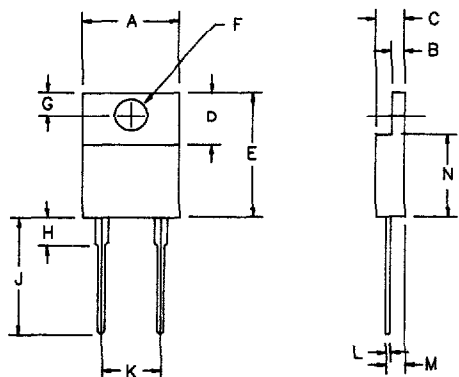


16 Amp Schottky Barrier Rectifiers MS1680, MS1690



PLASTIC TO220A

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.300	.415	9.00	10.6	
B	.050	.055	1.27	1.40	
C	.180	.185	4.57	4.70	
D	.248	.260	6.30	6.60	
E	.590	.605	14.98	15.40	
F	.145	.150	3.68	3.81	Dia.
G	.108	.120	2.74	3.05	
H	.163	.170	4.14	4.32	
J	.540	.570	13.72	14.5	
K	.200	.205	5.08	5.21	
L	.021	.025	.533	.635	
M	.125	.140	3.18	3.56	
N	.335	.342	8.50	8.69	

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
MS1680	80V	80V
MS1690	90V	90V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- V_{RRM} 80 to 90 Volts

Electrical Characteristics

Average Forward Current	$I_F(AV)$ 16 Amps	$T_C = 147^\circ C$, Square wave, $R_{\theta JC} = 2.0^\circ C/W$
Maximum Surge Current	I_{FSM} 600 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage	V_{FM} .62 Volts	$I_{FM} = 16A$, $T_J = 175^\circ C^*$
Max. Peak Forward Voltage	V_{FM} .85 Volts	$I_{FM} = 16A$, $T_J = 25^\circ C^*$
Max. Peak Reverse Current	I_{RM} 15 mA	V_{RRM} , $T_J = 125^\circ C^*$
Max. Peak Reverse Current	I_{RM} 500 μA	V_{RRM} , $T_J = 25^\circ C$
Typical Junction Capacitance	C_J 570 pF	$V_R = 5.0V$, $T_J = 25^\circ C$

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

Thermal and Mechanical Characteristics

Storage temp range	TSTG	-40°C to 175°C
Operating junction temp range	TJ	-40°C to 175°C
Max thermal resistance	$R_{\theta JC}$	2.0°C/W
Typical thermal resistance	$R_{\theta JC}$	1.6°C/W
Mounting torque		15 inch pounds maximum (6-32 screw)
Typical Weight		.08 ounces (2.3 grams) typical

Microsemi Corp.
Colorado

MS1680, MS1690



Figure 1
Typical Forward Characteristics

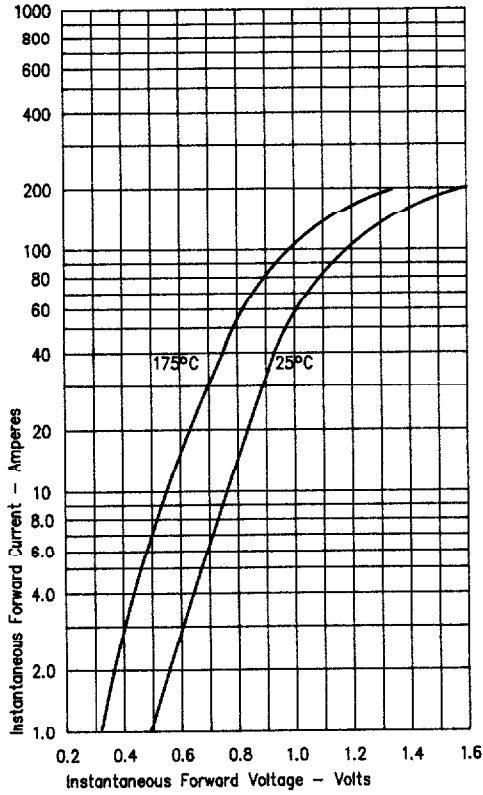


Figure 3
Typical Junction Capacitance

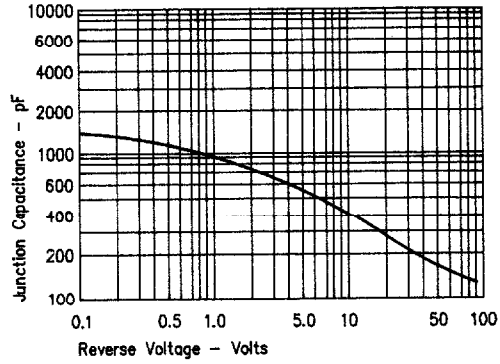


Figure 4
Forward Current Derating

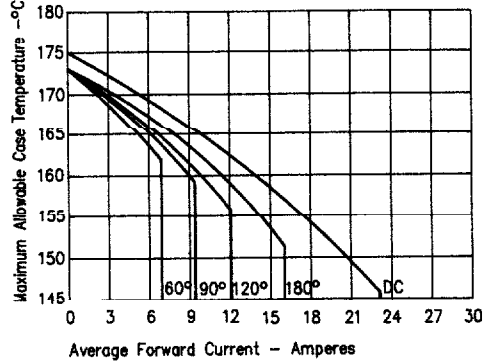


Figure 2
Typical Reverse Characteristics

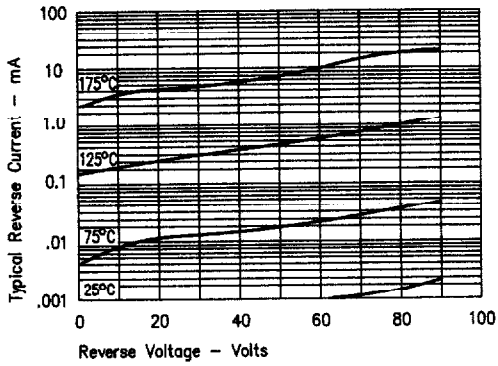


Figure 5
Maximum Forward Power Dissipation

