HERMETICALLY SEALED
GLASS PACKAGED TUNING DIODES

ABRUPT - HYPERABRUPT UH

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

Diode Cap. (CT)* ±10% @ 4V/1 MHz pF	GENERAL APPLICATIONS TYPE NO.	RATIO C2/C20 min/typ	Q4 @ 50 MHz	LOW INDUCTANCE FOR USE TO 2.5 GHz TYPE NO.	RATIO C2/C20 min/max	Q4 @ 50 MHz min	MINIATURE GLASS VERY HIGH Q TYPE NO.	RATIO C2/C30 min/typ	Q4 @ 50 MHz min	VERY HIGH Q PREDICTABLE TRACKING TYPE NO.	RATIO C2/C30 min/typ	Q4 @ 50 MHz min	GENERAL PURPOSE TYPE NO.	RATIO C4/C25 min/typ	Q4 @ 50 MHz	pF
1.8																1.8
2.2				G702A	1.7/2.2	700										2.2
2.7																2.7
3.3				G603A	1.7/2.2	600										3.3
3.9				G604A	1.8/2.4	600										3.9
4.7																4.7
5.6				G605A	1.8/2.4	600										5.6
6.8	MV1620	2.0/2.5	300	G606A	1.9/2.4	600										6.8
8.2	MV1622	2.0/2.5	300													8.2
10.0	MV1624	2.0/2.5	300	G610A	1.9/2.4	600										10.0
12.0	MV1626	2.0/2.5	300													12.0
15.0	MV1628	2.0/2.5	250	G615A	2.0/2.5	600	SQ1213A	2.2/2.7	1500							15.0
18.0	MV1630	2.0/2.6	250				SQ1214A	2.3/2.8	1400	SQ1714	2.2/2.6	1400				18.0
20.0	MV1632	2.0/2.6	250				SQ1215A	2.4/2.8	1300	SQ1715	2.3/2.7	1300				20.0
22.0	MV1634	2.0/2.6	250	G522A	2.0/2.5	500	SQ1216A	2.5/3.0	1200	SQ1716[2]	2.4/2.8	1200	MV830	1.8/2.0	30	22.0
27.0	MV1636	2.0/2.6	200				SQ1217A	2.5/3.0	1100	SQ1717	2.4/2.8	1100	MV831	1.8/2.0	25	27.0
33.0	MV1638	2.0/2.6	200				SQ1218A	2.5/3.0	1000	SQ1718	2.5/2.9	1000				33.0
39.0	MV1640	2.0/2.6	200				SQ1219A	2.6/3.1	1000	SQ1719	2.5/2.9	1000	MV832	1.8/2.1	25	39.0
47.0	MV1642	2.0/2.7	200				SQ1220A	2.7/3.1	1000	SQ1720	2.7/3.1	1000	MV833	1.8/2.1	25	47.0
56.0	MV1644	2.0/2.7	150				SQ1222A	2.9/3.2	1000	SQ1722	2.8/3.2	1000	MV834	1.9/2.2	20	56.0
68.0	MV1646	2.0/2.7	150				SQ1224A	2.9/3.2	1000	SQ1724	2.8/3.1	1000	MV835	1.9/2.2	20	68.0
82.0	MV1648	2.0/2.7	150				SQ1226A	2.9/3.2	900	SQ1726	2.8/3.1	900	MV836	1.9/2.2	15	82.0
100.0	MV1650	2.0/2.7	150				SQ1228A	2.9/3.2	900	SQ1728	2.8/3.1	900	MV837	1.9/2.2	15	100.0
							SQ1230A	2.9/3.2	900	SQ1730	2.9/3.1	900	MV838	2.0/2.2	15	
							SQ1232A	2.9/3.2	800	SQ1732	2.9/3.1	800	MV839	2.0/2.2	10	
							SQ1234A	3.0/3.3	800	SQ1734	2.9/3.2	800	MV840	2.0/2.2	10	
							SQ1236A	3.0/3.3	800	SQ1736	2.9/3.2	800				
							SQ1238A	3.0/3.3	700	SQ1738	2.9/3.2	700				
										SQ1740	2.9/3.2	600				
										SQ1742	2.9/3.2	500				
										SQ1744	2.9/3.2	450				
										SQ1746	2.9/3.2	300				
										SQ1748	2.9/3.2	300				
										SQ1750	2.9/3.2	300				
VR (min)	20 Vdc @ IR @ 10 uAdc			25 Vdc @ IR = 10 uAdc			30 Vdc @ IR = 10 uAdc			30 Vdc @ IR = 10 uAdc			30 Vdc @ IR = 10 uAdc			
IR (max)	0.1 uAdc @ VR = 15 Vdc			0.5 uAdc @ VR = 20 Vdc			0.02 uAdc @ VR = 25 Vdc 2.0 uAdc @ TA = 150°C			0.02 uAdc @ VR = 25 Vdc 2.0 uAdc @ TA = 150°C			0.2 uAdc @ VR = 25 Vdc			
TCC1	300 ppm/°C			300 ppm /°C			300 ppm/°C			300 ppm/°C			300 ppm/°C			
Case	DO-7			DO-35			Miniature DO-7			DO-7			DO-7			

Diode Cap. (CT)* 4V/1 MHz ± 10% pf	15 & 20 VOLTS TYPE NO.	RATIO[3] C2/C20 typ	Q4 @ 20 MHz min
120.0	MV1652	2.6	250
150.0	MV1654	2.6	250
180.0	MV1656	2.6	200
200.0	MV1658	2.6	200
220.0	MV1660	2.6	150
250.0	MV1662[3]	2.3	150
270.0	MV1664[3]	2.3	100
330.0	MV1666[3]	2.3	100
VR (min)	20 Vdc @ IR = 10 uAdc MV1652/60 15 Vdc @ IR = 10 uAdc MV1662/66		
IR (max)	0.1 uAdc @ VR = 15 Vdc MV1652/60 0.1 uAdc @ VR = 10 Vdc MV1662/66		
TCC	300 ppm/°C		
Case	DO-14		

*Total Diode Capacitance measured at 1 MHz and VR specified. To order devices with CT Nom ± 5.0 % or _ 2.0% add Suffix B or C respectively.

(1) Capacitance Temperature Coefficient (typ) @ 4V/1 MHz

(2) For SQ1716, C4 = 3 pf. nom.

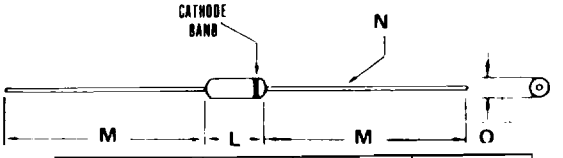
(3) Tuning Ratio @ C2/C15 for MV1662/66.

GENERAL SPECIFICATIONS

(25° C unless noted)

RATING	SYMBOL	VALUE			
Reverse Voltage	VR	As SPECIFIED			
Junction Temperature	Tj	+175°C Max			
Storage Temperature	Tstg	-65°C to 200°C			
Linear Power Derating		4 mW/°C			
		DO-35	MIN DO-7	DO-7	DO-14
Device Dissipation (mW Max)	PD	400	250	400	500
Case Capacitance (pf Typ)	CC	0.10	0.15	0.2	0.3
Series Inductance (nhy Typ)	LS	1.5	3.0	5.0	5.0

PACKAGE CHARACTERISTICS



DIM	DO-35 Min	DO-35 Max	Min DO-7 Min	Min DO-7 Max	DO-7 Min	DO-7 Max	DO-14 Min	DO-14 Max
L		.180	0.150	0.176		0.300		0.300
M	1.00		1.000		1.000		1.000	
N	0.019	0.021	0.014	0.016	0.019	0.021	0.019	0.021
O	.075	.085	0.068	0.076	0.092	0.104	0.108	0.140

All dimensions in inches, to convert to millimeters, multiply by 25.4

For other types not listed here your representative or the fac requirements.

MSI elect

HF/VHF TUNING DIODES

CHIP DIODES
TO ORDER PASSIVATED DIODE CHIPS, ADD "CHIP" AFTER TYPE NO.

LOWEST LEAKAGE HIGH Q

TYPE NO.	RATIO C_2/C_{30} min/max	Q4 @ 50 MHz min
1N5461A	2.7/3.1	600
1N5462A	2.8/3.1	600
1N5463A	2.8/3.1	550
1N5464A	2.8/3.1	550
1N5465A	2.8/3.1	550
1N5466A	2.9/3.1	500
1N5467A	2.9/3.1	500
1N5468A	2.9/3.2	500
1N5469A	2.9/3.2	500
1N5470A	2.9/3.2	500
1N5471A	2.9/3.2	450
1N5472A	2.9/3.2	400
1N5473A	2.9/3.3	300
1N5474A	2.9/3.3	250
1N5475A	2.9/3.3	225
1N5476A	2.9/3.3	200

30 Vdc @ I_R 0.004 uAdc

0.004 uAdc @ V_R = 30 Vdc

300 ppm/°C

DO-7

HIGH Q FOR MANY UHF–VHF USES

TYPE NO.	RATIO C_2/C_{30} min/max	Q4 @ 50 MHz min
1N5461A	2.7/3.1	600
1N5462A	2.8/3.1	600
1N5463A	2.8/3.1	550
1N5464A	2.8/3.1	550
1N5465A	2.8/3.1	550
1N5466A	2.9/3.1	500
1N5467A	2.9/3.1	500
1N5468A	2.9/3.2	500
1N5469A	2.9/3.2	500
1N5470A	2.9/3.2	500
1N5471A	2.9/3.2	450
1N5472A	2.9/3.2	400
1N5473A	2.9/3.3	300
1N5474A	2.9/3.3	250
1N5475A	2.9/3.3	225
1N5476A	2.9/3.3	200

30 Vdc @ I_R = 10 uAdc

0.02 uAdc @ V_R = 25 Vdc
2.0 uAdc @ T_A = 150°C

300 ppm/°C

DO-7

ABRUPT GOOD Q

TYPE NO.	RATIO C_2/C_{30} min/max	Q4 @ 50 MHz min
1N5441A	2.5/3.1	450
1N5442A	2.5/3.1	450
1N5443A	2.6/3.1	400
1N5444A	2.6/3.1	400
1N5445A	2.6/3.1	400
1N5446A	2.6/3.1	350
1N5447A	2.6/3.1	350
1N5448A	2.6/3.2	350
1N5449A	2.6/3.2	350
1N5450A	2.6/3.2	350
1N5451A	2.6/3.2	300
1N5452A	2.6/3.2	250
1N5453A	2.6/3.3	200
1N5454A	2.7/3.3	175
1N5455A	2.7/3.3	175
1N5456A	2.7/3.3	175

30 Vdc @ I_R = 10 uAdc

0.02 uAdc @ V_R = 25 Vdc
2.0 uAdc @ T_A = 150°C

300 ppm/°C

DO-7

HYPERABRUPT HIGH Q

TYPE NO.	RATIO C_2/C_{30} min/max	Q4 @ 50 MHz min
HA1915A	3:1	1000
HA1916A	3:1	1000
HA1917A	3:1	1000
HA1918A	3:2	900
HA1919A	3:2	800
HA1920A	3:8	800
HA1922A	3:9	800
HA1924A	3:9	700
HA1926A	3:9	700
HA1928A	3:9	700
HA1930A	4:0	600
HA1934A	4:0	600
HA1936A	4:0	600
HA1938A	4:0	600
HA1940A	4:0	500
HA1942A	4:0	500
HA1944A	4:0	400
HA1946A	4:0	300
HA1948A	4:0	250
HA1950A	4:0	200

30 Vdc @ I_R = 10 uAdc

0.02 uAdc @ V_R = 25 Vdc
2.0 uAdc @ T_A = 150°C

400 ppm/°C

DO-7

HIGHER VOLTAGE HIGH Q

TYPE NO.	RATIO C_0/C_{60} min/typ	Q4 @ 50 MHz min
GC1754	5:1	1200
GC1755	5:1	1200
GC1756	5:1	1200
GC1757	6:1	1100
GC1758	6:1	1100
GC1759	7:1	1100
GC1760	7:1	1000
GC1761	7:1	1000
GC1762	7:1	1000
GC1763	7:1	900
GC1764	7:1	900
GC1765	7:1	900
GC1766	7:1	800
GC1767	7:1	800
GC1768	7:1	600
GC1769	7:1	600
GC1770	7:1	600

60 Vdc @ I_R = 10 uAdc

0.02 uAdc @ V_R = 55 Vdc
2.0 uAdc @ T_A = 125°C

200 ppm/°C

MIN DO-7 GC1759-62
DO-7 GC1763-70

60 VOLT GENERAL USE

TYPE NO.	RATIO C_4/C_{60} min/typ	Q4 @ 50 MHz min
1N5139	2.7/2.9	350
1N5140	2.8/3.0	300
1N5141	2.8/3.0	300
1N5142	2.8/3.0	250
1N5143	2.8/3.0	250
1N5144	3.2/3.4	200
1N5145	3.2/3.4	200
1N5146	3.2/3.4	200
1N5147	3.2/3.4	200
1N5148	3.2/3.4	200

NOTE: IN THIS COLUMN ADD SUFFIX "A" FOR 5% CAPACITY TOLERANCE

60 Vdc @ I_R = 10 uAdc

0.02 uAdc @ V_R = 55 Vdc
2.0 uAdc @ T_A = 150°C

200 ppm/°C

DO-7

HYPERABRUPT

HYPER C™

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

TYPE NO.	DIODE CAPACITANCE (pf) @ C (Volts Bias) /pf @ 1 MHz				CAPACITANCE TUNING RATIO (T_R)			Q4 @ 50 MHz min	V_R @ I_R = 1 ua Vdc - min	I_R		CASE
	C3/pf min/max	C4/pf min/max	C8/pf min/max	C20/pf min/max	C3/C20 min/max	C4/C8 min/max	C4/C20 min/max			V_R = 20 Vdc uAdc max	V_R = 10 Vdc uAdc max	
2001		18.0/22.0	7.5/10.5	3.1/3.9			5.4/6.8	160	22	0.1		DO-7 ALL
2002		18.0/22.0	7.5/10.5			1.8/2.7		160	15		0.1	
2101	10.5/12.5		4.3/5.7	2.0/2.3	5.0/5.8			300	22	0.1		
2102	10.5/12.5		4.3/5.7	2.0/2.4	4.7/5.5			200	22	0.1		
2801			10.0/13.5	4.5/5.1	5.2/6.1			200	22	0.1		
2802			10.0/13.5	4.5/5.3	4.9/5.8			150	22	0.1		

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tory with your