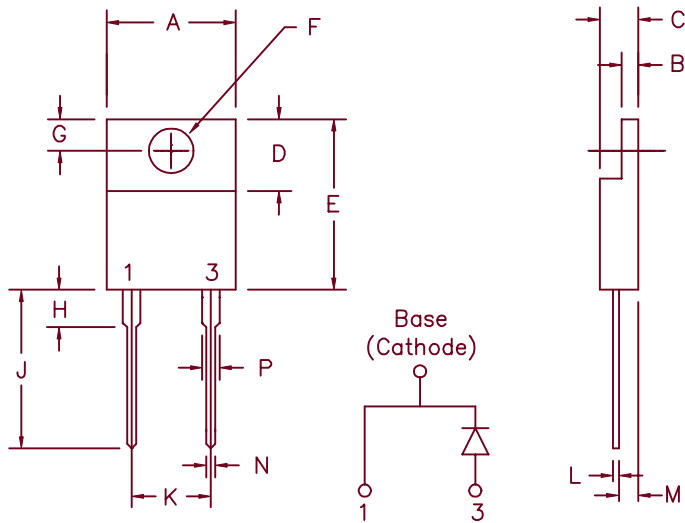


10 Amp Schottky Barrier Rectifiers MS1003 — MS1004



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

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

Thermal and Mechanical Characteristics

Storage temp range	T_{STG}	-55°C to $+175^\circ\text{C}$
Operating junction temp range	T_J	-55°C to $+175^\circ\text{C}$
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

MS1003 — MS1004

Figure 1
Typical Forward Characteristics

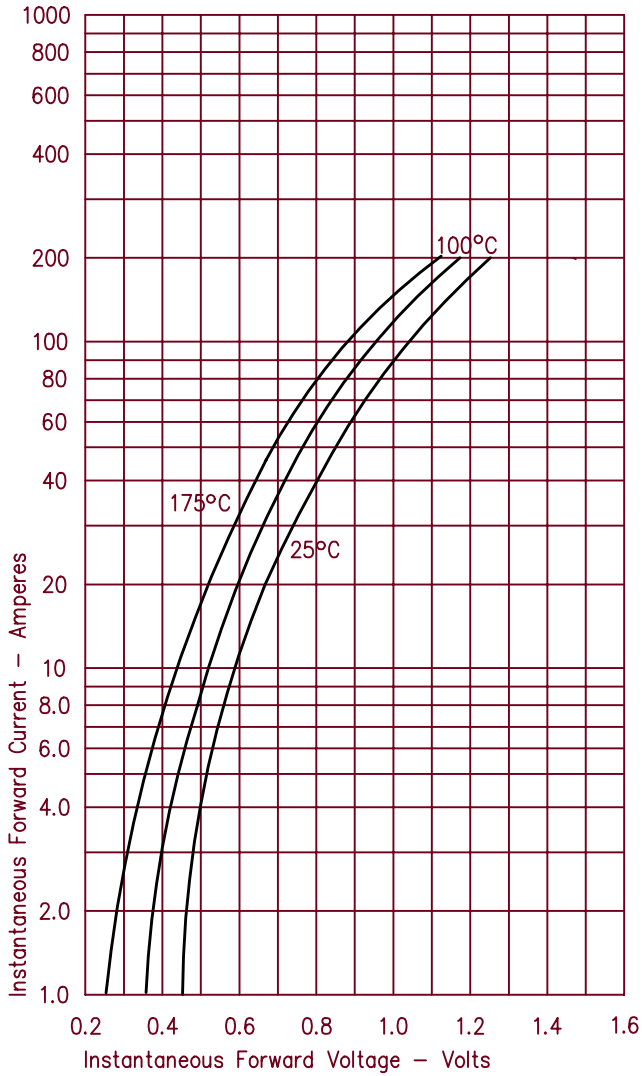


Figure 3
Typical Junction Capacitance

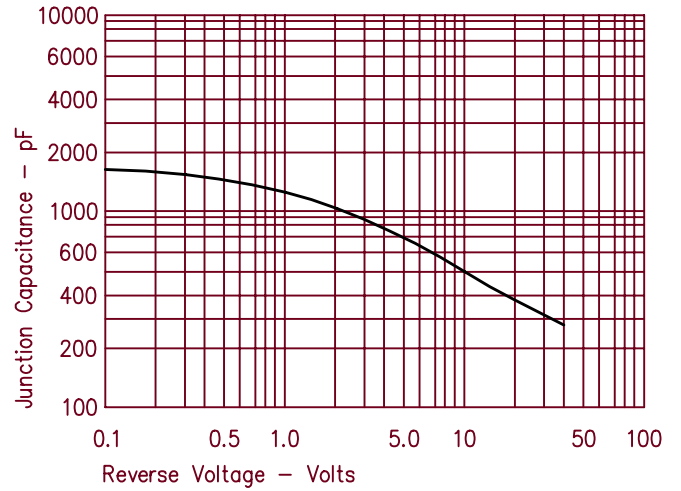


Figure 4
Forward Current Derating

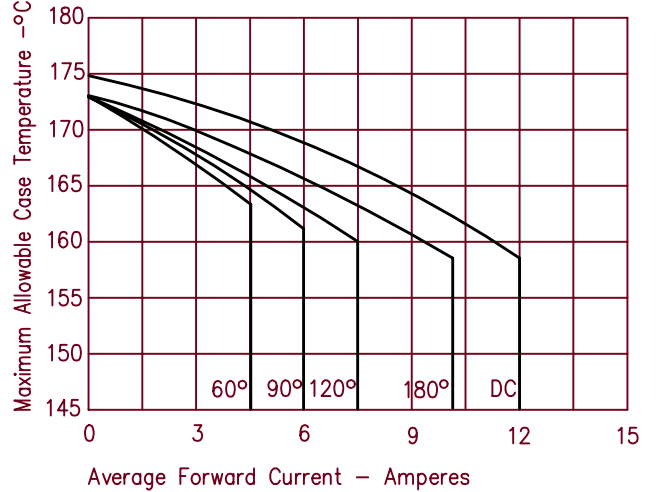


Figure 2
Typical Reverse Characteristics

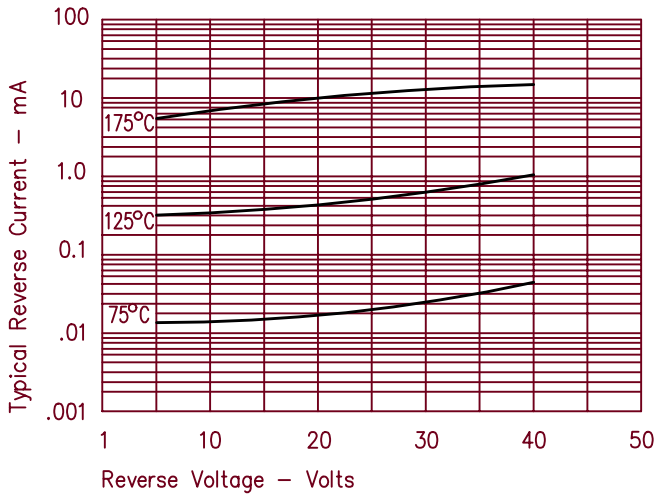


Figure 5
Maximum Forward Power Dissipation

