

## 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

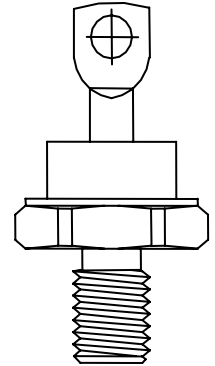
<b>1N1614</b>	<b>1N4458</b>	<b>1N1614R</b>	<b>1N4458R</b>
<b>1N1615</b>	<b>1N4459</b>	<b>1N1615R</b>	<b>1N4459R</b>
<b>1N1616</b>		<b>1N1616R</b>	

### 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	$V_{RWM}$	200	V
1N1614 1N1614R		400	
1N1615 1N1615R		600	
1N1616 1N1616R		800	
1N4458 1N4458R		1000	
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	$T_j$	$-65^\circ\text{C}$ 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-203AA (DO-4)**

### 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	$I_{RM}$		50	$\mu\text{A}$	
$V_{RM} = 200$ , $T_C = 25^\circ\text{C}$					1N1614 1N1614R
$V_{RM} = 400$ , $T_C = 25^\circ\text{C}$					1N1615 1N1615R
$V_{RM} = 600$ , $T_C = 25^\circ\text{C}$					1N1616 1N1616R
$V_{RM} = 800$ , $T_C = 25^\circ\text{C}$					1N4458 1N4458R
$V_{RM} = 1000$ , $T_C = 25^\circ\text{C}$	1N4459 1N4459R				
Reverse Current	$I_{RM}$		500	$\mu\text{A}$	
$V_{RM} = 200$ , $T_C = 150^\circ\text{C}$					1N1614 1N1614R
$V_{RM} = 400$ , $T_C = 150^\circ\text{C}$					1N1615 1N1615R
$V_{RM} = 600$ , $T_C = 150^\circ\text{C}$					1N1616 1N1616R
$V_{RM} = 800$ , $T_C = 150^\circ\text{C}$					1N4458 1N4458R
$V_{RM} = 1000$ , $T_C = 150^\circ\text{C}$	1N4459 1N4459R				

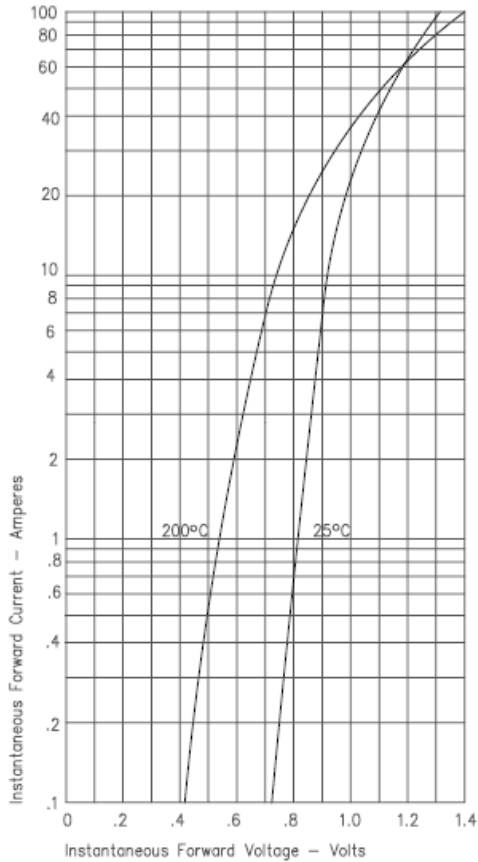
\* Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

**Note:**

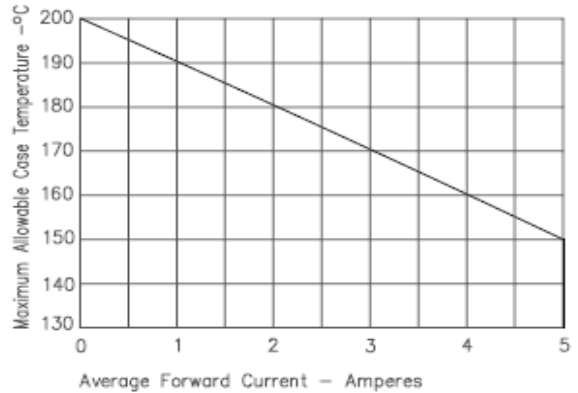
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### GRAPHS

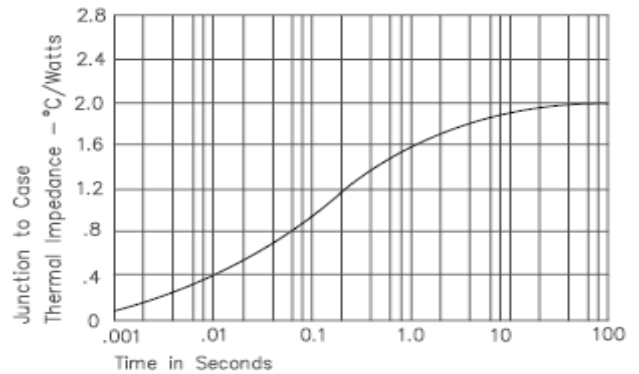
**FIGURE 1**  
**TYPICAL FORWARD CHARACTERISTICS**



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



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



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

