse Current	$I_{RM}$		1	mA
$V_{RM} = 100$ , $T_j = 150^\circ\text{C}$				
$V_{RM} = 200$ , $T_j = 150^\circ\text{C}$				
$V_{RM} = 400$ , $T_j = 150^\circ\text{C}$				
$V_{RM} = 600$ , $T_j = 150^\circ\text{C}$				
$V_{RM} = 800$ , $T_j = 150^\circ\text{C}$				

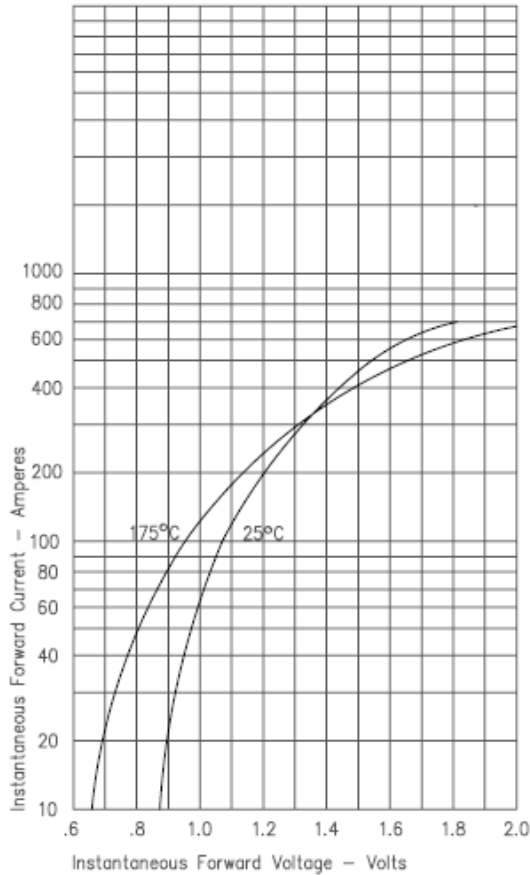
\* Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

**Note:**

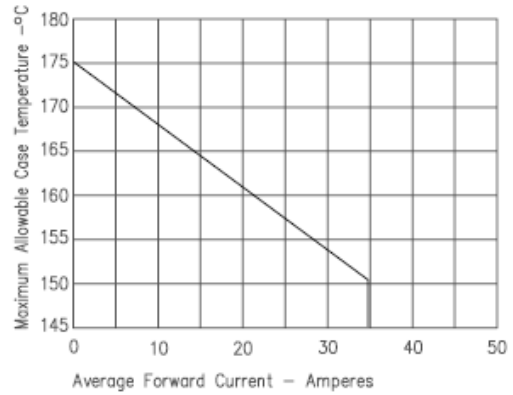
## HIGH RELIABILITY SILICON POWER RECTIFIER

### GRAPHS

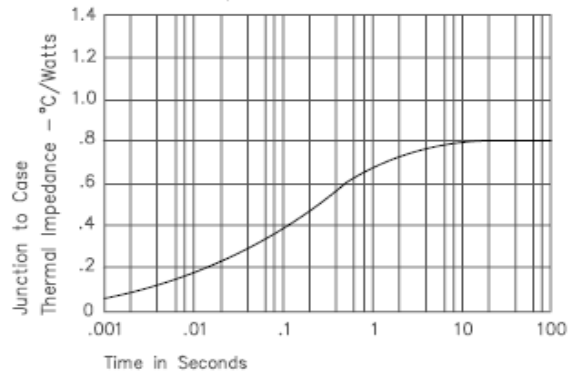
**FIGURE 1**  
**TYPICAL FORWARD CHARACTERISTICS**



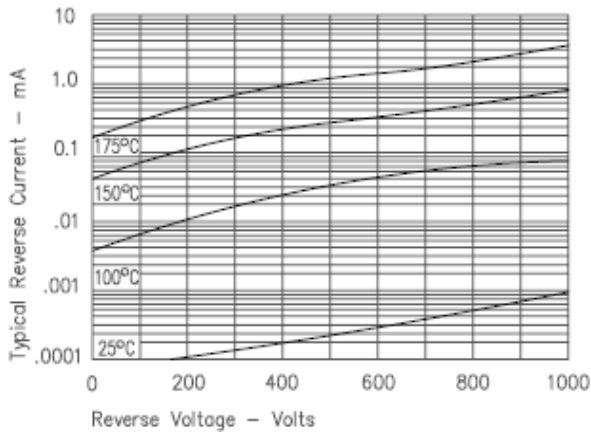
**FIGURE 3**  
**FORWARD CURRENT DERATING**



**FIGURE 4**  
**TRANSIENT THERMAL IMPEDANCE**

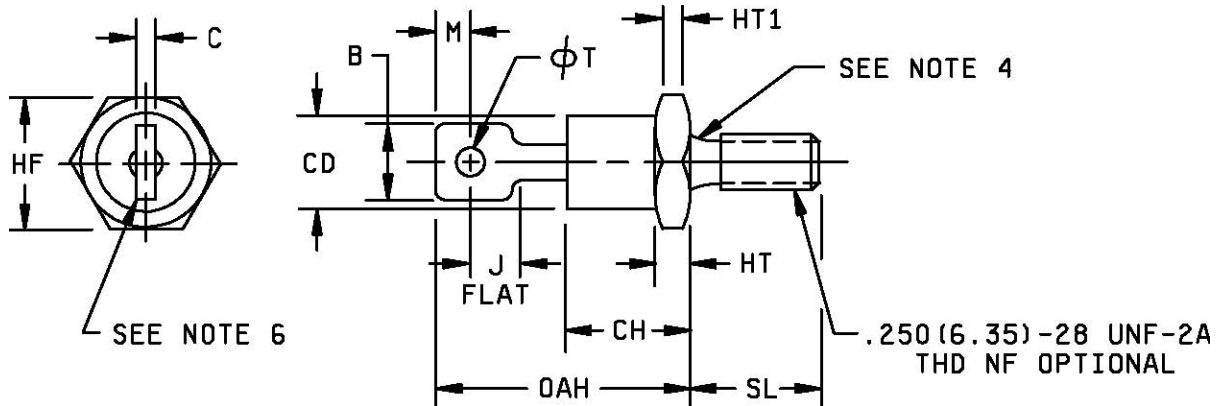


**FIGURE 2**  
**TYPICAL REVERSE CHARACTERISTICS**



## 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  $\phi x$  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	
$\phi T$	.140	.175	3.56	04.44
C		.080		2.03
M	.030		0.77	

#### Physical dimensions, (all device types) DO-5