

Silicon Capacitance Diodes

Variable Capacitance Silicon Diodes for automatic frequency control

Type	Characteristics @ $T_{amb}=25^{\circ}C$							
	$\overset{\textcircled{R}}{V}_R = 2\text{ V}$	$V_R = 4\text{ V}$	$V_R = 10\text{ V}$	$\overset{\textcircled{R}}{V}_R = 2\text{ V}$ $f = 30\text{ MHz}$	$\overset{\textcircled{R}}{V}_R = 2\text{ V}$ $f = 30\text{ MHz}$	$\overset{\textcircled{F}}{I}_F = 60\text{ mA}$	$\overset{\textcircled{R}}{V}_R = 10\text{ V}$	
	$C_{tot}\text{ pF}$	$C_{tot}\text{ pF}$	$C_{tot}\text{ pF}$	$r_s\ \Omega$	Q	$V_F\text{ V}$	$I_R\text{ nA}$	$V_{(BR)R}\text{ V}$
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 @ $T_{amb}=25^{\circ}C$											
	$\overset{\textcircled{R}}{V}_R = 3\text{ V}$	$V_R = 25\text{ V}$	$\overset{\textcircled{R}}{V}_R = 2,9...25\text{ V}$	$\overset{\textcircled{R}}{V}_R = 3\text{ V}$	$\overset{\textcircled{R}}{V}_R = 3\text{ V}$ $f = 47\text{ MHz}$	$\overset{\textcircled{R}}{V}_R = 3\text{ V}$ $f = 170\text{ MHz}$	$\overset{\textcircled{R}}{V}_R = 3\text{ V}$	$\overset{\textcircled{R}}{V}_R = 25\text{ V}$	$\overset{\textcircled{R}}{V}_R = 28\text{ V}$			
	$C_{tot}\text{ pF}$	$C_{tot}\text{ pF}$	$\overset{\textcircled{R}}{C}_{tot}(2,9\text{ V})$		$r_s\ \Omega$	Q	Q	$f_{Q1}\text{ GHz}$	$L_s\text{ nH}$	$f_0\text{ GHz}$	$I_R\ \mu\text{A}$	$V_{(BR)R}\text{ V}$
			$\overset{\textcircled{R}}{C}_{tot}(25\text{ V})$									
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		i	> 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 @ $T_{amb}=25^{\circ}C$					
	$\overset{\textcircled{R}}{V}_R = V_F = 0$	$\overset{\textcircled{R}}{V}_R = V_F = 0$	$\overset{\textcircled{V}}{V} = 0$	$\overset{\textcircled{R}}{V}_R = 20\text{ mV}$	$\overset{\textcircled{F}}{V}_F = 20\text{ mV}$	
	$C_{tot}\text{ pF}^1$	$dC/dV\text{ pF/V}$	$r_s\ \Omega$	$V_R/I_R\text{ G}\Omega$	$V_F/I_F\text{ G}\Omega$	$V_{(BR)R}\text{ V}$
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