

HIGH RELIABILITY SILICON POWER RECTIFIER

Qualified per MIL-PRF-19500/162

- Glass Passivated Die
- Glass to Metal Seal Construction
- VRRM 200 to 1000 Volts

DEVICES

1N1614	1N4458	1N1614R	1N4458R
1N1615	1N4459	1N1615R	1N4459R
1N1616		1N1616R	

LEVELS

JAN
JANTX

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

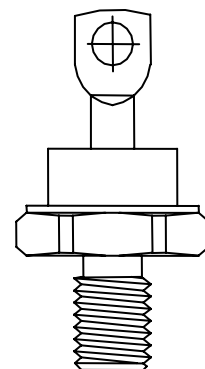
Parameters / Test Conditions	Symbol	Value	Unit
Peak Repetitive Reverse Voltage 1N1614 1N1614R 1N1615 1N1615R 1N1616 1N1616R 1N4458 1N4458R 1N4459 1N4459R	V_{RWM}	200 400 600 800 1000	V
Average Forward Current, $T_C = 150^\circ$	I_F	15	A
Peak Surge Forward Current @ $t_p = 8.3\text{ms}$, half sinewave, $T_C = 150^\circ\text{C}$	I_{FSM}	100	A
Thermal Resistance, Junction to Case	$R_{\theta JC}$	4.5	$^\circ\text{C/W}$
Operating Case Temperature Range	T_j	-65°C to 175°C	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65°C to 175°C	$^\circ\text{C}$

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

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Forward Voltage $I_{FM} = 15\text{A}$, $T_C = 25^\circ\text{C}^*$	V_{FM}		1.5	V
Reverse Current $V_{RM} = 200$, $T_C = 25^\circ\text{C}$ $V_{RM} = 400$, $T_C = 25^\circ\text{C}$ $V_{RM} = 600$, $T_C = 25^\circ\text{C}$ $V_{RM} = 800$, $T_C = 25^\circ\text{C}$ $V_{RM} = 1000$, $T_C = 25^\circ\text{C}$ 1N1614 1N1614R 1N1615 1N1615R 1N1616 1N1616R 1N4458 1N4458R 1N4459 1N4459R	I_{RM}		50	μA
Reverse Current $V_{RM} = 200$, $T_C = 150^\circ\text{C}$ $V_{RM} = 400$, $T_C = 150^\circ\text{C}$ $V_{RM} = 600$, $T_C = 150^\circ\text{C}$ $V_{RM} = 800$, $T_C = 150^\circ\text{C}$ $V_{RM} = 1000$, $T_C = 150^\circ\text{C}$ 1N1614 1N1614R 1N1615 1N1615R 1N1616 1N1616R 1N4458 1N4458R 1N4459 1N4459R	I_{RM}		500	μA

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

Note:



DO-203AA (DO-4)

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GRAPHS

FIGURE 1
TYPICAL FORWARD CHARACTERISTICS

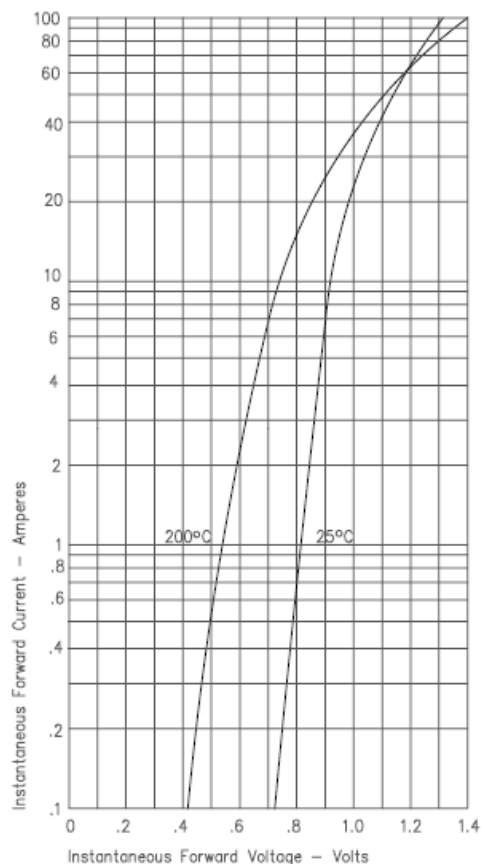


FIGURE 2
TYPICAL REVERSE CHARACTERISTICS

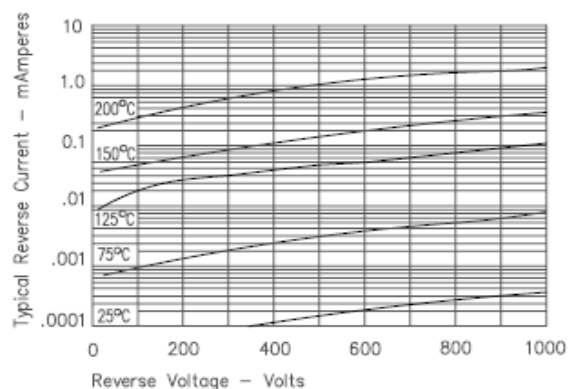


FIGURE 3
FORWARD CURRENT DERATING

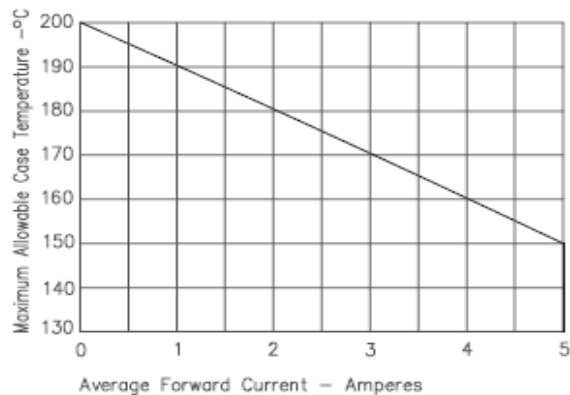
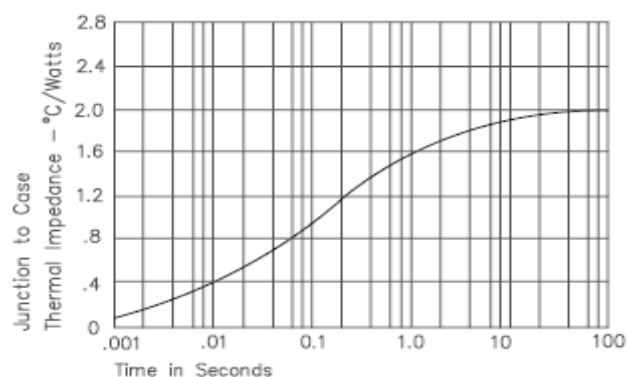
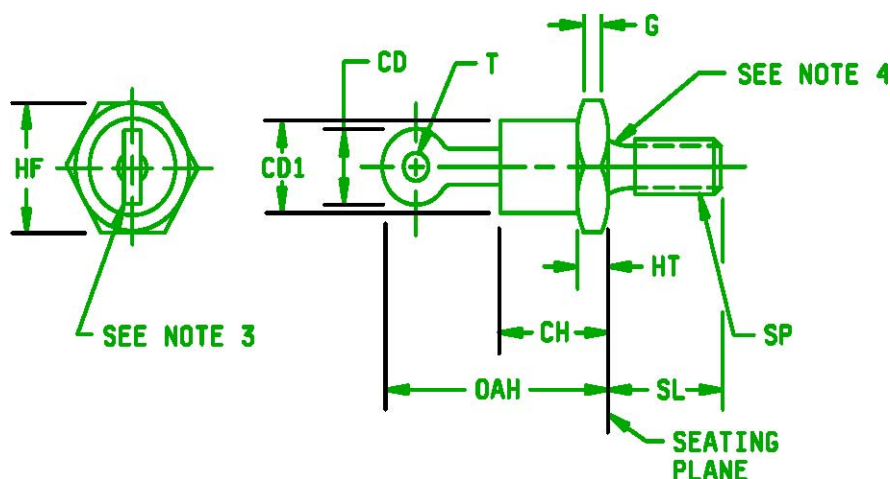


FIGURE 4
TRANSIENT THERMAL IMPEDANCE



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PACKAGE DIMENSIONS



NOTES:

1. Dimensions are in inches.
2. Millimeter equivalents are given for general information only.
3. Angular orientation of this terminal is undefined.
4. Diameter of unthreaded portion .189 inch (4.80 mm) maximum; .163 inch (4.14 mm) minimum.
5. The A.S.A. thread reference is 10-32UNF2A (unplated).
6. The maximum diameter of plated threads shall be basic pitch diameter .169 inch (4.29 mm).
7. Unit shall not be damaged by torque of 15 inch-pound applied to 10-32NF2B nut assembled on thread.
8. Complete threads shall extend to within 2.5 threads of the seating plane.
9. Terminal end shape is unrestricted.
10. In accordance with ASME Y14.5M, diameters are equivalent to ϕ x symbology.

Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
CD		.250		6.35	9
CD1		.424		10.77	
CH		.405		10.29	
G	.060		1.52		
HF	.424	.437	10.77	11.10	
HT	.075	.175	1.91	4.45	
OAH		.800		20.32	
SP					6,7,8
SL	.422	.453	10.72	11.51	
T	.060		1.52		

Physical dimensions