

Silicon Hyperabrupt Tuning Varactors: HF



Bare Die Ceramic Epoxy SMT Glass Axial Leaded

- High Reliability, Silicon Planar
- Large Capacitance Ratios
- High Q
- Straight-Line Frequency Performance
Over a 1.5 to 4 Volt Tuning Range

The Aeroflex / Metelics High Frequency Hyperabrupt Diodes feature ion implanted epi construction. They are ideal for tuning LC resonant circuits up to 100 MHz with frequency ratios as high as 4:1. Capacitance values range from 46 pF to 270 pF at -2 Vdc.

Model	Total Capacitance pF								Tuning Ratio				Q				V _{BR} Vdc		I _R nAdc	
	MIN	TYP	MAX	TYP	MIN	TYP	MAX	TYP	TYP	MIN	TYP	MAX	MIN	TYP	MIN	TYP	MIN	TYP	TYP	MAX
TV1401	46	57	68	6.1	4.2	4.7	5.2	81.5	13	10	12.0	17.0	—	—	75	140	12	20	10	50
TV1402	46	57	68	6.1	4.2	4.7	5.2	81.5	13	10	12.0	17.0	200	700	—	—	12	20	50	100
TV1403	46	57	—	6.1	—	4.7	5.2	81.5	13	10	12.0	—	200	700	—	—	12	20	100	1000
TV1501	100	125	150	13.0	8.6	9.6	10.6	180	14	10	13.0	17.5	—	—	50	130	12	20	10	50
TV1502	100	125	150	13.0	8.6	9.6	10.6	180	14	10	13.0	17.5	200	500	—	—	12	20	50	100
TV1503	100	125	—	13.0	—	9.6	10.6	180	14	10	13.0	—	200	500	—	—	12	20	100	1000
TV1601	140	175	210	18.5	12.6	14.0	15.4	255	14	10	12.5	17.0	—	—	50	120	12	20	10	50
TV1602	140	175	210	18.5	12.6	14.0	15.4	255	14	10	12.5	17.0	200	500	—	—	12	20	50	100
TV1603	140	175	—	18.5	—	14.0	15.4	255	14	10	12.5	—	200	500	—	—	12	20	100	1000
TV1701	180	225	270	24.0	16.2	18.0	19.8	325	14	10	12.5	17.0	—	—	50	115	12	20	10	50
TV1702	180	225	270	24.0	16.2	18.0	19.8	325	14	10	12.5	17.0	200	500	—	—	12	20	50	100
TV1703	180	225	—	24.0	—	18.0	19.8	325	14	10	12.5	—	200	500	—	—	12	20	100	1000
TV1801	—	350	—	30.5/35/37.5	—	26.5	—	400/500/550	12/14/18	—	13.0	—	—	—	—	—	12	20	10	50
TV1802	—	350	—	30.5/35/37.5	—	26.5	—	400/500/550	12/14/18	—	13.0	—	—	—	—	—	12	20	50	100
Test Conds.	@ 2.0 Vdc, F=1 MHz			@ -7 Vdc, F=1 MHz			@ -10Vdc, F = 1 MHz		@ 1.25 Vdc, F = 1 MHz	C _T 1.25V/ C _T 7V		C _T 2V / C _T 10V		@ -2 Vdc, F=1 MHz		@ -2 Vdc, F= 10 MHz		@ 10 μA		@ VR -10Vdc
Maximum Ratings				Parameter				Value												
				Reverse Voltage				Same as V _{BR} (Volts)												
				Forward Current				100 mA												
				Power Dissipation				250 mW												
				Operating Temperature				-55 to + 150 °C												
				Storage Temperature				-65 to + 200 °C												