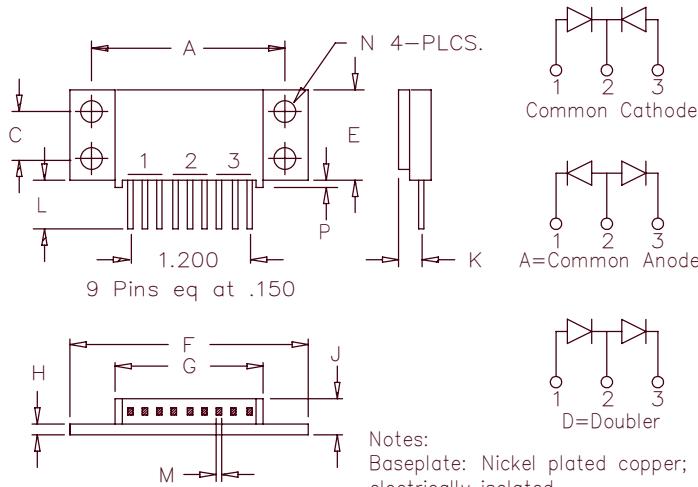


# Schottky Powermod FST15380 — FST153100



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	1.995	2.005	50.67	50.93	
C	0.495	0.506	12.57	12.83	
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.490	1.510	37.85	38.35	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60to	Lead $\phi$
L	0.490	0.510	12.45	12.95	
M	0.040	.050	1.02	1.27	Square Dia
N	0.175	0.195	4.45	4.95	
P	0.032	0.052	0.81	1.32	

Notes:  
Baseplate: Nickel plated copper;  
electrically isolated  
Pins: Nickel plated copper

Microsemi Catalog Number	Industry Part Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST15380*	153CMQ080	80V	80V
FST15390*		90V	90V
FST153100*	153CMQ100	100V	100V

\*Add the Suffix A for Common Anode, D for Doubler

- Schottky barrier rectifier
- Guard ring for reverse protection
- $V_{RRM}$  — 80 to 100 Volts
- High surge capacity
- Reverse energy tested
- Electrically isolated baseplate
- ROHS Compliant

## Electrical Characteristics

Average forward current per pkg	$I_F(AV)$ 150 Amps	$T_C = 120^\circ C$ , Square wave, $R_{\theta JC} = 0.5^\circ C/W$
Average forward current per leg	$I_F(AV)$ 75 Amps	$T_C = 120^\circ C$ , Square wave, $R_{\theta JC} = 1.0^\circ C/W$
Maximum surge current per leg	$I_{FSM}$ 1200 Amps	8.3 ms, half sine $T_J = 175^\circ C$
Max repetitive peak reverse current per leg	$R(OV)$ 2 Amps	$f = 1$ KHz, $25^\circ C$ , $1\mu sec$ Square wave
Max peak forward voltage per leg	$V_{FM}$ .72 Volts	$I_{FM} = 75A$ ; $T_J = 125^\circ C^*$
Max peak forward voltage per leg	$V_{FM}$ .94 Volts	$I_{FM} = 75A$ ; $T_J = 25^\circ C^*$
Max peak reverse current per leg	$R_M$ 20 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max peak reverse current per leg	$R_M$ 1.5 mA	$V_{RRM}$ , $T_J = 25^\circ C$
Typical junction capacitance per leg	$C_J$ 1500 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300 $\mu sec$ , Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-55^\circ C$ to $175^\circ C$
Operating junction temp range	$T_J$	$-55^\circ C$ to $175^\circ C$
Maximum thermal resistance per leg	$R_{\theta JC}$	$1.0^\circ C/W$ Junction to case
Maximum thermal resistance per pkg	$R_{\theta JC}$	$0.5^\circ C/W$ Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	$0.1^\circ C/W$ Case to sink
Mounting torque		15 — 20 inch pounds maximum
Weight		2.5 ounces (71 grams) typical



# FST15380 – FST153100

Figure 1  
Typical Forward Characteristics – Per Leg

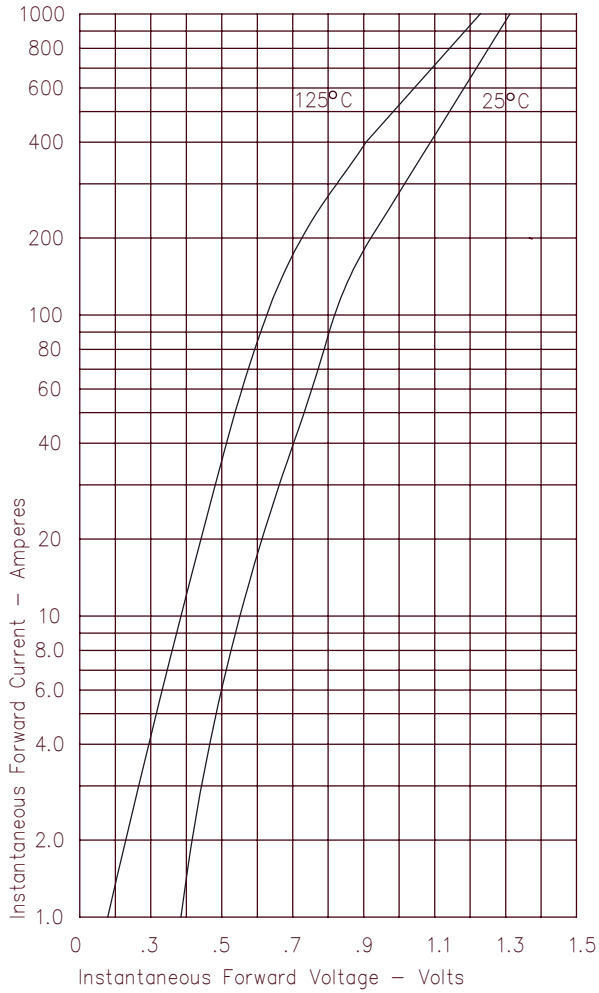


Figure 3  
Typical Junction Capacitance – Per Leg

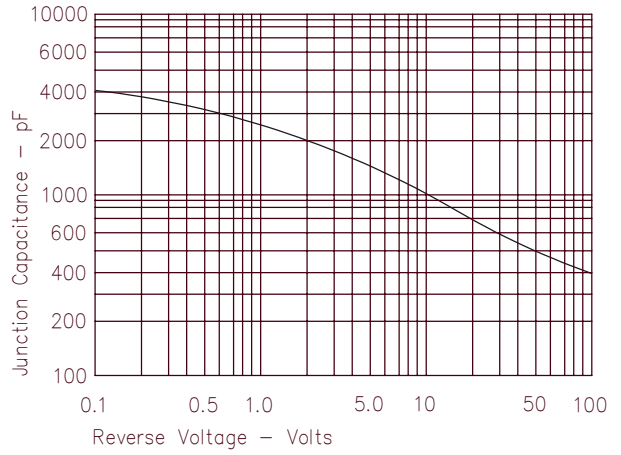


Figure 4  
Forward Current Derating – Per Leg

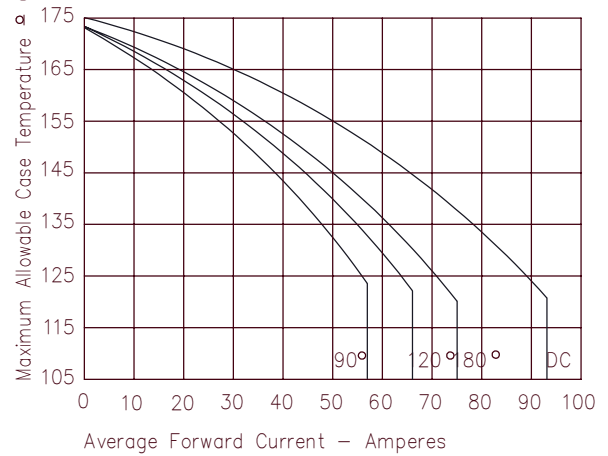


Figure 2  
Typical Reverse Characteristics – Per Leg

