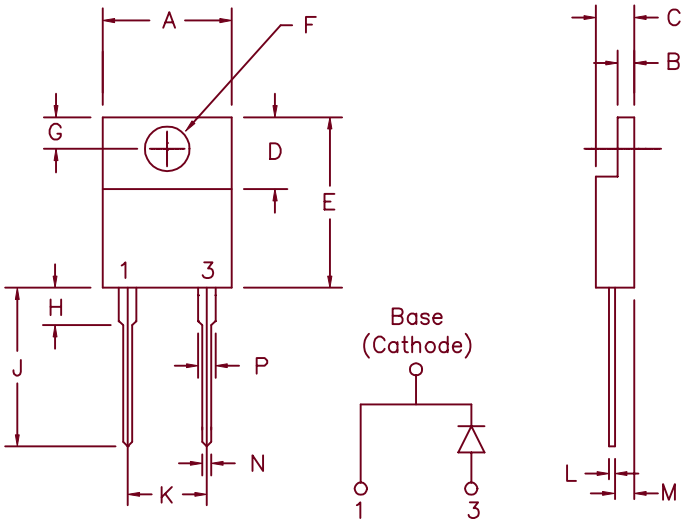
10 Amp Schottky Barrier Rectifiers

MS1003 – MS1004



Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
A	.390	.415	9.91	10.54	
B	.045	.055	1.14	1.40	
C	.180	.190	4.57	4.83	
D	.245	.260	6.22	6.60	
E	.550	.650	13.97	16.51	
F	.139	.155	3.53	3.94	Dia.
G	.100	.120	2.54	3.05	
H	---	.250	---	6.35	
J	.500	.580	12.70	14.73	
K	.190	.210	4.83	5.33	
L	.014	.025	0.35	0.63	
M	.080	.115	2.03	2.92	
N	.028	.038	0.71	0.96	
P	.045	.055	1.14	1.40	

Similar to TO–220AC

Microsemi Catalog Number	Industry Part Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
MS1003	MBR730 MBR1030	30V	30V
MS1004	6TQ035,6TQ040 10TQ040	40V	40V

- Schottky barrier rectifier
- Guard ring protection
- Low power loss, high efficiency
- V_{RRM} 30 to 40 Volts
- Reverse energy tested

Electrical Characteristics

Average Forward Current	$I_{F(AV)}$ 10 Amps	T_C = 158°C, Square wave, $R_{\theta JC}$ = 2.5°C/W
Maximum Surge Current	I_{FSM} 225 Amps	8.3ms, half sine, T_J = 175°C
Max. Peak Forward Voltage	V_{FM} .48 Volts	I_{FM} = 10A, T_J = 175°C *
Max. Peak Forward Voltage	V_{FM} .65 Volts	I_{FM} = 10A, T_J = 25°C *
Max. Peak Reverse Current	I_{RM} 10 mA	V_{RRM}, T_J = 125°C *
Max. Peak Reverse Current	I_{RM} 250 µA	V_{RRM}, T_J = 25°C
Typical Junction Capacitance	C_J 660 pF	V_R = 5.0V, T_J = 25°C

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

Thermal and Mechanical Characteristics

Storage temp range	TSTG	−55°C to + 175°C
Operating junction temp range	TJ	−55°C to + 175°C
Max thermal resistance	$R_{\theta JC}$	2.5°C/W Junction to case
Mounting torque		8–12 inch pounds 6–32 screw)
Weight		.08 ounces (2.3 grams) typical

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11–15–01 Rev. 1

MS1003 – MS1004

Figure 1
Typical Forward Characteristics

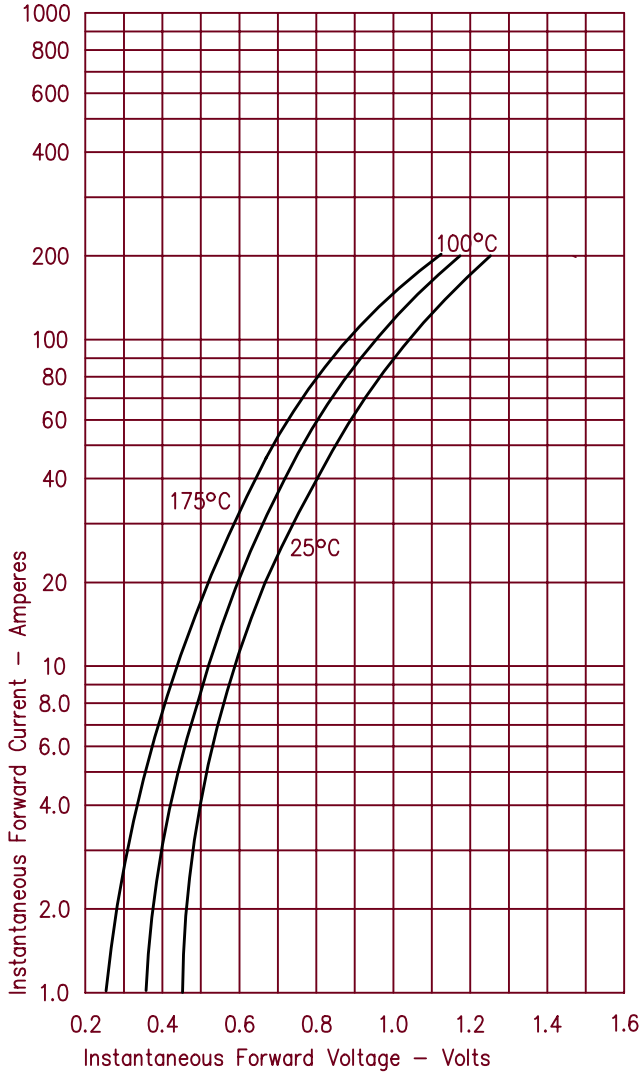


Figure 2
Typical Reverse Characteristics

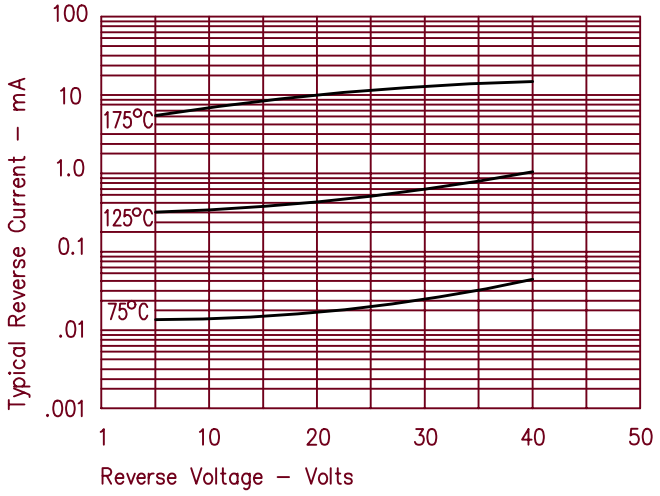


Figure 3
Typical Junction Capacitance

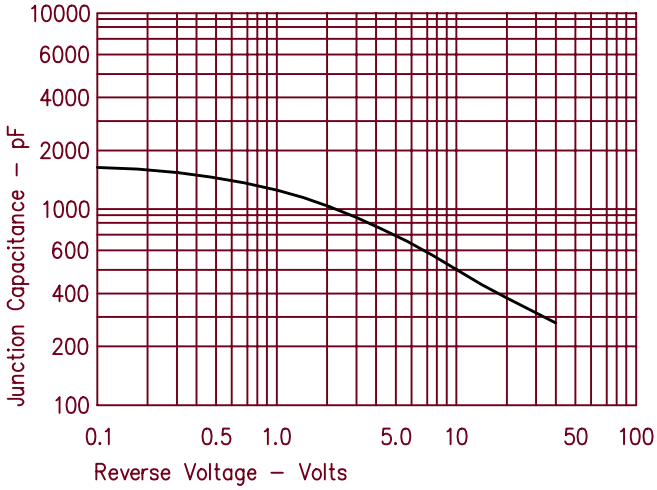


Figure 4
Forward Current Derating

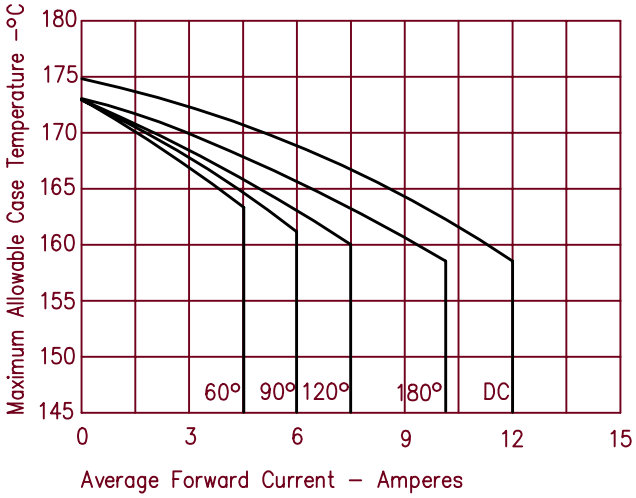


Figure 5
Maximum Forward Power Dissipation

