

Features

- Low R_S —5 Ω
- Low NF
- Available in many configurations
- Tight batch matching available
- Hi-Rel available

Applications

- Mixers: single diode, image reject, image enhancement, ring quad
- Doublers
- Modulators

Low Barrier Specifications @ 25°C

Part Number Outline	V_F Typ. @ 1 mA (Volts)	V_{BR} Min. @ 10 μ A (Volts)	C_J Typ. @ 0 V (pF)	C_T Typ. @ 0 V (pF)	NF_{SSB} ** (dB)	R_S Typ. (Ohms)	R_D Typ. @ 5 mA (Ohms)	F_{CO} Typ. *** (GHz)
MSS-30,046-C15 MSS-30,046-P55 MSS-30,046-P86	.29	2	.10	.10 .23 .27	6	10	15	160
MSS-30,050-C15 MSS-30,050-P55 MSS-30,050-P86	.27	2	.15	.15 .28 .32	6	6	11	175
MSS-30,142-B10 MSS-30,142-E20 MSS-30,142-H20	.29	2	.07	.10 .20 .25	6	13	18	175
MSS-30,148-B10 MSS-30,148-E20 MSS-30,148-H20	.27	2	.12	.15 .25 .30	6	7	12	190
MSS-30,154-B10 MSS-30,154-E20 MSS-30,154-H20	.25	2	.22	.25 .35 .40	6	3	8	240
MSS-30,242-B20 MSS-30,242-E35 MSS-30,242-H30	.29	2	.07	.10 .15 .25	6	13	18	175
MSS-30,248-B20 MSS-30,248-E30 MSS-30,248-H30	.27	2	.12	.15 .25 .30	6	7	12	190
MSS-30,254-B20 MSS-30,254-E30 MSS-30,254-H30	.25	2	.22	.25 .35 .40	6	3	8	240
MSS-30,442-B41 MSS-30,442-E45	.29 .29	2 2	.07* .07	.10* .15*	6 6	13 13	18 18	175 175
MSS-30,448-B41 MSS-30,448-E45	.27 .27	2 2	.12* .12*	.15* .20*	6 6	7 7	12 12	190 190
MSS-30,454-B40 MSS-30,454-E40 MSS-30,454-H40	.25	2	.22*	.25* .25* .25*	6	3	8	240

* Diagonal **See page 2 *** $F_{CO} = 1/[2*\pi*R_S*C_J]$; F_{CO} = Hz, R_S = Ohms; C_T = Farads †See page 2 (C_{T0} Adjacent = $\frac{4}{3}*C_{T0}$ Diag)

Notes: Consult factory for special versions, configurations, packages, high reliability screening, or customer designs.

Disclaimer: This data sheet is issued to provide information only and Metelics Corporation reserves the right to alter without notice the specifications, design, price, or conditions of supply of this product.

MTLXS028



Low Barrier Schottky Description

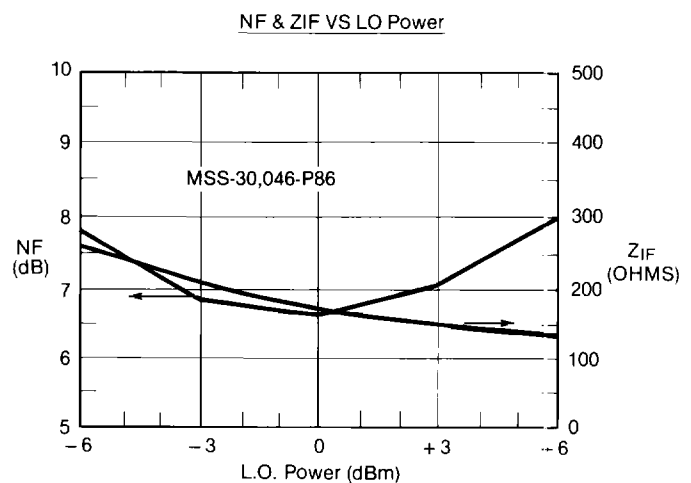
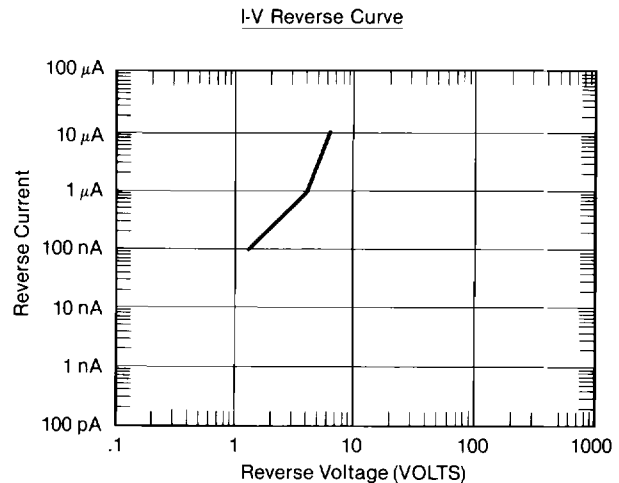
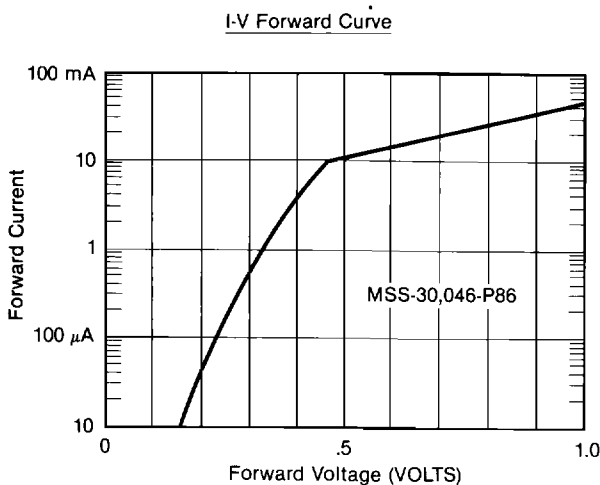
The Metelics MSS-30,000 series silicon Schottky barrier diodes are constructed using advanced technology, materials and processes, resulting in a lower series resistance (R_s) than is produced with conventional methods. This N-type mixer diode is well-suited for applications where -6 dBm to $+5$ dBm per diode is available.

Maximum Ratings

Storage Temperature	.....	-65 to $+150^\circ\text{C}$
Operating Temperature	.....	-65 to $+150^\circ\text{C}$
Soldering Temperature—Chips	.....	230°C for 30 sec.
Soldering Temperature—B.L.	.....	230°C for 10 sec.
DC Power Dissipation	.....	100 mW max. derate linearly to 0 mW at $+150^\circ\text{C}$.
Beam Lead Pull Strength	.....	2 grams

CAUTION: Static Sensitive Device

Typical Data



Note**

NF measured at 9.375 (3 GHz \pm)

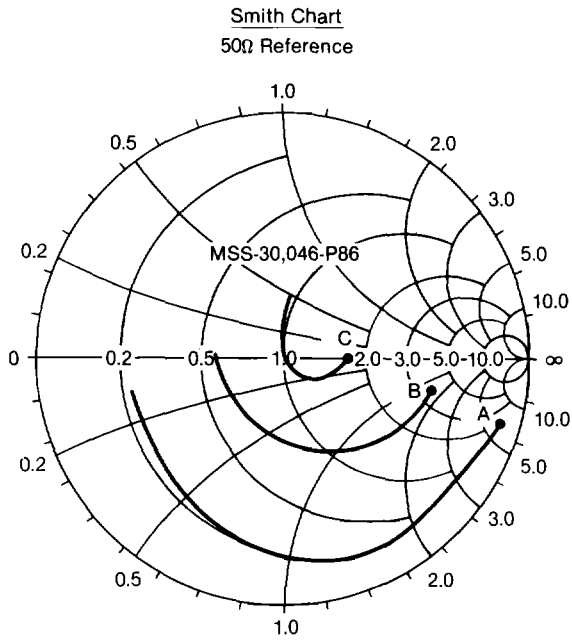
50 Ω source impedance

50 Ω load at 30 MHz, 1.5 dB NF amplifier

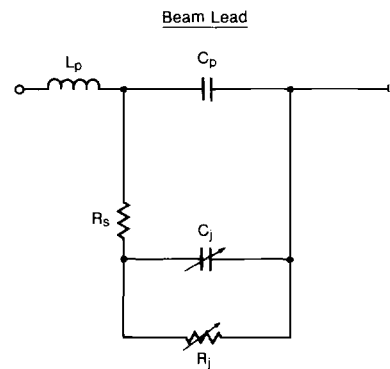
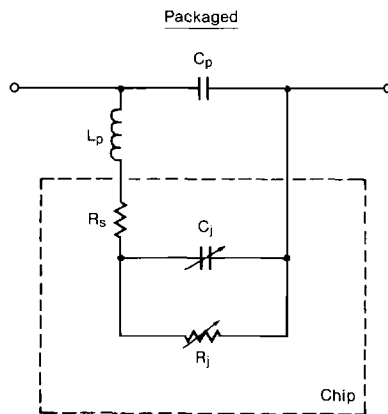
< 1 Ω load at DC

Z_{IF} measured using a 10 kHz signal in same set-up

NF_{ssb} = NF_{dsb} + 3 dB



Equivalent Circuits



Notes: Consult factory for special versions, configurations, packages, high reliability screening, or custom designs.

Disclaimer: This data sheet is issued to provide information only and Metelics Corporation reserves the right to alter without notice the specifications, design, price, or conditions of supply of this product.



METELICS CORPORATION

975 Stewart Drive
 Sunnyvale, CA 94086
 Telephone: (408) 737-8181
 TWX: 910-339-9537
 FSCM & CAGE 59365

POLARITY: CATHODE ANODE
 DOT CAP
 CUT LEAD PAD
 POINTED BEAM PAD

Package Outlines
 Dimensions are in Mils (mm).

