

1N4044-1N4056

HIGH POWER 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
Average Forward Current	$I_{F(AV)}$	275 Amps	$T_C = 120^\circ\text{C}$, square wave, $R_{\theta JC} = 0.18^\circ\text{C/W}$
Maximum Surge Current	I_{FSM}	5000 Amps	8.3ms, half sine, $T_J = 190^\circ\text{C}$
Max. I^2t for fusing	I^2t	104125 A^2s	8.3ms
Max. Peak Forward Voltage	V_{FM}	1.3 Volts	$I_{FM} = 300\text{A}$; $T_J = 25^\circ\text{C}^*$
Max. Peak Reverse Current	I_{RM}	10mA	V_{RRM} , $T_J = 150^\circ\text{C}$
Max. Reverse Current	I_{RM}	75 μA	V_{RRM} , $T_J = 25^\circ\text{C}$

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

VOLTAGE RATINGS

Part Number	PIV
1N4044	50V
1N4045	100V
1N4046	150V
1N4047	200V
1N4048	250V
1N4049	300V
1N4050	400V
1N4051	500V
1N4052	600V
1N4053	700V
1N4054	800V
1N4055	900V
1N4056	1000V

THERMAL CHARACTERISTICS

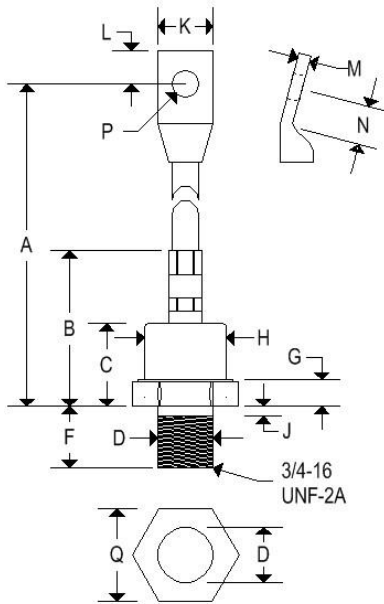
Storage Temperature Range	T_{stg}	-65 to +190 $^\circ\text{C}$
Operating Junction Temperature Range	T_J	-65 to +190 $^\circ\text{C}$
Maximum Thermal Resistance	$R_{\theta JC}$	0.18 $^\circ\text{C/W}$ junction to case
Typical Thermal Resistance	$R_{\theta CS}$.08 $^\circ\text{C/W}$ case to sink
Mounting Torque		300-325 inch pounds

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MECHANICAL CHARACTERISTICS

Case	DO-9(R)
Marking	Alpha-numeric
Normal polarity	Cathode is stud
Reverse polarity	Anode is stud (add "R" suffix)



	DO-9(R)			
	Inches		Millimeters	
	Min	Max	Min	Max
A	5.300	5.900	134.60	149.90
B	-	2.100	-	53.340
C	-	1.120	-	28.450
D	-	0.749	-	19.020
F	0.793	0.828	20.140	21.030
G	0.310	0.400	7.870	9.140
H	-	1.100	-	27.940
J	-	0.125	-	3.180
K	-	0.755	-	19.180
L	0.275	0.453	10.740	11.510
M	-	0.170	-	4.320
N	0.470	0.530	11.940	13.460
P	0.338	0.350	8.580	8.890
Q	1.218	1.250	30.940	31.750