HIGH Q SILICON ABRUPT JUNCTION TUNING VARACTOR

V_{BR} 30 V

Description

This series of high Q epi-junction microwave tuning varactors (30 V) incorporates a passivated mesa technology. It is well suited for frequency tuning applications up to Ku band.

Chip Diodes			Chip and Packaged Diodes		Packaged Diodes (1)				
			V_{BR} (10 µA) ≥ 30 V		Standard cases			Other cases	
Characteristics at 25°C		Gold dia Ø	junction capacitance C_j	Fig. of merit Q			Tuning ratio C_{TO}/C_{T30}		Tuning ratio C_{TO}/C_{T30}
Test Conditions			V_R = 4 V f = 1 MHz	V_R = 4 V f = 50 MHz		Case Capacitance C_b		Case Capacitance C_b	
Type	Case	µm	pF		Type	Case		Case	
		typ.	± 20 % (2)	min.		C_b= 0.18 pF (3)	min.	C_b= 0.12 pF (3)	min.
EH71004	C2a	50	0.4	4500	DH71004	F27d	3.0	M208	3.3
EH71006	C2a	60	0.6	4500	DH71006	F27d	3.4	M208	3.7
EH71008	C2a	70	0.8	4400	DH71008	F27d	3.7	M208	4.0
EH71010	C2a	80	1.0	4300	DH71010	F27d	4.0	M208	4.3
EH71012	C2a	90	1.2	4200	DH71012	F27d	4.3	M208	4.5
EH71016	C2a	100	1.6	4100	DH71016	F27d	4.5	M208	4.6
EH71020	C2a	110	2.0	3900	DH71020	F27d	4.6	M208	4.7
EH71025	C2a	120	2.5	3600	DH71025	F27d	4.6	M208	4.8
EH71030	C2a	140	3.0	3400	DH71030	F27d	4.7	M208	4.8
EH71037	C2a	150	3.7	3200	DH71037	F27d	4.7	M208	4.8
EH71045	C2a	170	4.5	3000	DH71045	F27d	4.8	M208	4.9
EH71054	C2a	180	5.4	2800	DH71054	F27d	4.8	M208	4.9
			± 10 % (2)			C_b= 0.18 pF (3)		C_b= 0.2 pF (3)	
EH71067	C2a	200	6.7	2600	DH71067	F27d	4.9	BH142	4.9
EH71080	C2b	220	8.0	2400	DH71080	F27d	5.0	BH142	5.0
EH71100	C2b	250	10.0	2200	DH71100	F27d	5.0	BH142	5.0
EH71120	C2b	270	12.0	2000	DH71120	F27d	5.1	BH142	5.1
EH71150	C2b	300	15.0	1800	DH71150	F27d	5.1	BH142	5.1
EH71180	C2b	330	18.0	1700	DH71180	F27d	5.2	BH142	5.2
EH71200	C2b	350	20.0	1500	DH71200	F27d	5.2	BH142	5.2
EH71220	C2b	370	22.0	1400	DH71220	F27d	5.2	BH142	5.2
EH71270	C2b	410	27.0	1300	DH71270	F27d	5.2	BH142	5.2
EH71330	C2c	450	33.0	1200	DH71330	F27d	5.2	BH142	5.2
EH71390	C2c	500	39.0	950	DH71390	F27d	5.2	BH142	5.2
EH71470	C2c	540	47.0	750	DH71470	F27d	5.2	BH142	5.2
EH71560	C2c	590	56.0	650	DH71560	F27d	5.2	BH142	5.2
EH71680	C2c	650	68.0	500	DH71680	F27d	5.2	BH142	5.2
EH71820	C2d	720	82.0	400	DH71820	F27d	5.2	BH142	5.2
EH71999	C2d	800	100.0	300	DH71999	F27d	5.2	BH142	5.2

(1) Custom cases available on request

(2) Closer capacitance tolerances available on request

(3) $C_T = C_j + C_b$

Temperature ranges:

Operating junction (T_j) : -55° C to +150° C

Storage : -65° C to +175° C

V_{BR} 45 V

Description

This series of high Q epi-junction microwave tuning varactors (45 V) incorporates a passivated mesa technology. It is well suited for frequency tuning applications up to X band.

Chip diodes			Chip and packaged diodes		Packaged diodes (1)				
			V_{BR} (10 µA) ≥ 45 V		Standard Cases			Other Cases	
Characteristics at 25° C		Gold Dia Ø	Junction capacitance C_j	Fig. of merit Q			Tuning Ratio C_{TO}/C_{T45}		Tuning Ratio C_{TO}/C_{T45}
Test conditions			V_R = 4 V f = 1 MHz	V_R = 4 V f = 50 MHz		Case Capacitance C_b		Case Capacitance C_b	
Type	Case	µm	pF		Type	Case		Case	
		typ.	± 20 % (2)		min.	C_b = 0.18 pF (3)	min.	C_b = 0.12 pF (3)	min.
EH72004	C2a	60	0.4	3000	DH72004	F27d	3.5	M208	3.7
EH72006	C2a	80	0.6	2900	DH72006	F27d	3.9	M208	4.1
EH72008	C2a	90	0.8	2800	DH72008	F27d	4.2	M208	4.5
EH72010	C2a	110	1.0	2700	DH72010	F27d	4.5	M208	4.7
EH72012	C2a	110	1.2	2700	DH72012	F27d	4.7	M208	4.9
EH72016	C2a	120	1.6	2600	DH72016	F27d	5.0	M208	5.2
EH72020	C2a	140	2.0	2500	DH72020	F27d	5.2	M208	5.5
EH72025	C2a	150	2.5	2400	DH72025	F27d	5.4	M208	5.6
EH72030	C2a	170	3.0	2300	DH72030	F27d	5.5	M208	5.7
EH72037	C2a	190	3.7	2200	DH72037	F27d	5.6	M208	5.7
EH72045	C2a	210	4.5	2000	DH72045	F27d	5.7	M208	5.8
EH72054	C2a	230	5.4	1900	DH72054	F27d	5.8	M208	5.9
			± 10 % (2)			C_b = 0.18 pF (3)		C_b = 0.2 pF (3)	
EH72067	C2b	250	6.7	1800	DH72067	F27d	5.9	BH142	6.0
EH72080	C2b	280	8.0	1700	DH72080	F27d	5.9	BH142	6.0
EH72100	C2b	310	10.0	1600	DH72100	F27d	6.0	BH142	6.0
EH72120	C2b	340	12.0	1500	DH72120	F27d	6.0	BH142	6.0
EH72150	C2b	380	15.0	1400	DH72150	F27d	6.0	BH142	6.0
EH72180	C2b	420	18.0	1300	DH72180	F27d	6.0	BH142	6.0
EH72200	C2b	440	20.0	1200	DH72200	F27d	6.0	BH142	6.0
EH72220	C2c	470	22.0	1100	DH72220	F27d	6.0	BH142	6.0
EH72270	C2c	520	27.0	1000	DH72270	F27d	6.0	BH142	6.0
EH72330	C2c	570	33.0	900	DH72330	F27d	6.0	BH142	6.0
EH72390	C2c	620	39.0	800	DH72390	F27d	6.0	BH142	6.0
			± 10 % (2)			C_b = 0.18 pF (3)			
EH72470	C2d	680	47.0	700	DH72470	BH28	6.0		
EH72560	C2d	740	56.0	600	DH72560	BH28	6.0		
EH72680	C2d	820	68.0	450	DH72680	BH28	6.0		
			± 10 % (2)			C_b = 0.4 pF (3)			
EH72820	C2g	900	82.0	350	DH72820	BH141	6.0		
EH72999	C2g	1000	100.0	250	DH72999	BH141	6.0		

(1) Custom cases available on request

(2) Closer capacitance tolerances available on request

(3) $C_T = C_j + C_b$

Temperature ranges:

Operating junction (T_j) : -55° C to +150° C

Storage : -65° C to +175° C