

## HIGH RELIABILITY SCHOTTKY RECTIFIER

Qualified per MIL-PRF-19500/553

- Schottky Barrier Rectifier
- 600 Amps Surge Rating
- Low Forward Voltage
- Reverse Energy Tested

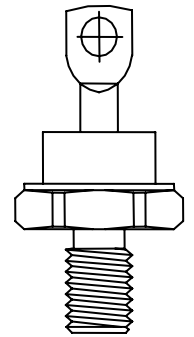
### DEVICES

**1N6391**

**LEVELS**  
**JAN**  
**JANTX**  
**JANTXV**  
**JANS**

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

Parameters / Test Conditions	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RWM}$	45	V
Peak Working Reverse Voltage	$V_{RRM}$	45	V
Average Forward Current, $T_C = 125^\circ$	$I_F$	25	A
Peak Surge Forward Current @ $t_p = 8.3\text{ms}$ , half sinewave, $T_A = 100^\circ\text{C}$	$I_{FSM}$	600	A
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.0	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	$-55^\circ\text{C}$ to $175^\circ\text{C}$	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	$-55^\circ\text{C}$ to $175^\circ\text{C}$	$^\circ\text{C}$



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

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Forward Voltage $I_{FM} = 5\text{A}$ , $T_J = 25^\circ\text{C}^*$	$V_{FM}$		0.5	V
Forward Voltage $I_{FM} = 50\text{A}$ , $T_J = 25^\circ\text{C}^*$	$V_{FM}$		0.68	V
Reverse Current $V_{RM} = 45\text{V}$ , $T_J = 25^\circ\text{C}$	$I_{RM}$		1.5	mA
Reverse Current $V_{RM} = 45\text{V}$ , $T_J = 125^\circ\text{C}^*$	$I_{RM}$		40	mA
Reverse Current $V_{RM} = 45\text{V}$ , $T_C = 175^\circ\text{C}^*$	$I_{RM}$		220	mA
Reverse Current $V_{RM} = 45\text{V}$ , $T_C = -55^\circ\text{C}^*$	$I_{RM}$		400	mA
Reverse Energy $L = 260\mu\text{H} \leq 1\%$ Duty Cycle	$I_{R(OV)}$		2	A
Capacitance $V_R = 5\text{V}$ , $f = 1\text{MHz}$ , $100\text{kHz} \leq f \leq 1\text{MHz}$	$C_T$		2000	pF

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

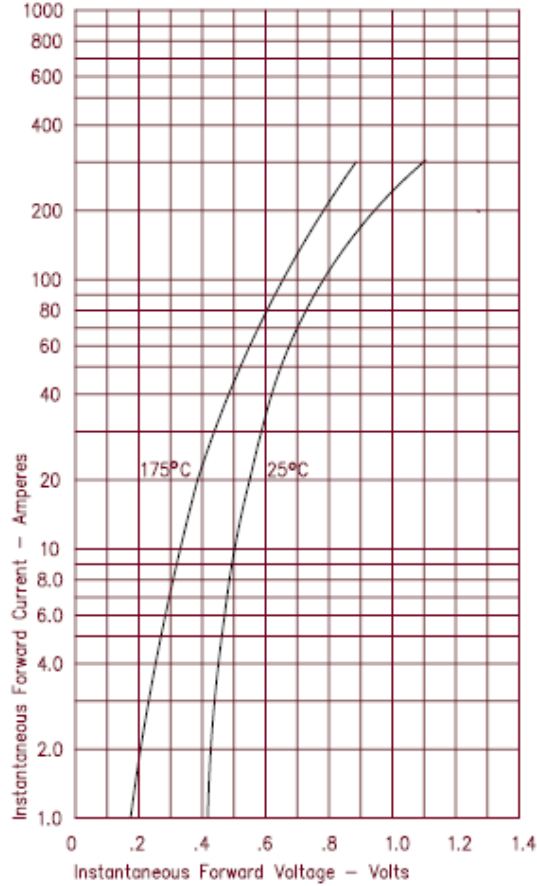
**Note:**

**DO-203AA (DO-4)**

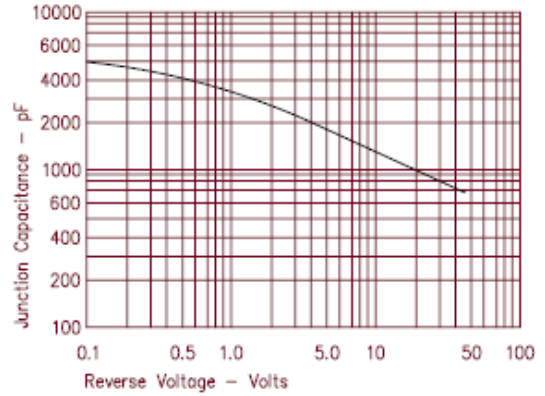
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### GRAPHS

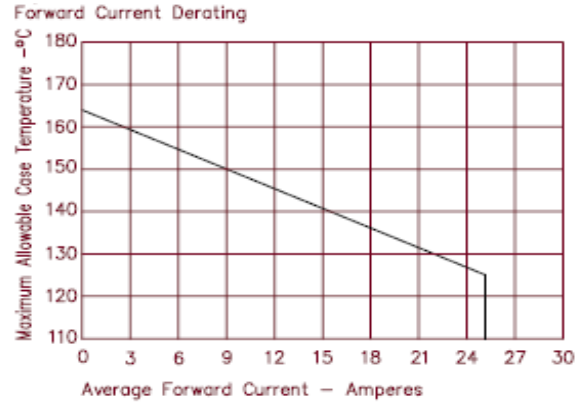
**FIGURE 1**  
**TYPICAL FORWARD CHARACTERISTICS**



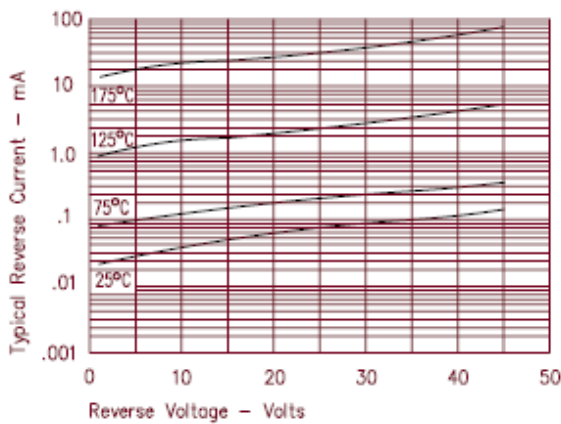
**FIGURE 3**  
**TYPICAL JUNCTION CAPACITANCE**



**FIGURE 4**  
**FORWARD CURRENT DERATING**

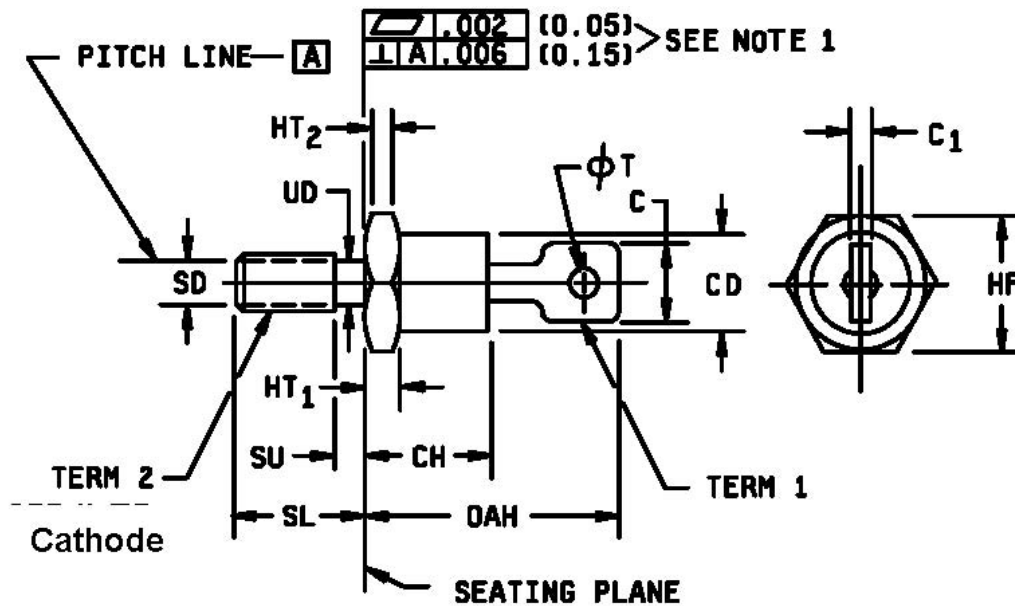


**FIGURE 2**  
**TYPICAL REVERSE CHARACTERISTICS**



## HIGH RELIABILITY SCHOTTKY 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 15 inch-pounds applied to .10-32 UNF-2B nut assembled on thread.
4. Length of incomplete or undercut threads of UD.
5. Maximum pitch diameter of plated threads shall be basic pitch diameter .1697 inch (4.31 mm), reference FED-STD-H28, "Screw-Thread Standards for Federal Services".
6. A chamfer or undercut on one or both ends of the hex portion is optional; minimum base diameter at seating plane .403 inch (10.24 mm).
7. The angular orientation and peripheral configuration of terminal 1 is undefined, however, the major surfaces over dimensions C and C1 shall be flat.
8. The cathode is connected to terminal 2.
9. In accordance with ASME Y14.5M, diameters are equivalent to  $\Phi x$  symbology.

Ltr	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
C		.250		6.35	7
CD	.265	.424	6.73	10.77	8
CH	.300	.405	7.62	10.29	
C1	.018	.065	0.46	1.65	7
HF	.403	.437	10.24	11.10	8
HT1	.075	.175	1.91	4.45	
HT2	.060		1.53		6
OAH	.600	.800	15.24	20.32	
SD					5
SL	.422	.453	10.72	11.51	
SU		.078		1.98	4
UD	.163	.189	4.14	4.80	
$\Phi T$	.060	.103	1.52	2.62	

Physical dimensions (DO-4)