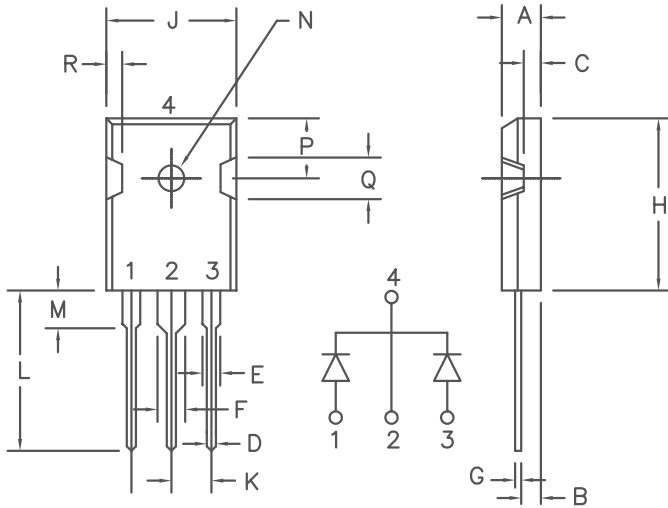


# 80 Amp Schottky Rectifier FST8320



Similar to TO-247AD

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.185	.209	4.70	5.31	
B	.087	.102	2.21	2.59	
C	.059	.098	1.50	2.49	
D	.040	.055	1.02	1.40	
E	.079	.094	2.01	2.39	
F	.118	.133	3.00	3.38	
G	.016	.031	.410	0.78	
H	.819	.883	20.80	22.4	
J	.627	.650	15.93	16.5	
K	.215	—	5.46	—	Typ.
L	.790	.810	20.07	20.6	
M	.157	.180	3.99	4.57	
N	.139	.144	3.53	3.66	Dia.
P	.255	.300	6.48	7.62	
Q	.170	.210	4.32	5.33	
R	.080	.110	2.03	2.79	

Microsemi Catalog Number	Industry Part Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST8320	80CPQ020	20V	20V

- Schottky Barrier Rectifier
- Guard ring reverse protection 20V @ 150°C
- $V_F @ 40A PK, 150^\circ C = 0.30V$

## Electrical Characteristics

Average forward current	$I_F(AV)$ 80 Amps	$T_C = 131^\circ C$ , Square wave
Average forward current per leg	$I_F(AV)$ 40 Amps	$T_C = 131^\circ C$ , Square wave
Maximum surge current per leg	$I_{FSM}$ 500 Amps	8.3ms, half sine, $T_J = 150^\circ C$
Max. repetitive reverse current per leg	$I_R(OV)$ 2 Amps	$f = 1KHZ, 25^\circ C, 1\mu s$ square wave
Max. peak forward voltage per leg	$V_{FM}$ .43 Volts	$I_{FM} = 40A, T_J = 25^\circ C^*$
Max. peak forward voltage per leg	$V_{FM}$ .52 Volts	$I_{FM} = 80A, T_J = 25^\circ C^*$
Max. peak reverse current per leg	$I_{RM}$ 1000 mA	$V_{RRM}, T_J = 125^\circ C^*$
Max. peak reverse current per leg	$I_{RM}$ 15 mA	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance per leg	$C_J$ 3450 pF	$V_R = 5.0V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu s$ . Duty Cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	TSTG	-55°C to 150°C
Operating junction temp range	$T_J$	-55°C to 150°C
Max thermal resistance per leg	$R_{\theta JC}$	0.5°C/W
Max thermal resistance per pkg	$R_{\theta JC}$	0.25°C/W
Typical thermal resistance (greased)	$R_{\theta CS}$	0.25°C/W
Mounting Base Torque		10 inch pounds maximum
Weight		.22 ounces (6.36 grams) typical

1-28-05 Rev. 3

# FST8320

Figure 1  
Typical Forward Characteristics – Per Leg

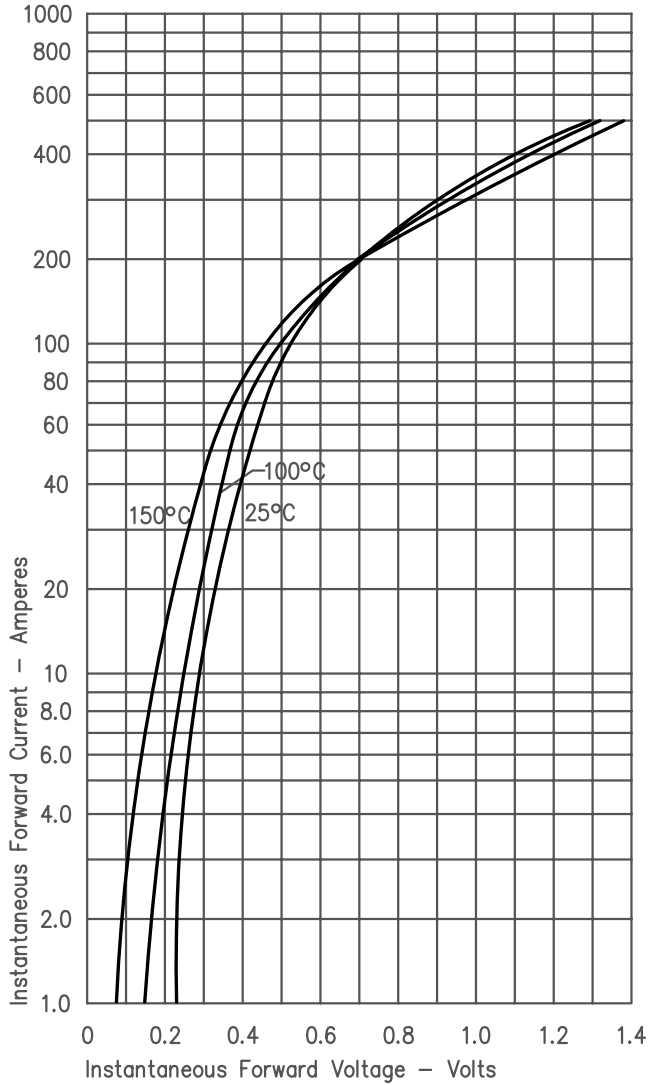


Figure 3  
Typical Junction Capacitance – Per Leg

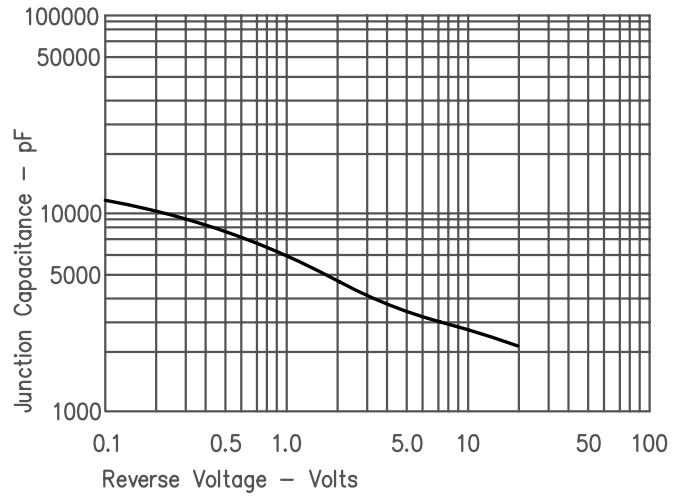


Figure 4  
Forward Current Derating – Per Leg

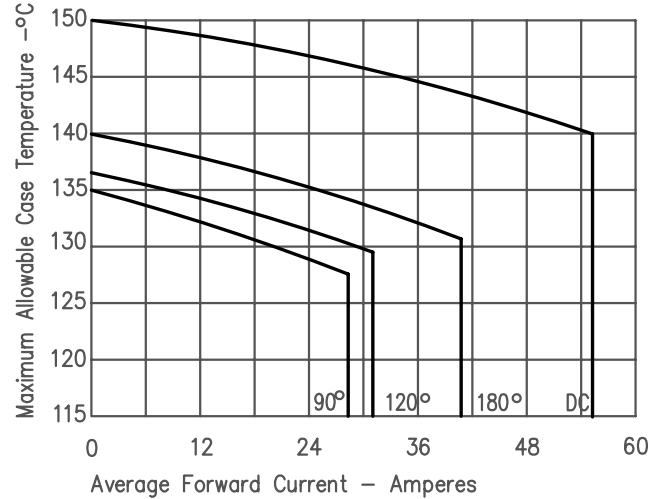


Figure 2  
Typical Reverse Characteristics – Per Leg

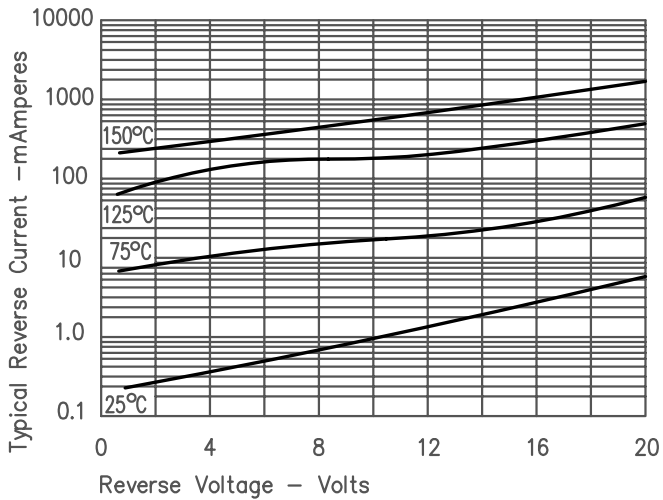


Figure 5  
Maximum Forward Power Dissipation – Per Leg

