Ordering number :EN684E

SVC211SPA

Diffused Junction Type Silicon Diode

Varactor Diode (IOCAP)
for FM Low-Voltage Electronic Tuning

Features

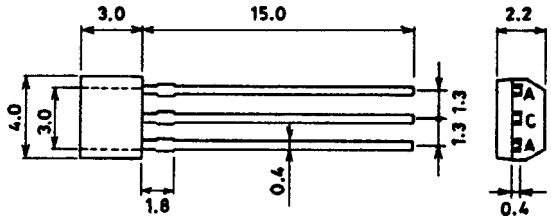
· Twin type varactor diode being excellent in large input characteristic and intended for use in high-voltatge FM electronic applications.

Package Dimensions

unit:mm

1129

[SVC211SPA]



C:Cathode
A:Anode

SANYO:SPA

Specifications

Absolute Maximum Ratings at Ta = 25˚C

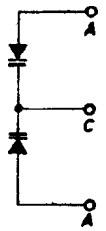
Parameter	Symbol	Conditions	Ratings	Unit
Reverse Voltage	V_R		–32	V
Junction Temperature	Tj		125	˚C
Storage Temperature	Tstg		–55 to 125	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Breakdown Voltage	$V_{(BR)R}$	I_R=–10μA	–32			V
Reverse Current	I_R	V_R=–30V			–50	nA
Interterminal Capacitance*	$C_{3.0V}$	V_R=–3.0V, f=1MHz	37.0		42.0	pF
	C_{25V}	V_R=–25V, f=1MHz	14.8		18.2	pF
Capacitance Ratio*	CR	$C_{3.0V}/C_{25V}$, f=100MHz	2.32		2.55	
Quality Factor	Q	V_R=–3.0V, f=100MHz	100			

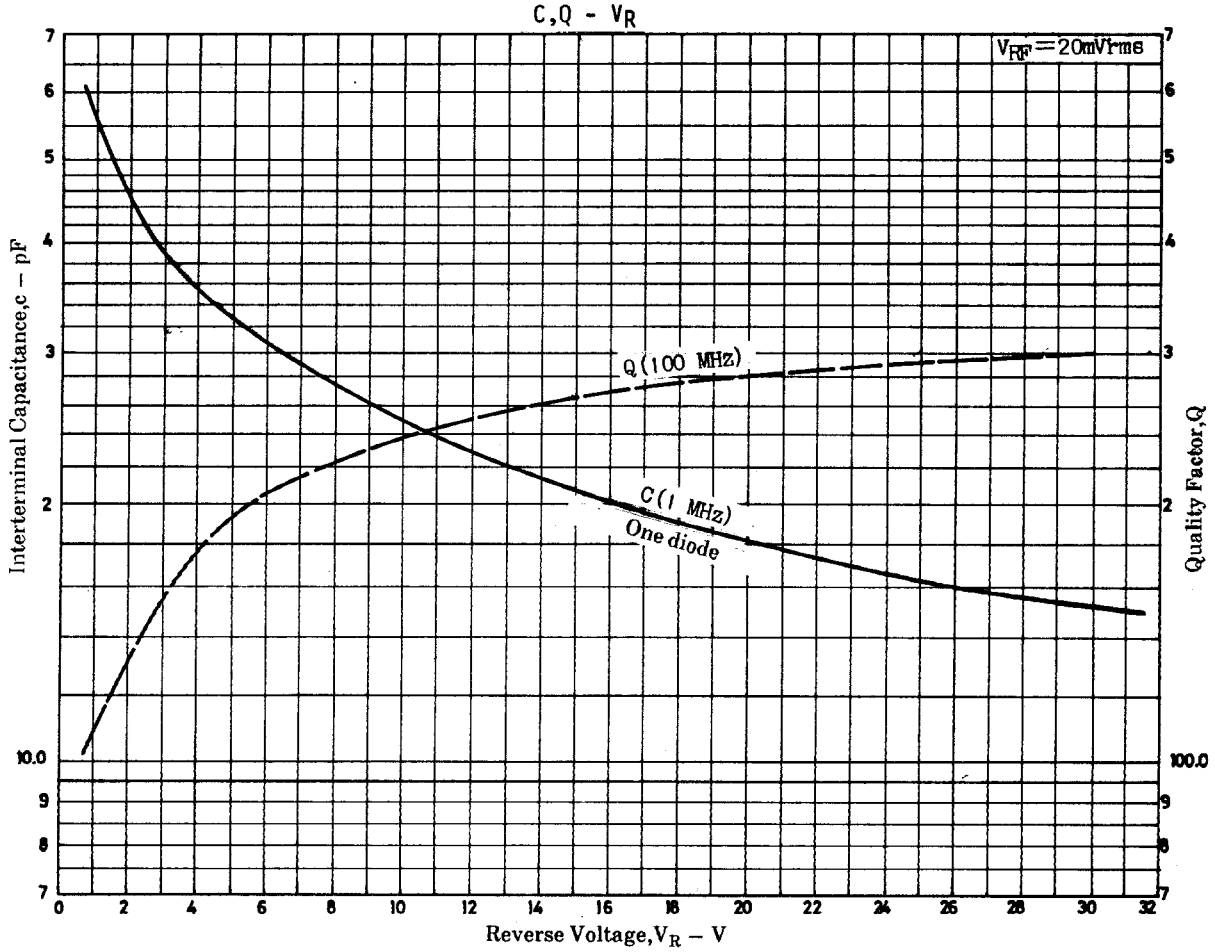
Note)*:Capacitance value of one diode

Electrical Connection

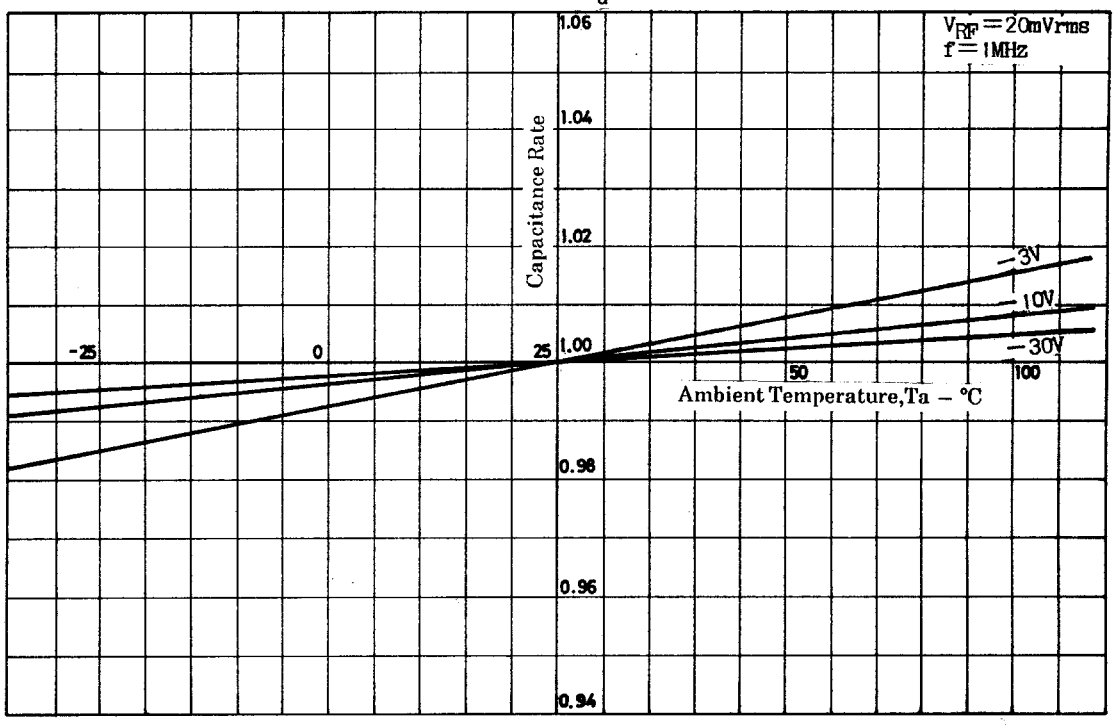


A:Anode
C:Cathode

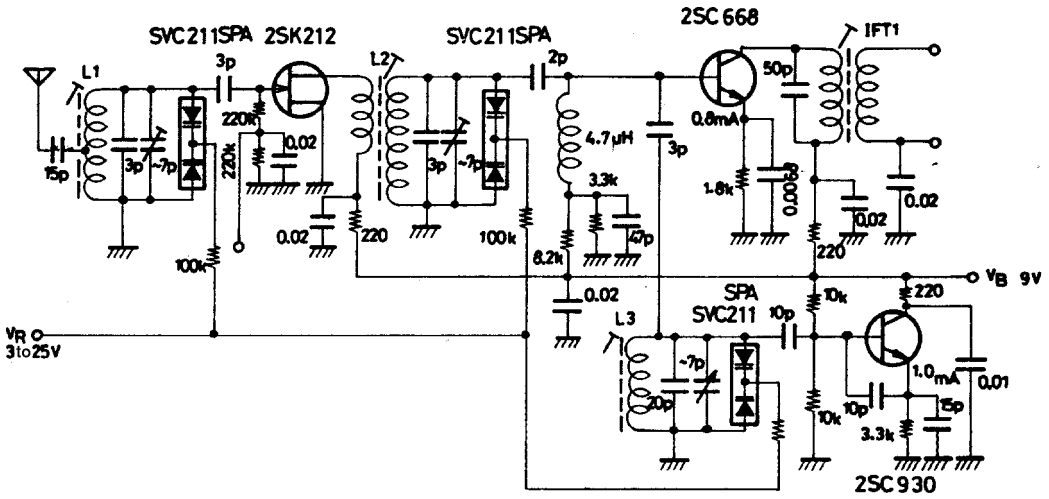
C,Q - V_R


V_{RF}=20mVrms
Q(100 MHz)
C(1 MHz)
One diode
Interterminal Capacitance,c – pF
Quality Factor,Q
Reverse Voltage,V_R – V
7
6
5
4
3
2
10.0
9
8
7
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
100.0

C - T_a


V_{RF}=20mVrms
f=1MHz
Capacitance Rate
1.06
1.04
1.02
1.00
0.98
0.96
0.94
-3V
-10V
-30V
-25
0
25
50
100
Ambient Temperature,Ta – °C

Sample Application Circuit:FM electronic tuner using SVC211SPA

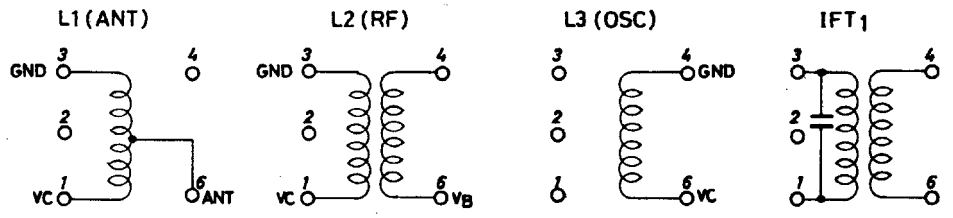


Unit (resistance: Ω, capacitance: F)

· Main Characteristics

f	PG	NF	Image interference ratio
88 MHz	31.0 dB	6.2 dB	50.0 dB
98 MHz	31.7 dB	5.5 dB	46.7 dB
108 MHz	31.2 dB	5.7 dB	42.0 dB

· Coil Data



L1 (ANT): 1 − 3 3¾ T; 1 − 6 ½ T; Wire diameter 0.6mm∅; Winding inside diameter 5mm∅

L2 (RF): 1 − 3 3¾ T; 4 − 6 2¾ T; Wire diameter 0.6mm∅; Winding inside diameter 5mm∅

L3 (OSC): 4 − 6 3½ T; Wire diameter 0.6mm∅; Winding inside diameter 5mm∅

IFT1: 1 − 3 17 T; 4 − 6 5 T; Wire diameter 0.1mm∅; 7mm square