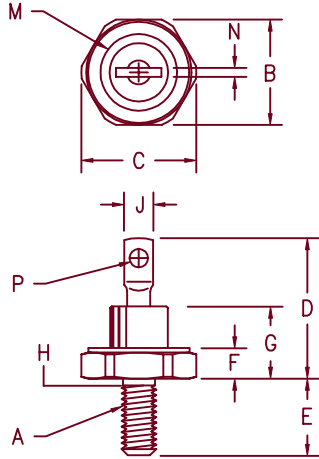


# Military Silicon Power Rectifier

## 1N1614–1N1616, 1N4458–1N4459



### Notes:

1. 10–32 UNF3A
2. Full threads within 2 1/2 threads
3. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.83	
D	---	.800	---	20.32	
E	.422	.453	10.72	11.51	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	---	.250	---	6.35	
M	---	.424	---	10.77	Dia
N	.020	.065	.510	1.65	
P	.060	---	1.52	---	Dia

## D0203AA (D04)

Standard	Microsemi Catalog Number	Reverse	Peak Reverse Voltage
1N1614	1N1614R	1N1614R	200V
1N1615	1N1615R	1N1615R	400V
1N1616	1N1616R	1N1616R	600V
1N4458	1N4458R	1N4458R	800V
1N4459	1N4459R	1N4459R	1000V

- Available in JAN and JANTX quality levels
- MIL-PRF-19500/162
- Glass passivated die
- Glass to metal seal construction
- $V_{RRM}$  – 200 to 1000 volts

### Electrical Characteristics

Average forward current	$I_F(AV)$ 5 Amps	$T_C = 150^\circ C$ , half sine wave, $R_{\theta JC} = 4.5^\circ C/W$
Maximum surge current	$I_{FSM}$ 100 Amps	8.3ms, half sine, $T_C = 150^\circ C$
Max $I^2 t$ for fusing	$I^2 t$ 42 A <sup>2</sup> s	
Max peak forward voltage	$V_{FM}$ 1.5 Volts	$I_{FM} = 15A$ : $T_J = 25^\circ C^*$
Max peak reverse voltage	$I_{RM}$ 50 $\mu A$	$V_{RRM, T_J} = 25^\circ C$
Max peak reverse current	$I_{RM}$ 500 $\mu A$	$V_{RRM, T_J} = 150^\circ C$
Max Recommended Operating Frequency	10kHz	

\*Pulse test: Pulse width 300  $\mu sec$ . Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temperature range	$T_{STG}$	$-65^\circ C$ to $200^\circ C$
Operating case temp range	$T_C$	$-65^\circ C$ to $150^\circ C$
Maximum thermal resistance	$R_{\theta JC}$	4.5 $^\circ C/W$ Junction to Case
Typical thermal resistance	$R_{\theta JC}$	2.0 $^\circ C/W$ Junction to Case
Mounting torque		15 inch pounds maximum
Weight		.16 ounces (5.0 grams) typical

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# 1N1614-1N1616, 1N4458-1N4459

Figure 1  
Typical Forward Characteristics

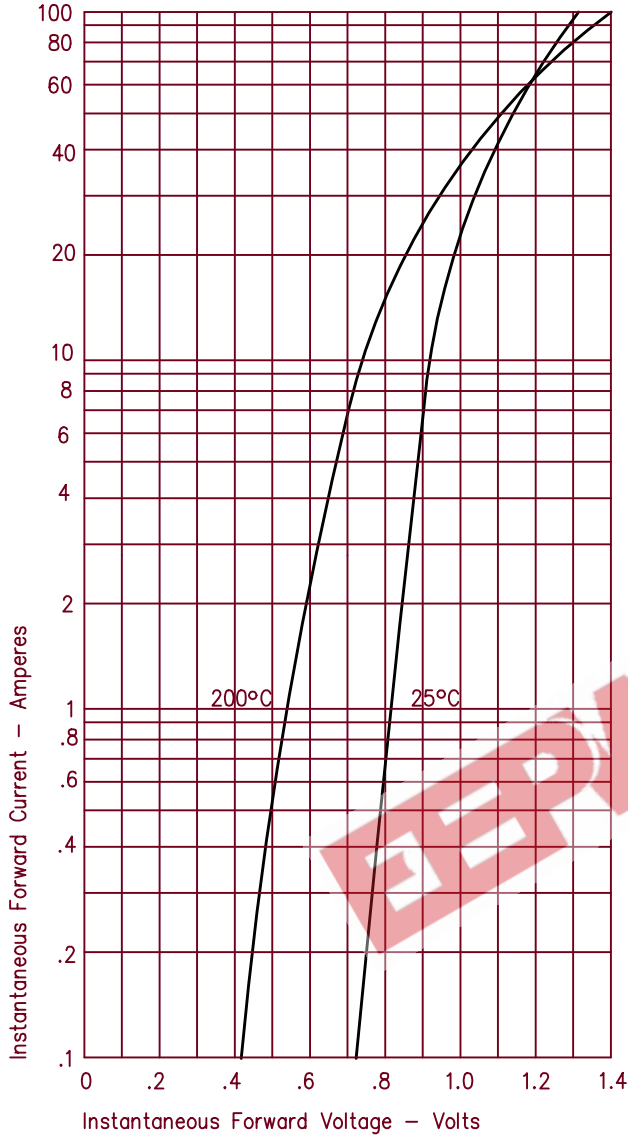


Figure 3  
Forward Current Derating

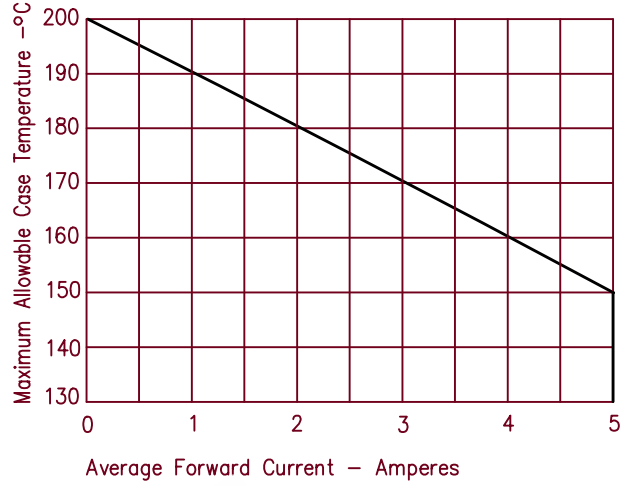


Figure 4  
Transient Thermal Impedance

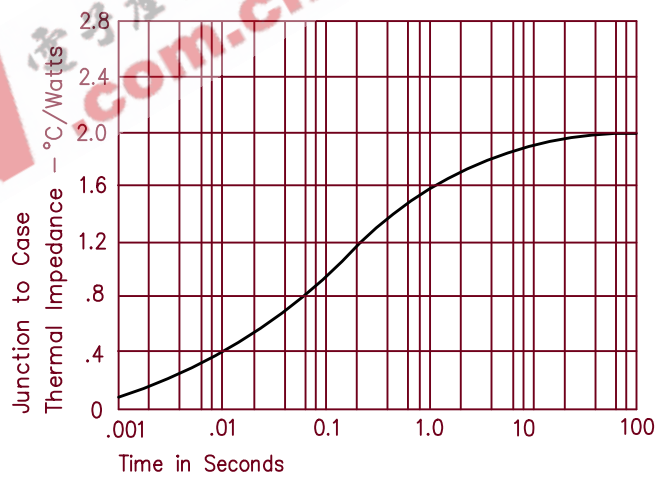


Figure 2  
Typical Reverse Characteristics

