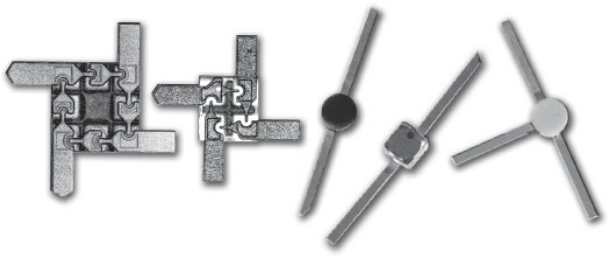
MSS60-xxx-x Series

Extra High Barrier Silicon Schottky Diodes

Rev. V1

Features

- V_F, R_D and C_J Matching Options
- Chip, Beam Lead and Packaged Devices
- Hi-Rel Screening per MIL-PRF-19500 and MIL-PRF-38534 Available



Description

The MSS60-xxx-x Series of Schottky diodes are fabricated on N-Type epitaxial substrates using proprietary processes that yield the highest FCOs in the industry. Optimum mixer performance is obtained with LO power of 6 dBm to 12 dBm per diode.

Beam Lead

Electrical Specifications: T_A = 25°C

Model	Configuration	V_F Typ. V	V_{BR} Min. V	C_J Typ. / Max. pF	R_S Typ. Ω	R_D Max. Ω	Outline
MSS60-144-B10B	Single Junction	625	3.5	0.08 0.10	20	25	B10B
MSS60-148-B10B	Single Junction	625	3.5	0.12 / 0.15	13	18	B10B
MSS60-153-B10B	Single Junction	625	3.5	0.20 / 0.25	7	12	B10B
MSS60-244-B20	Series Tee	625	3.5	0.08 / 0.10	20	25	B20
MSS60-248-B20	Series Tee	625	3.5	0.12 / 0.15	13	18	B20
MSS60-253-B20	Series Tee	625	3.5	0.20 / 0.25	7	12	B20
MSS60-444-B42	Ring Quad	650	3.5	0.08 / 0.10	20	25	B42
MSS60-448-B42	Ring Quad	650	3.5	0.12 / 0.15	13	18	B42
MSS60-453-B42	Ring Quad	650	3.5	0.25 / 0.30	7	12	B42
MSS60-841-B80	Ring Quad	1200	6.0	0.06 / 0.08	23	28	B80
MSS60-846-B80	Ring Quad	1200	6.0	0.10 / 0.12	17	23	B80
MSS60-848-B80	Ring Quad	1200	6.0	0.12 / 0.15	13	18	B80
Test Conditions		I_F = 1 mA	I_R = 10 µA	V_R = 0 V F = 1 MHz	I = 5 mA		

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Packaged

Electrical Specifications: T_A = 25°C

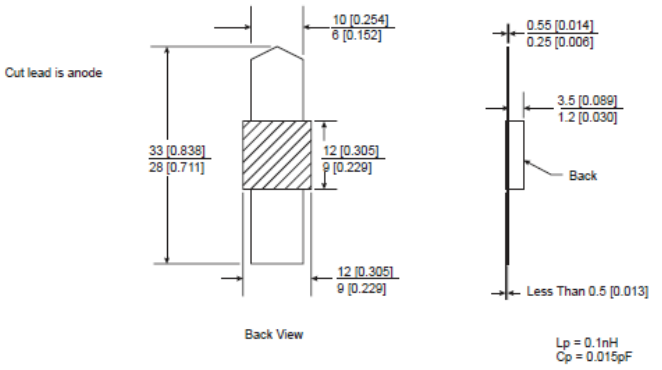
Model	Configuration	V_F Typ. V	V_{BR} Min. V	C_J Typ. / Max. pF	R_S Typ. Ω	R_D Max. Ω	Outline
MSS60-144-E25	Single Junction	625	3.5	0.21 / 0.27	20	25	E25
MSS60-144-H20	Single Junction	625	3.5	0.24 / 0.30	20	25	H20
MSS60-148-E25	Single Junction	625	3.5	0.24 / 0.30	13	18	E25
MSS60-148-H20	Single Junction	625	3.5	0.27 / 0.33	13	18	H20
MSS60-153-E25	Single Junction	625	3.5	0.16 / 0.22	7	12	E25
MSS60-153-H20	Single Junction	625	3.5	0.24 / 0.30	7	12	H20
MSS60-244-E35	Series Tee	625	3.5	0.22 / 0.28	20	25	E35
MSS60-244-H30	Series Tee	625	3.5	0.30 / 0.36	20	25	H30
MSS60-248-E35	Series Tee	625	3.5	0.35 / 0.41	13	18	E35
MSS60-248-H30	Series Tee	625	3.5	0.43 / 0.50	13	18	H30
MSS60-253-E35	Ring Quad	625	3.5	0.22 / 0.28	7	12	E35
MSS60-253-H30	Ring Quad	625	3.5	0.35 / 0.41	7	12	H30
MSS60-444-E45	Ring Quad	650	3.5	0.24 / 0.30	20	25	E45
MSS60-448-E45	Ring Quad	650	3.5	0.32 / 0.38	13	18	E45
MSS60-448-H40	Ring Quad	650	3.5	0.42 / 0.48	13	18	E45
MSS60-453-E45	Ring Quad	650	3.5	0.26 / 0.30	7	12	E45
MSS60-453-H40	Ring Quad	650	3.5	0.32 / 0.38	7	12	H40
MSS60-841-E45	Ring Quad	1200	6.0	0.30 / 0.35	23	28	E45
MSS60-841-H40	Ring Quad	1200	6.0	0.40 / 0.45	23	28	H40
MSS60-846-E45	Ring Quad	1200	6.0	0.32 / 0.38	18	23	E45
MSS60-846-H40	Ring Quad	1200	6.0	0.42 / 0.48	18	23	H40
MSS60-848-E45	Ring Quad	1200	6.0	0.35 / 0.41	13	18	E45
MSS60-848-H40	Ring Quad	1200	6.0	0.44 / 0.51	13	18	H40
Test Conditions		I_F = 1 mA	I_R = 10 µA	V_R = 0 V F = 1 MHz	I = 5 mA		

Absolute Maximum Ratings

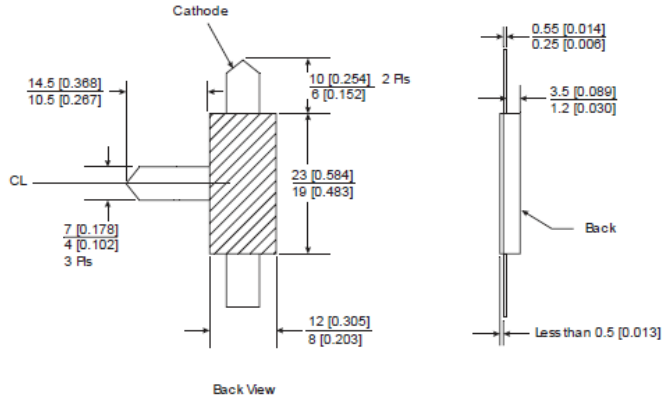
Parameters	Rating
Reverse Voltage	Rated V_{BR}
Forward Current	50 mA
Power Dissipation	100 mW, per junction @ T_A = 25°C, derate linearly to 0 @ T_A = +150°C
Operating Temperature	-65°C to +150°C
Storage Temperature	-65°C to +150°C
Soldering Temperature (packaged)	+230°C for 5 seconds
Beam Lead Pull Strength	4 G minimum

Outline Drawings (

B10B



B20



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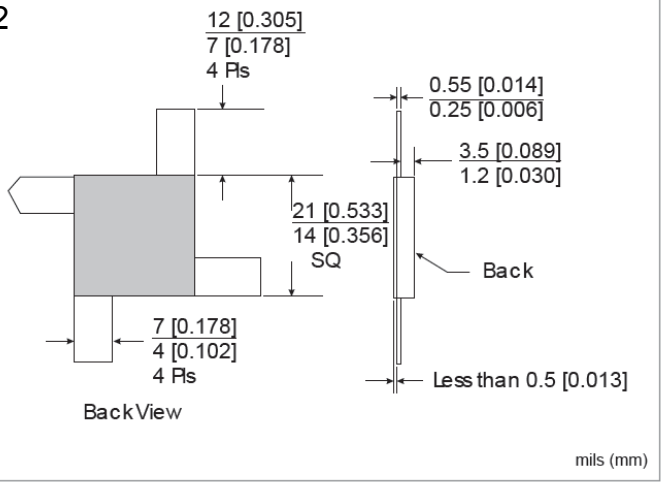
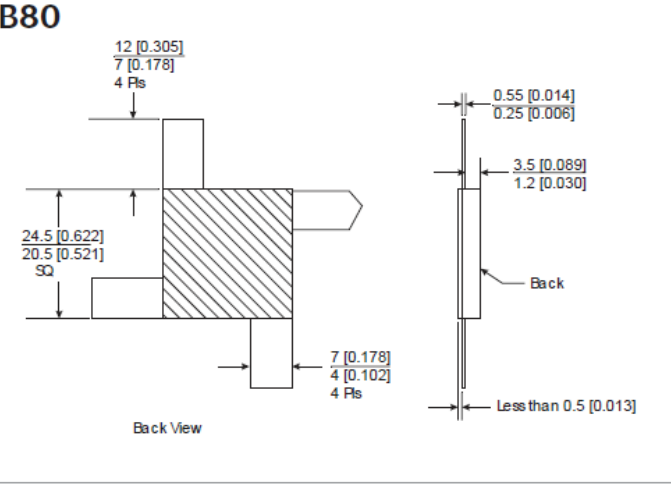
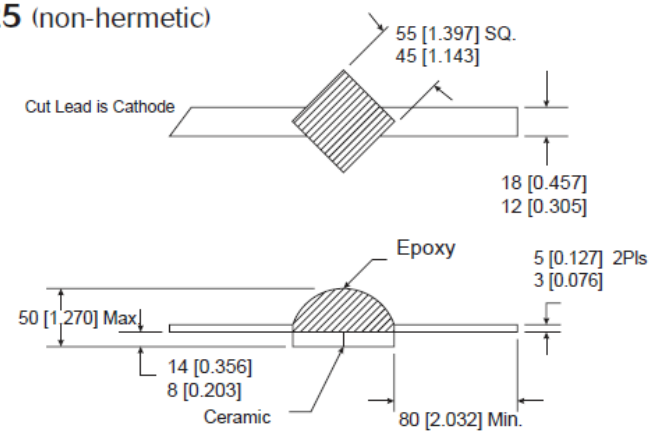


B80

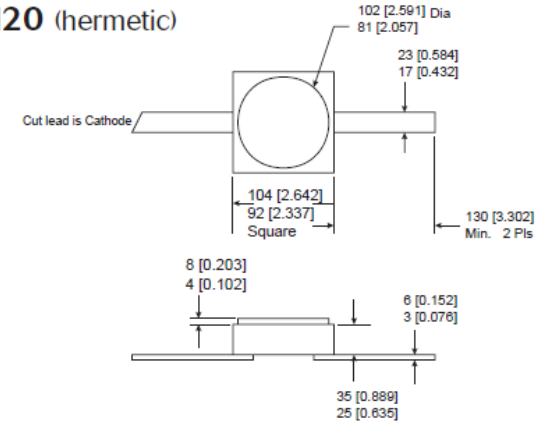


Outline Drawings

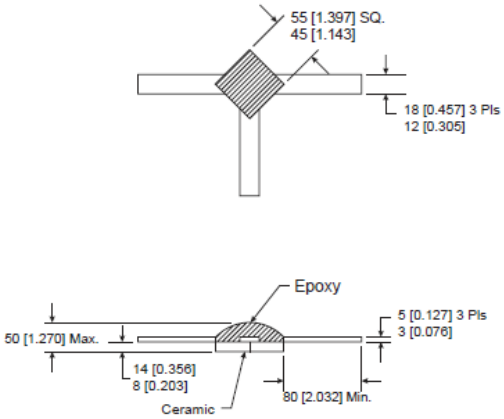
E25 (non-hermetic)



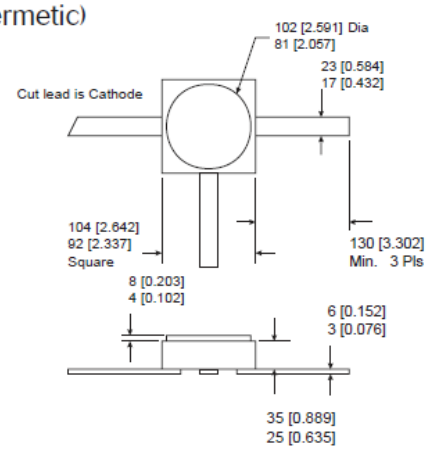
H20 (hermetic)



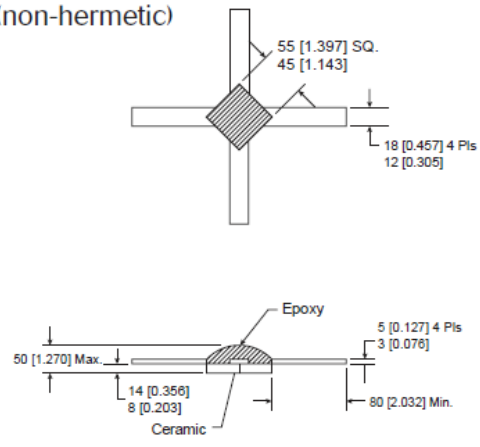
E35 (non-hermetic)



H30 (hermetic)



E45 (non-hermetic)



H40 (hermetic)