

1N5812(R)-1N5816(R)

HIGH EFFICIENCY RECTIFIERS

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Working peak reverse voltage			
1N5812(R)	V_{RWM}	50	V
1N5813(R)		75	
1N5814(R)		100	
1N5815(R)		125	
1N5816(R)		150	
Average forward current, $T_C = 100^\circ\text{C}$	I_F	20	A
Peak surge forward current @ $t_p = 8.3\text{ms}$, half sinewave, $T_C = 100^\circ\text{C}$	I_{FSM}	400	A
Junction and storage temperature range	T_J, T_{stg}	-65 to +175	$^\circ\text{C}$
Thermal resistance junction to case	$R_{\theta JC}$	1.5	$^\circ\text{C/W}$

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

Part number	Maximum forward voltage			Maximum reverse current @ V_{RWM}		Maximum reverse recovery time $I_F = I_R = 1\text{A}$	Capacitance
	V_{FM}			I_R		t_{rr}	C
	Volts			μA	mA	ns	pF
	$I_F = 10\text{A}, T_C = 25^\circ\text{C}^{(1)}$	$I_F = 20\text{A}, T_C = 25^\circ\text{C}^{(1)}$	$I_F = 10\text{A}, T_C = 100^\circ\text{C}^{(1)}$	25°C	100°C		$V_R = 10\text{V}, f = 1\text{MHz}, T_J = 25^\circ\text{C}$
1N5812(R)	0.860	0.950	0.780	10	1	35	300
1N5813(R)	0.860	0.950	0.780	10	1	35	300
1N5814(R)	0.860	0.950	0.780	10	1	35	300
1N5815(R)	0.860	0.950	0.780	10	1	35	300
1N5816(R)	0.860	0.950	0.780	10	1	35	300

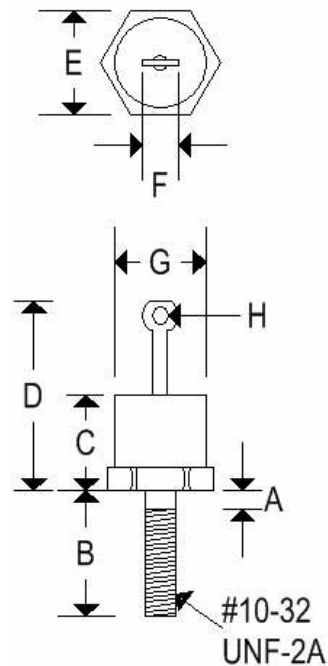
Note 1: Pulse test: pulse width 300 μs , duty cycle 2%.

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MECHANICAL CHARACTERISTICS

Case	DO-4(R)
Marking	Alpha-numeric
Normal polarity	Cathode is stud
Reverse polarity	Anode is stud (add "R" suffix)



	DO-4(R)			
	Inches		Millimeters	
	Min	Max	Min	Max
A	-	0.078	-	1.981
B	0.422	0.453	10.719	11.506
C	-	0.405	-	10.287
D	-	0.800	-	20.320
E	0.420	0.440	10.668	11.176
F	-	0.250	-	6.350
G	-	0.424	-	10.770
H	0.066	-	1.676	-

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FIGURE 1
TYPICAL FORWARD CHARACTERISTICS

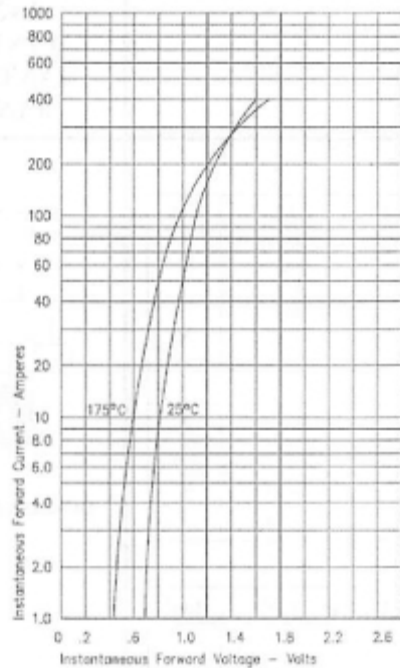


FIGURE 2
TYPICAL REVERSE CHARACTERISTICS

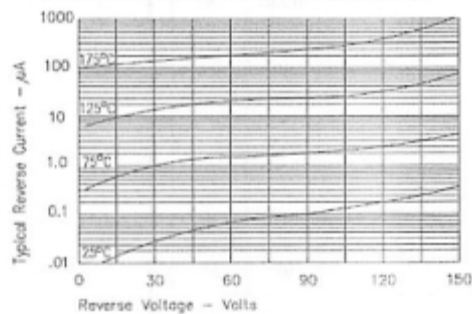


FIGURE 3
TYPICAL JUNCTION CAPACITANCE

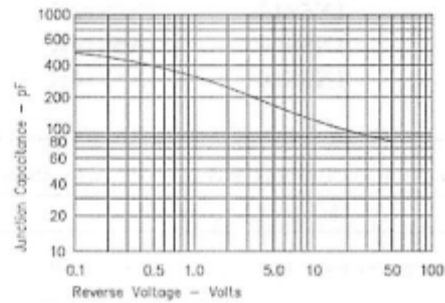


FIGURE 4
FORWARD CURRENT DERATING

