DIGITRON SEMICONDUCTORS

1N3899-1N3903 FAST RECOVERY RECTIIFER

MAXIMUM RATINGS

Parameter	Symbol	1N3899	1N3900	1N3901	1N3902	1N3903
Working peak reverse voltage	V_{RWM}	50V	100V	200V	300V	400V
Peak repetitive reverse voltage	V_{RRM}	50V	100V	200V	300V	400V
Operating temperature range	T_J	-65 to +150°C				
Storage temperature range	T_{stg}	-65 to +175°C				
Maximum thermal resistance	$R_{\theta JC}$	1.8°C/W junction to case				
Mounting torque		25-30 inch pounds				
Weight		.54 ounces (15.3 grams) typical				

Add "R" to part numbers for reverse polarity.

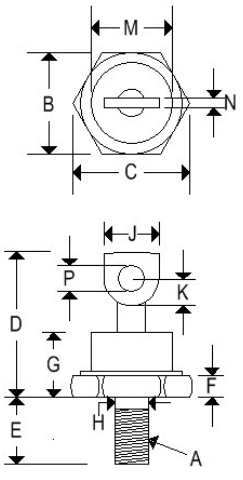
ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Value	Test Conditions
Average forward current	$I_{F(AV)}$	20 Amps	T_C = 100°C, square wave, $R_{\theta JC}$ = 1.8°C/W
Maximum surge current	I_{FSM}	225 Amps	8.3ms, half-sine, T_C = 100°C
Maximum peak forward voltage	V_{FM}	1.40 Volts	I_{FM} = 63A: T_J = 25°C*
Maximum peak reverse current	I_{RM}	50 µA	V_{RRM}, T_J = 25°C
Maximum peak reverse current	I_{RM}	6.0 mA	V_{RRM}, T_J = 150°C
Maximum reverse recovery time	t_{RR}	200ns	I_F = 1A dc, V_R = 30V, di/dt = 25A/µs
Typical junction capacitance	C_J	150pF	V_R = 10V, f = 1Mhz, T_J = 25°C

- Pulse test: pulse width 300µsec. Duty cycle 2%

MECHANICAL CHARACTERISTICS

Case	DO-5(R)
Marking	Alpha-numeric
Normal polarity	Cathode is stud
Reverse polarity	Anode is stud (add "R" suffix)



	DO-5(R)			
	Inches		Millimeters	
	Min	Max	Min	Max
A	¼-28 UNF2A threads			
B	0.669	0.688	16.990	17.480
C	-	0.794	-	20.160
D	-	1.000	-	25.400
E	0.422	0.453	10.720	11.510
F	0115	0.200	2.920	5.080
G	-	0.450	-	11.430
H	0.220	0.249	5.580	6.320
J	0.250	0.375	6.350	9.530
K	0.156	-	3.960	-
M	-	0.667	-	16.940
N	0.030	0.080	0.760	2.030
P	0.140	0.175	3.560	4.450

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.

144 Market Street
Kenilworth NJ 07033 USA

phone +1.908.245-7200
fax +1.908.245-0555

sales@digitroncorp.com
www.digitroncorp.com

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1N3899-1N3903 **FAST RECOVERY RECTIFER**

Figure 1
Typical Forward Characteristics

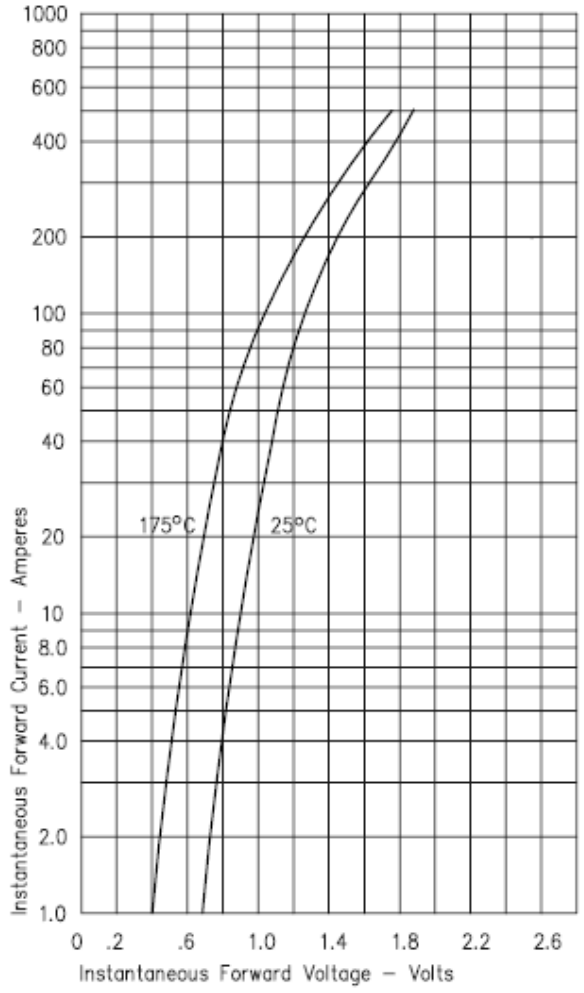


Figure 2
Typical Reverse Characteristics

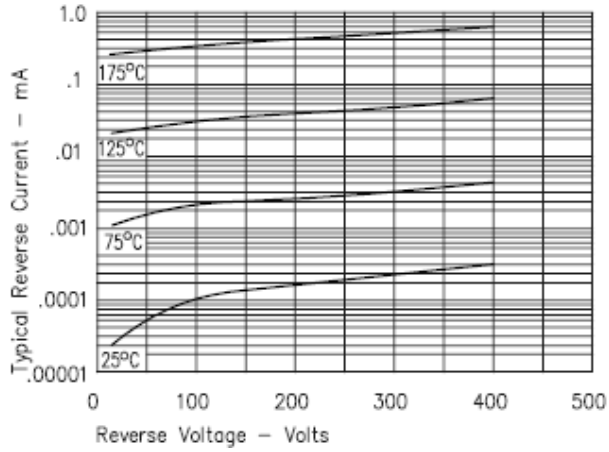


Figure 3
Typical Junction Capacitance

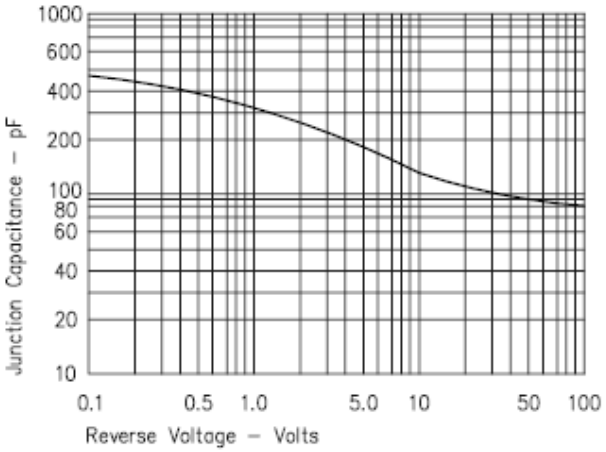
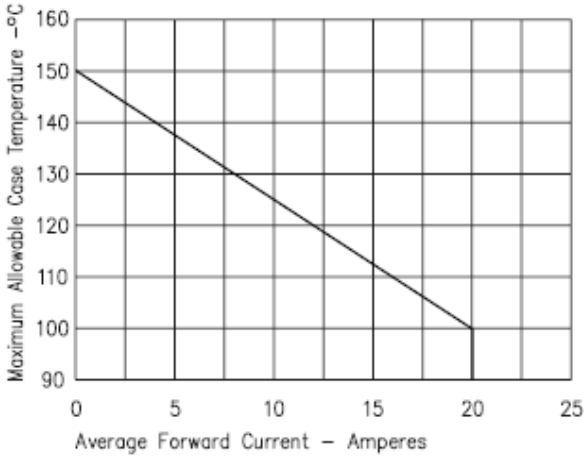


Figure 4
Forward Current Derating



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