

6367254 MOTOROLA SC (XSTRS/R F)

89D 79607 D

T-07-07

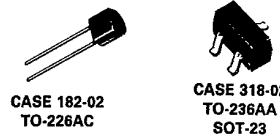
MOTOROLA
SEMICONDUCTOR
TECHNICAL DATA

MBD101
MMBD101
MMBD101L

SILICON HOT-CARRIER DIODE
(SCHOTTKY BARRIER DIODE)

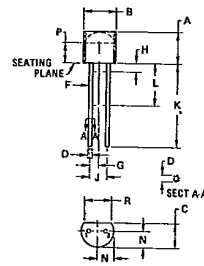
- ... designed primarily for UHF mixer applications but suitable also for use in detector and ultra-fast switching circuits. Supplied in an inexpensive plastic package for low-cost, high-volume consumer requirements. Also available in Surface Mount package.
- The Rugged Schottky Barrier Construction Provides Stable Characteristics by Eliminating the "Cat-Whisker" Contact
 - Low Noise Figure — 6.0 dB Typ @ 1.0 GHz
 - Very Low Capacitance — Less Than 1.0 pF @ Zero Volts
 - High Forward Conductance — 0.50 Volts (Typ) @ $I_F = 10$ mA

SILICON HOT-CARRIER
UHF MIXER DIODE



CASE 182-02
TO-226AC

CASE 318-02
TO-236AA
SOT-23



STYLE 1:
PIN 1, ANODE
2, CATHODE

CASE 182-02
TO-226AC

MILLIMETERS		INCHES		
DIM	MIN	MAX	MIN	MAX
A	4.32	5.33	0.170	0.210
B	4.45	5.21	0.175	0.205
C	3.18	4.18	0.125	0.165
D	0.565	0.533	0.014	0.021
E	0.407	0.482	0.016	0.019
G	1.27	BSC	0.050	BSC
H	—	1.27	—	0.050
J	2.54	BSC	0.100	BSC
K	12.70	—	0.500	—
L	6.35	—	0.250	—
M	2.03	2.68	0.080	0.105
N	2.93	—	0.115	—
R	3.43	—	0.135	—

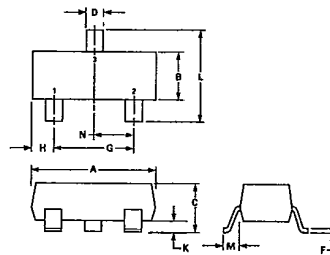
All JEDEC dim'tions #16 notes apply

MAXIMUM RATINGS

Rating	Symbol	Value		Unit
		MBD101	MMBD101,L	
Reverse Voltage	V_R	4.0		Volts
Forward Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_F	280	200	mW
		2.8	2.0	mW/°C
Junction Temperature	T_J	+125		°C
Storage Temperature Range	T_{stg}	-65 to +150		°C

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ($I_R = 10 \mu\text{A}$)	$V_{(BR)R}$	4.0	5.0	—	Volts
Diode Capacitance ($V_R = 0$, $f = 1.0$ MHz, Note 1)	C_T	—	0.88	1.0	pF
Forward Voltage (1) ($I_F = 10$ mA)	V_F	—	0.50	0.60	Volts
Noise Figure ($f = 1.0$ GHz, Note 2)	NF	—	6.0	—	dB
Reverse Leakage ($V_R = 3.0$ V)	I_R	—	0.02	0.25	μA



STYLE 4:
PIN 1, ANODE
2, NO CONNECTION
3, CATHODE

CASE 318-02
TO-236AA
SOT-23

MILLIMETERS		INCHES		
DIM	MIN	MAX	MIN	MAX
A	2.80	3.04	0.110	0.119
B	1.92	1.60	0.075	0.063
C	0.85	1.20	0.033	0.047
D	0.33	0.50	0.013	0.020
F	0.08	0.10	0.003	0.004
G	1.78	2.04	0.070	0.080
H	0.45	0.60	0.017	0.024
K	0.52	0.25	0.020	0.010
L	2.50	2.50	0.098	0.098
M	0.45	0.60	0.018	0.024
N	0.85	1.02	0.033	0.040
P	0.17	0.12	0.007	0.005

*Lead Profile = CASE 318-02 TO-236AA

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Datasheets for electronic components.