

# DIGITRON SEMICONDUCTORS

1N4044-1N4056

HIGH POWER RECTIFIERS

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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 $\text{A}^2\text{s}$	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 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300 $\mu\text{sec}$ . 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

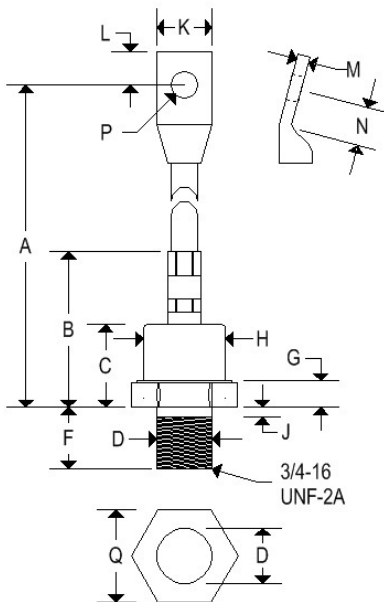
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## MECHANICAL CHARACTERISTICS

<b>Case</b>	DO-9(R)
<b>Marking</b>	Alpha-numeric
<b>Normal polarity</b>	Cathode is stud
<b>Reverse polarity</b>	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	0.360	7.870	9.140
H	-	1.100	-	27.940
J	-	0.125	-	3.180
K	-	0.755	-	19.180
L	0.423	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

Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.