

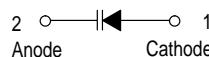
# Silicon Tuning Diodes

These epitaxial passivated tuning diodes are designed for AFC applications in radio, TV, and general electronic-tuning.

- Maximum Working Voltage of 20 V
- Excellent Q Factor at High Frequencies
- Solid-State Reliability to Replace Mechanical Tuning Methods

**MV1626 thru  
MV1650**

**6.8–100 pF  
20 VOLTS  
VOLTAGE-VARIABLE  
CAPACITANCE DIODES**



CASE 51-02  
DO-204AA (DO-7)

## MAXIMUM RATINGS

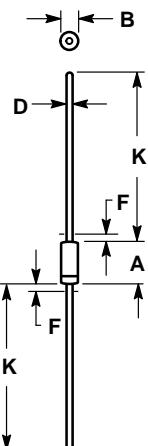
Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	20	Vdc
Forward Current	$I_F$	250	mAdc
Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	400 2.67	mW mW/ $^\circ\text{C}$
Junction Temperature	$T_J$	+175	$^\circ\text{C}$
Storage Temperature Range	$T_{\text{stg}}$	-65 to +200	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ( $I_R = 10 \mu\text{A}_{\text{dc}}$ )	$V_{(\text{BR})\text{R}}$	20	—	—	V <sub>dc</sub>
Reverse Voltage Leakage Current ( $V_R = 15 \text{ Vdc}$ , $T_A = 25^\circ\text{C}$ )	$I_R$	—	—	0.10	$\mu\text{A}_{\text{dc}}$
Series Inductance ( $f = 250 \text{ MHz}$ , Lead Length $\approx 1/16''$ )	$L_S$	—	4.0	—	nH
Case Capacitance ( $f = 1.0 \text{ MHz}$ , Lead Length $\approx 1/16''$ )	$C_C$	—	0.17	—	pF

Device	C <sub>T</sub> , Diode Capacitance V <sub>R</sub> = 4.0 Vdc, f = 1.0 MHz pF			Q, Figure of Merit V <sub>R</sub> = 4.0 Vdc, f = 50 MHz	TR, Tuning Ratio C <sub>2</sub> /C <sub>20</sub> f = 1.0 MHz	
	Min	Nom	Max		Min	Max
MV1626	10.8	12.0	13.2	300	2.0	3.2
MV1628	13.5	15.0	16.5	250	2.0	3.2
MV1630	16.2	18.0	19.8	250	2.0	3.2
MV1634	19.8	22.0	24.2	250	2.0	3.2
MV1638	29.7	33.0	36.3	200	2.0	3.2
MV1648	73.8	82.0	90.2	150	2.0	3.2
MV1650	90.0	100.0	110.0	150	2.0	3.2

## PACKAGE DIMENSIONS



## NOTES:

1. PACKAGE CONTOUR OPTIONAL WITHIN DIA B AND LENGTH A. HEAT SLUGS, IF ANY, SHALL BE INCLUDED WITHIN THIS CYLINDER, BUT SHALL NOT BE SUBJECT TO THE MIN LIMIT OF DIA B.
2. LEAD DIA NOT CONTROLLED IN ZONES F, TO ALLOW FOR FLASH, LEAD FINISH BUILDUP, AND MINOR IRREGULARITIES OTHER THAN HEAT SLUGS.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	5.84	7.62	0.230	0.300
B	2.16	2.72	0.085	0.107
D	0.46	0.56	0.018	0.022
F	—	1.27	—	0.050
K	25.40	38.10	1.000	1.500

All JEDEC dimensions and notes apply.

CASE 51-02  
(DO-204AA)  
ISSUE E

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**USA/EUROPE/Locations Not Listed:** Motorola Literature Distribution;  
P.O. Box 5405, Denver, Colorado 80217. 303-675-2140 or 1-800-441-2447

**JAPAN:** Nippon Motorola Ltd.; Tatsumi-SPD-JLDC, 6F Seibu-Butsuryu-Center,  
3-14-2 Tatsumi Koto-Ku, Tokyo 135, Japan. 81-3-3521-8315

**Mfax**<sup>TM</sup>: RMFAX0@email.sps.mot.com – TOUCHTONE 602-244-6609  
– US & Canada ONLY 1-800-774-1848

**ASIA/PACIFIC:** Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,  
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852-26629298

**INTERNET:** <http://motorola.com/sps>