

HIGH RELIABILITY SILICON POWER RECTIFIER

Qualified per MIL-PRF-19500/211

- Glass Passivated Die
- Glass to Metal Header Construction
- Rugged Construction
- High Surge Current Capability

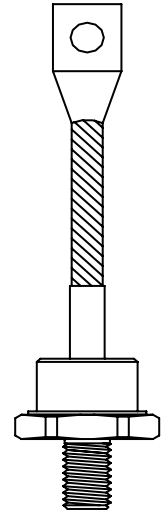
DEVICES

1N3164	1N3172	1N3164R	1N3172R
1N3168	1N3174	1N3168R	1N3174R
1N3170		1N3170R	

LEVELS
JAN
JANTX
JANTXV

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
1N3164 1N3164R		400	
1N3168 1N3168R		600	
1N3170 1N3170R		800	
1N3172 1N3172R		1000	
Average Forward Current, $T_C = 150^\circ$	I_F	200	A
Average Forward Current, $T_C = 120^\circ$	I_F	300	A
Peak Surge Forward Current @ $t_p = 8.3\text{ms}$, half sinewave, $T_C = 200^\circ\text{C}$	I_{FSM}	6250	A
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.20	$^\circ\text{C/W}$
Typical Thermal Resistance	$R_{\theta CS}$	0.80	$^\circ\text{C/W}$
Operating Case Temperature Range	T_j	-65°C to 200°C	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65°C to 200°C	$^\circ\text{C}$



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

Parameters / Test Conditions	Symbol	Min.	Max.	Unit	
Forward Voltage $I_{FM} = 940\text{A}$, $T_C = 25^\circ\text{C}$	V_{FM}		1.55	V	
Reverse Current	I_{RM}		10	mA	
$V_{RM} = 200$, $T_C = 25^\circ\text{C}$					1N3164 1N3164R
$V_{RM} = 400$, $T_C = 25^\circ\text{C}$					1N3168 1N3168R
$V_{RM} = 600$, $T_C = 25^\circ\text{C}$					1N3170 1N3170R
$V_{RM} = 800$, $T_C = 25^\circ\text{C}$					1N3172 1N3172R
$V_{RM} = 1000$, $T_C = 25^\circ\text{C}$	1N3174 1N3174R				
Reverse Current	I_{RM}		30	mA	
$V_{RM} = 200$, $T_C = 175^\circ\text{C}$					1N3164 1N3164R
$V_{RM} = 400$, $T_C = 175^\circ\text{C}$					1N3168 1N3168R
$V_{RM} = 600$, $T_C = 175^\circ\text{C}$					1N3170 1N3170R
$V_{RM} = 800$, $T_C = 175^\circ\text{C}$					1N3172 1N3172R
$V_{RM} = 1000$, $T_C = 175^\circ\text{C}$	1N3174 1N3174R				

Note:

DO-205AB (DO-9)

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GRAPHS

FIGURE 1
TYPICAL FORWARD CHARACTERISTICS

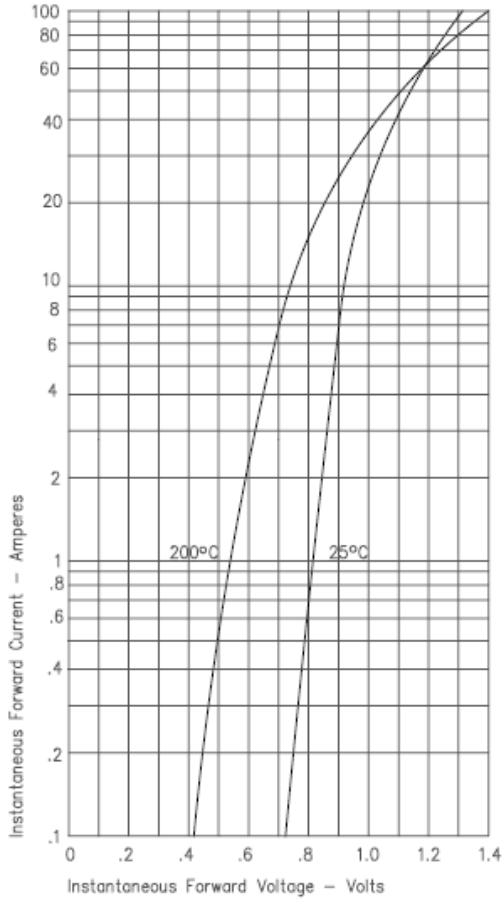


FIGURE 2
TYPICAL REVERSE CHARACTERISTICS

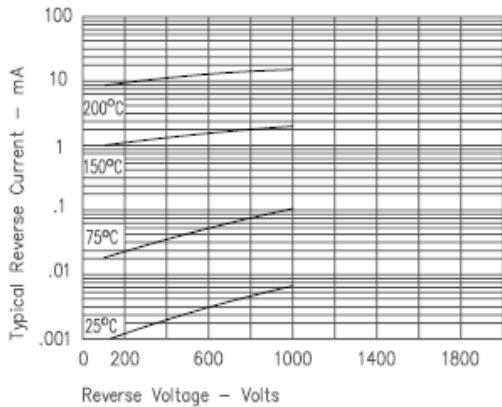


FIGURE 3
FORWARD CURRENT DERATING

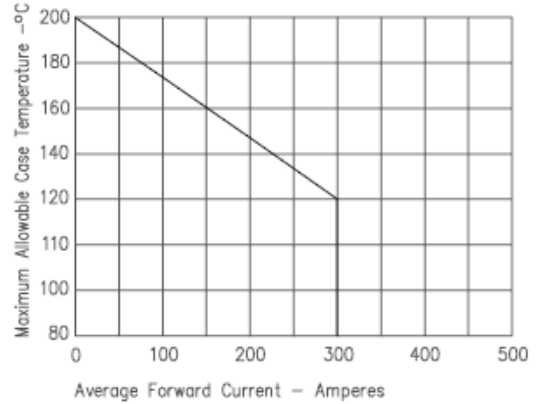
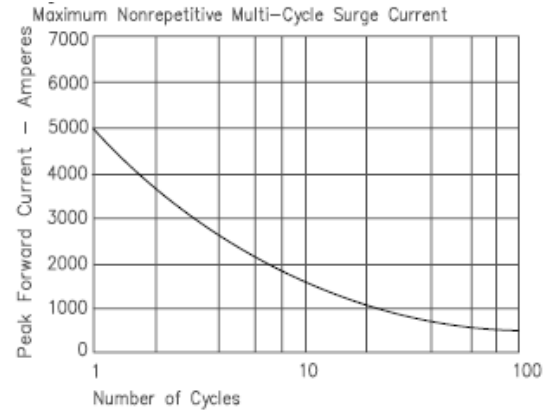
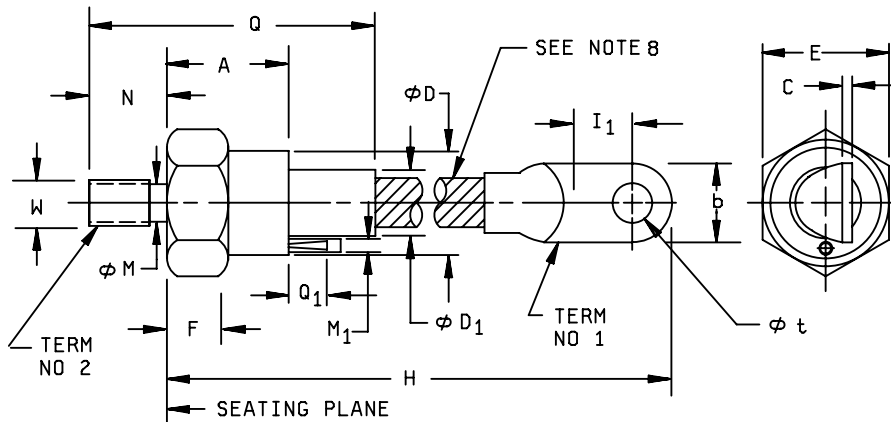


FIGURE 5
MAXIMUM NONREPETITIVE MULTI-CYCLE SURGE CURRENT



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PACKAGE DIMENSIONS



NOTES:

1. Metric equivalents are given for general information only.
2. Complete threads to extend to within 2.5 threads of seating plane.
3. .750-16 UNF-2A. Maximum pitch diameter of plated threads shall be basic pitch diameter. .7094 (18.019 mm) ref. (Screw Thread Standards for Federal Services) FED-STD-H28.
4. Angular orientation of terminal and tabulation with respect to hex base is undefined. Square or radius on end of terminal is undefined.
5. A chamfer (or undercut) on one or both ends of hexagonal portions is optional.
6. Tabulation optional.
7. Minimum flat.
8. Flexible leads.

Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
A		1.520		38.10	4
B	.530	.755	13.46	19.18	
C	.063	.172	1.60	4.37	
ϕD		1.100		27.94	
ϕD_1		.600		15.24	
E	1.218	1.252	30.94	31.75	
F	.250	.562	6.35	14.27	5
H	5.125	6.750	130.18	171.45	
I1	.375		9.53		7
ϕM	.660	.745	16.76	18.92	2
M1		.125		3.18	6
N	.793	.828	20.14	21.03	
Q		2.300		57.15	
Q1		.375		9.53	6
ϕt	.265	.350	6.73	3.89	
W					3

Physical dimensions for semiconductor devices