MOTOROLA
SEMICONDUCTORS
P.O. BOX 20912 • PHOENIX, ARIZONA 85036

MV1620 thru MV1650

VVC

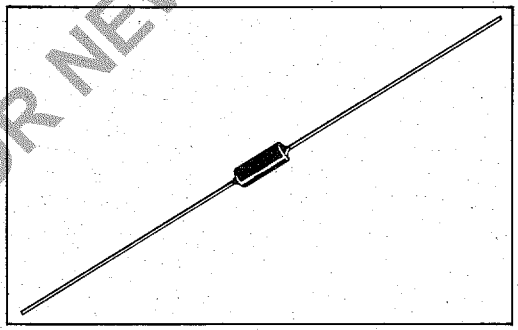
VOLTAGE-VARIABLE CAPACITANCE DIODE

6.8-100 pF
20 VOLTS

SILICON EPICAP▲ DIODE

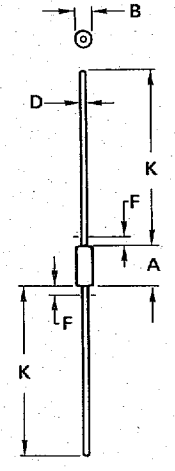
. . . epitaxial passivated tuning diodes designed for AFC applications in radio, TV, and general electronic-tuning.

- Maximum Working Voltage of 20 V
- Excellent Q Factor at High Frequencies
- 100% Hermetic Seal Check
- Standard Capacitance Values to 100 pF



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	20	Volts
Forward Current	I_F	250	mA
Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	400 2.67	mW mW/°C
Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	2.0 13.3	Watts mW/°C
Junction Temperature	T_J	+175	°C
Storage Temperature Range	T_{stg}	-65 to +200	°C



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
DO-204 AA
(DO-7)

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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I_R = 10 μAdc)	BV_R	20	—	—	Vdc
Reverse Voltage Leakage Current (V_R = 15 Vdc, T_A = 25°C)	I_R	—	—	0.10	μAdc
Series Inductance (f = 250 MHz, Lead Length ≈ 1/16″)	L_S	—	5.0	10	nH
Case Capacitance (f = 1.0 MHz, Lead Length ≈ 1/16″)	C_C	—	0.17	0.25	pF

	C_T, Diode Capacitance V_R = 4.0 Vdc, f = 1.0 MHz pF			Q, Figure of Merit V_R = 4.0 Vdc f = 50 MHz	TR, Tuning Ratio C_2/C_{20} f = 1.0 MHz	
Device	Min	Nom	Max	Min	Min	Max
MV1620	6.1	6.8	7.5	300	2.0	3.2
MV1622	7.4	8.2	9.0	300	2.0	3.2
MV1624	9.0	10.0	11.0	300	2.0	3.2
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
MV1632	18.0	20.0	22.0	250	2.0	3.2
MV1634	19.8	22.0	24.2	250	2.0	3.2
MV1636	24.3	27.0	29.7	200	2.0	3.2
MV1638	29.7	33.0	36.3	200	2.0	3.2
MV1640	35.1	39.0	42.9	200	2.0	3.2
MV1642	42.3	47.0	51.7	200	2.0	3.2
MV1644	50.4	56.0	61.6	150	2.0	3.2
MV1646	61.2	68.0	74.8	150	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

TR, Tuning Ratio, is the ratio of C_T measured at 2 Vdc divided by C_T measured at 20 Vdc.

MOTOROLA *Semiconductor Products Inc.*

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