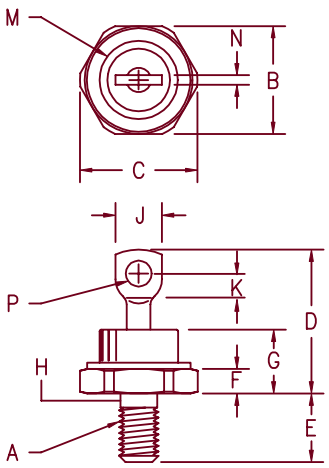
Fast Recovery Rectifier
1N3899 – 1N3903



Notes:
1. 1/4–28 UNF3A threads
2. Full threads within 2 1/2 threads
3. Standard Polarity: Stud is Cathode

Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
A	---	---	---	---	1
B	.669	.688	16.99	17.48	
C	---	.794	---	20.16	
D	.750	1.000	19.05	25.40	
E	.422	.453	10.72	11.51	
F	.115	.200	2.92	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.58	6.32	2
J	.250	.375	6.35	9.53	
K	.156	---	3.96	---	
M	---	.667	---	16.94	Dia.
N	.030	.080	.760	2.03	
P	.140	.175	3.56	4.45	Dia.

DO203AB (D05)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N3899*	50V	50V
1N3900*	100V	100V
1N3901*	200V	200V
1N3902*	300V	300V
1N3903*	400V	400V

*Add the Suffix R for reverse polarity

- Fast Recovery Rectifier
- 150°C Junction Temperature
- 20 Amp current rating
- V_{RRM} 50 to 400 Volts

Electrical Characteristics

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	8.3 ms, half sine T_C = 100°C
Max peak forward voltage	V_{FM}	1.40 Volts	I_{FM} = 63A T_J = 25°C*
Max peak reverse current	I_{RM}	6 mA	V_{RRM}, T_J = 150°C
Max peak reverse current	I_{RM}	50 µA	V_{RRM}, T_J = 25°C
Max reverse recovery time	t_{RR}	200 ns	I_F = 1A dc, V_R = 30V, di/dt = 25A/µs
Max junction capacitance	C_J	150 pF	V_R = 10V, f = 1Mhz, T_J = 25°C

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

Thermal and Mechanical Characteristics

Storage temp range	T_{STG}	−65°C to 175°C
Operating junction temp range	T_J	−65°C to 150°C
Max 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

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8-25-00 Rev. 1

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Figure 1
Typical Forward Characteristics

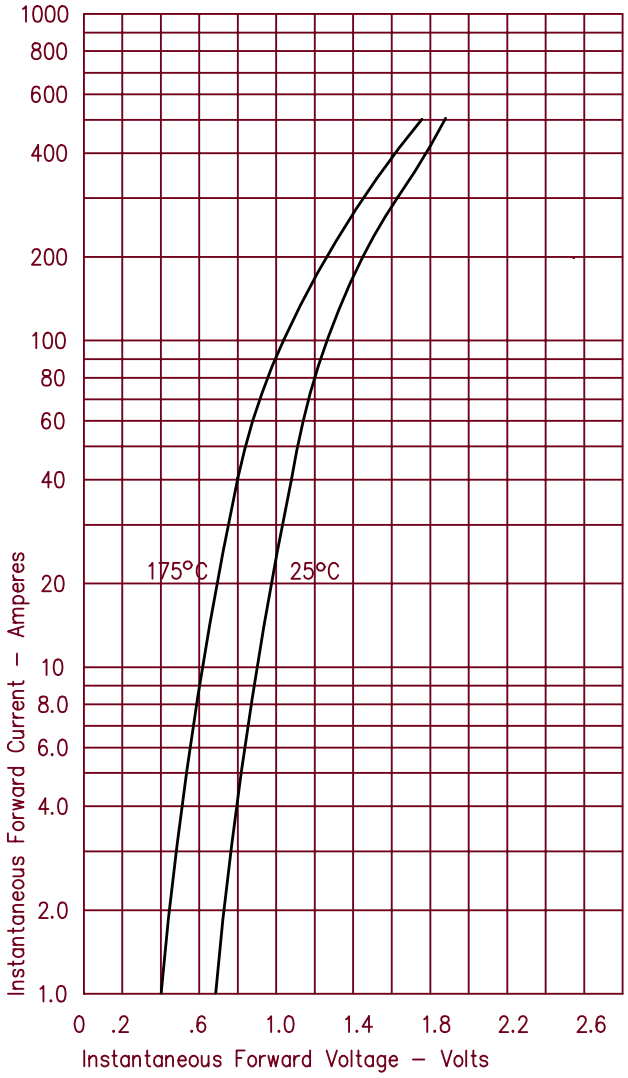

Figure 2
Typical Reverse Characteristics

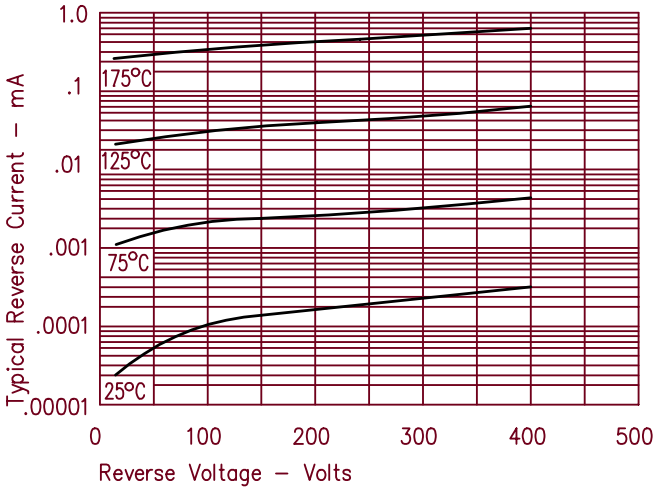

Figure 3
Typical Junction Capacitance

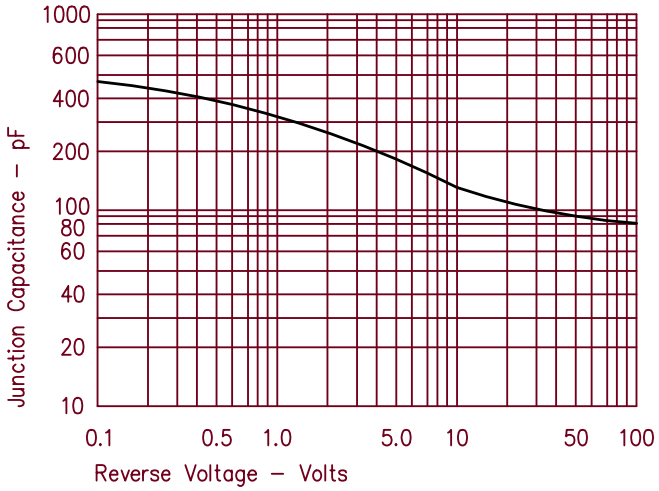

Figure 4
Forward Current Derating