Silicon Capacitance Diodes

Variable Capacitance Silcon Diodes for automatic frequency control

Type	Characteristics @ T_{amb}=25°C							
	$\overset{@}{V_R}$ = 2 V	V_R = 4 V	V_R = 10 V	$\overset{@}{V_R}$ = 2 V f = 30 MHz	$\overset{@}{V_R}$ = 2 V f = 30 MHz	$\overset{@}{I_F}$ = 60 mA	$\overset{@}{V_R}$ = 10 V	
	C_{tot} pF		C_{tot} pF	C_{tot} pF	r_s Ω	Q	V_F V	I_R nA	$V_{(BR)R}$ V
BA 110	10 (8 . . . 12)		8,3	6,8	1	540	< 0,95	< 50	> 30
BA 110 G [1]	10 . . 16 [1]		—	—	1	540	< 0,95	< 50	> 60
BA 110 U	—	10 (8 . . . 12)		5	1	540	< 1,5	—	> 20
BA 111	55 (45 . . . 65)		45,7	34,7	0,5	200	< 0,95	< 100	> 20
BA 112	100 (80 . . . 120)		83	63	0,5	100	< 0,95	< 200	> 20

[1] Available in 3 groups: C = 10 . . . 12 pF black marking, C = 11,5 . . . 13,5 pF red marking, C = 13 . . . 16 pF blue marking.

Variable Capacitance Silicon Epitaxial Planar Diodes for TV and FM tuners
BA types are in DO-7 glass package; BB types are in 'double-plug' glass package

Type	Characteristics @ T_{amb}=25°C										
	$\overset{@}{V_R}$ = 3 V	V_R = 25 V	$\overset{@}{V_R}$ = 2,9 . . . 25 V	$\overset{@}{V_R}$ = 3 V	$\overset{@}{V_R}$ = 3 V f = 47 MHz	$\overset{@}{V_R}$ = 3 V f = 170 MHz	$\overset{@}{V_R}$ = 3 V		$\overset{@}{V_R}$ = 25 V	$\overset{@}{V_R}$ = 28 V	
	C_{tot} pF	C_{tot} pF	$\frac{C_{tot}\ (2,9\ V)}{C_{tot}\ (25\ V)}$	r_s Ω	Q	Q	f_{Q1} GHz	L_s nH	f_0 GHz	I_R μA	$V_{(BR)R}$ V
BA 141 [1]	12	2,2 . . . 3,2	4,5 (> 4)	0,5	> 300	> 80	> 20	4	> 1,45	< 5	> 30
BA 142 [1]	9 . . . 16	2,2 . . . 3,2	3,5 . . . 6	1	> 160	> 50	> 10	4	> 1,45	< 5	> 30
BB 141	12	2,2 . . . 3,2	4 . . . 5,5	0,5	> 300	> 80	20	2,5	1,9	< 1	> 30
BB 142	9 . . . 16	2,2 . . . 3,2	3,5 . . . 6	1	> 160	> 50	10	2,5	1,9	< 1	> 30

These diodes are available in sets for radio, TV, UHF and VHF tuners. For matching see data sheets.
[1] Not recommended for new designs; replace by BB141 and BB142.

Variable Capacitance Silicon Planer Diode in DO-7 glass package for modulator circuits in DC amplifiers with extremely high input impedance

Type	Characteristics @ T_{amb}=25°C					
	$\overset{@}{V_R} = V_F = 0$	$\overset{@}{V_R} = V_F = 0$	$\overset{@}{V} = 0$	$\overset{@}{V_R}$ = 20 mV	$\overset{@}{V_F}$ = 20 mV	
	C_{tot}pF[1]	dC/dV pF/V	r_s Ω	V_R/I_R GΩ	V_F/I_F GΩ	$V_{(BR)R}$ V
BAY 35	100 (80 . . . 120)	44	0,6	> 20	> 20	> 5

[1] The BAY 35 diode is available in matched pairs. The difference in capacitance value of two matched diodes is 5pF max.

Red = New Type