

### Features

- Very Low 1/f Noise
- Detector Applications up to 40 GHz
- Chip Beam Lead and Packaged Devices

### Description

The MSS39-xxx-x Series of Schottky diodes is fabricated on P-Type epitaxial substrates for superior 1/f noise performance in microwave biased-detector applications up to 40 GHz.



### Chip

#### Electrical Specifications: $T_A = 25^\circ\text{C}$

Model	$V_{BR}$ Min. V	$V_F$ Typ. V	$C_J$ Max. pF	$T_{SS}$ Ttp. dBm	$\gamma$ Typ. mV / mW	Frequency Max. GHz	Outline
MSS39-045-C15	5	0.40	0.10	-58	5,000	18	C15
MSS39-048-C15	5	0.39	0.15	-58	5,000	12	C15
Test Conditions	$I_R = 10 \mu\text{A}$	$I_F = 1 \text{ mA}$	$V_R = 0 \text{ V},$ $F = 1 \text{ MHz}$	DC Bias = 10 mA, F = 10 GHz $R_L = 100 \text{ K}\Omega$ Video BW = 2 MHz			

### Beam Lead

#### Electrical Specifications: $T_A = 25^\circ\text{C}$

Model	$V_{BR}$ Min. V	$V_F$ Typ. V	$C_J$ Max. pF	$T_{SS}$ Ttp. dBm	$\gamma$ Typ. mV / mW	Frequency Max. GHz	Outline
MSS39-144-B10B	3.5	0.38	0.08	-58	5,000	40	B10B
MSS39-146-B10B	3.5	0.38	0.10	-58	5,000	26	B10B
MSS39-148-B10B	3.5	0.39	0.12	-58	5,000	18	B10B
MSS39-152-B10B	3.5	0.38	0.18	-58	5,000	12	B10B
Test Conditions	$I_R = 10 \mu\text{A}$	$I_F = 1 \text{ mA}$	$V_R = 0 \text{ V},$ $F = 1 \text{ MHz}$	DC Bias = 10 mA, F = 10 GHz $R_L = 100 \text{ K}\Omega$ Video BW = 2 MHz			

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### Packaged

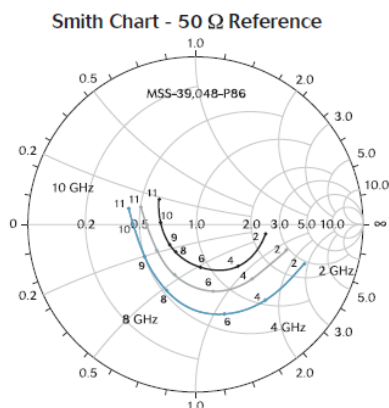
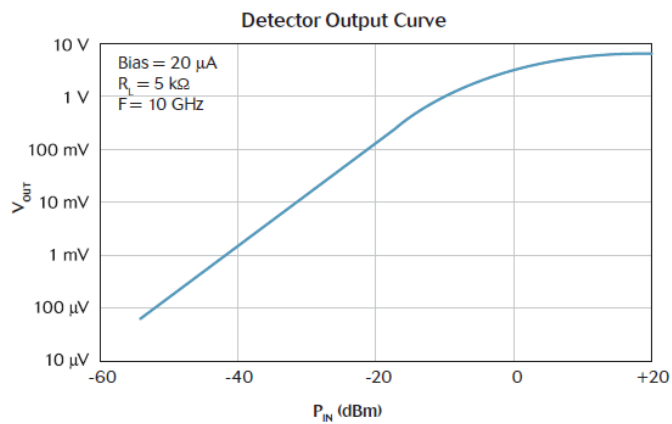
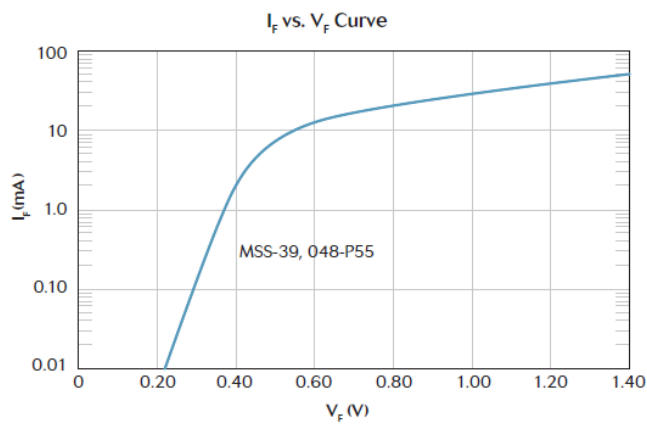
### Electrical Specifications: $T_A = 25^\circ\text{C}$

Model	$V_{BR}$ Min. V	$V_F$ Typ. V	$C_J$ Max. pF	$T_{SS}$ Ttp. dBm	$\gamma$ Typ. mV / mW	Frequency Max. GHz	Outline
MSS39-045-P55	5.0	0.40	0.25	-58	5000	18	P55
MSS39-045-P86	5.0	0.40	0.27	-58	5000	18	P86
MSS39-048-P55	5.0	0.39	0.30	-58	5000	12	P55
MSS39-048-P86	5.0	0.39	0.32	-58	5000	12	P86
MSS39-148-E25	3.5	0.39	0.22	-58	5000	18	E25
MSS39-148-H20	3.5	0.39	0.30	-58	5000	12	H20
MSS39-152-E25	3.5	0.38	0.28	-58	5000	12	E25
MSS39-152-H20	3.5	0.38	0.36	-58	5000	18	H20
Test Conditions	$I_R = 10 \mu\text{A}$	$I_F = 1 \text{ mA}$	$V_R = 0 \text{ V},$ $F = 1 \text{ MHz}$	DC Bias = 10 mA, F = 10 GHz $R_L = 100 \text{ K}\Omega$ Video BW = 2 MHz			

### Absolute Maximum Ratings

Parameters	Rating
Reverse Voltage	1 V
Forward Current	50 mA
CW Power Dissipation	100 mW, derated linearly to 0 @ $T_A = +150^\circ\text{C}$
Operating Temperature	$-65^\circ\text{C}$ to $+150^\circ\text{C}$
Storage Temperature	$-65^\circ\text{C}$ to $+150^\circ\text{C}$
Soldering Temperature (packaged)	$+230^\circ\text{C}$ for 5 seconds

### Typical Performance Curves: $T_A = 25^\circ\text{C}$



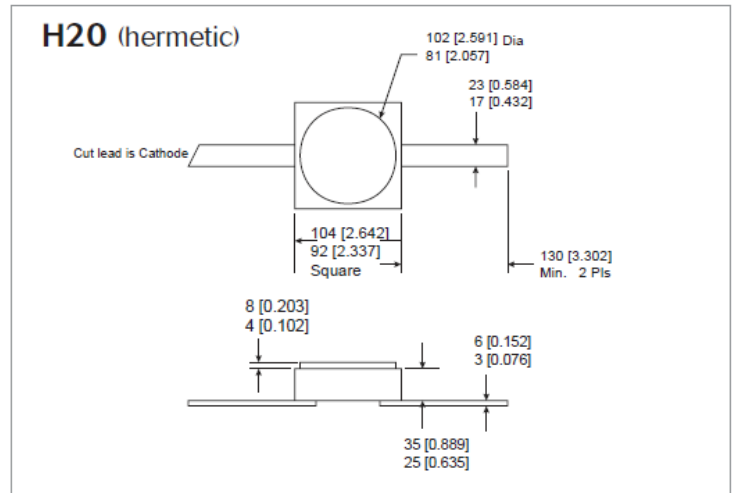
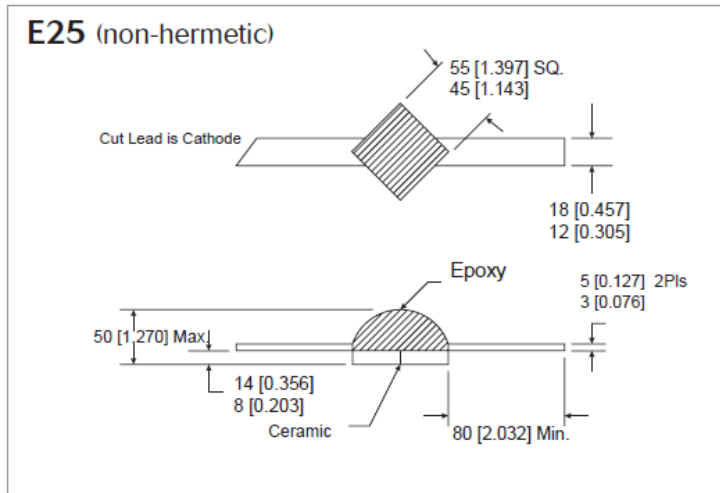
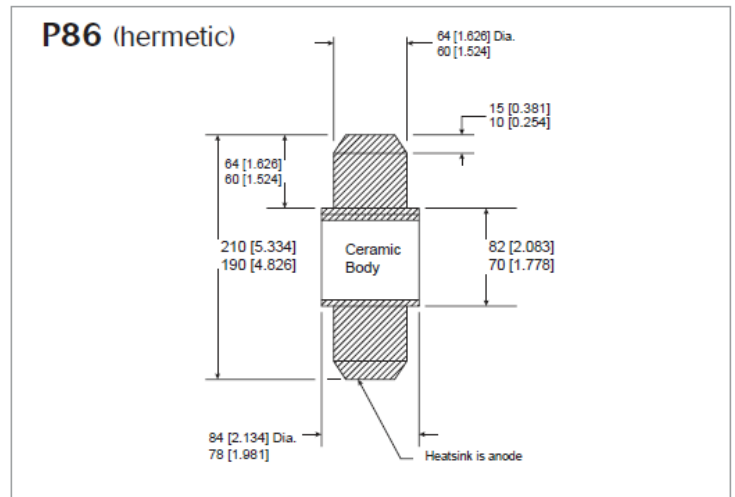
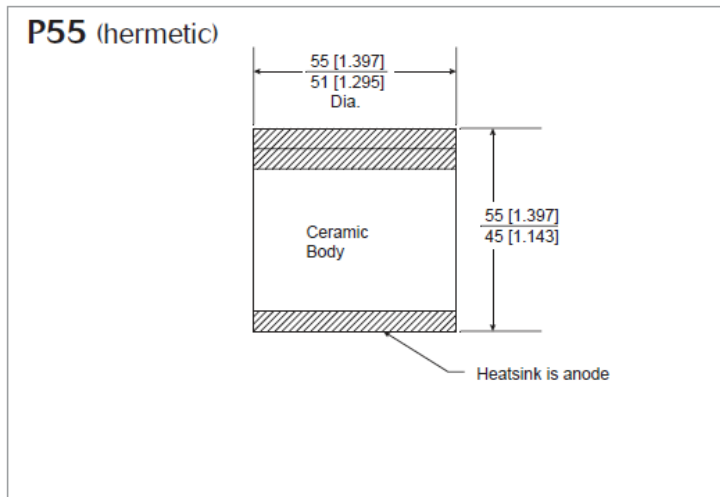
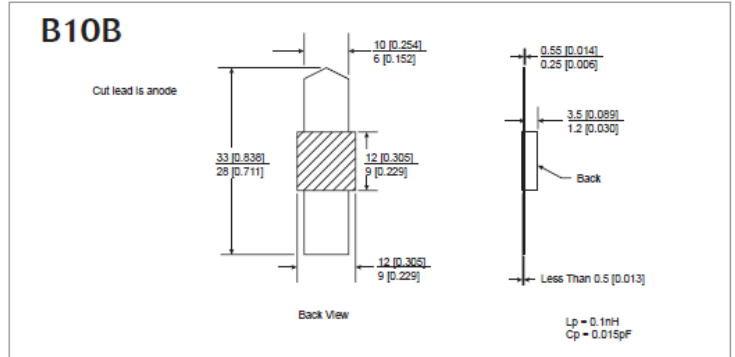
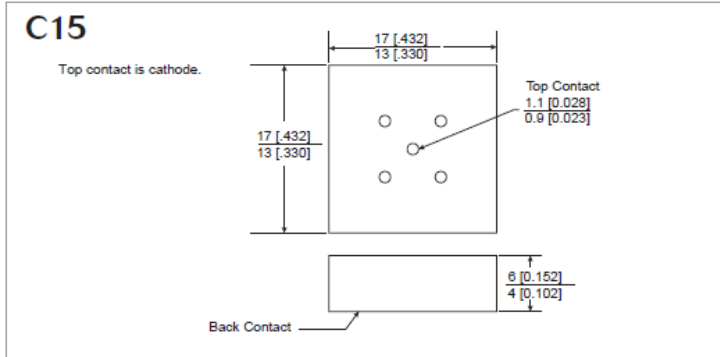
# MSS39-xxx-x Series



## P-Type Silicon Schottky Diodes

Rev. V1

### Outline Drawings



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