Ordering number :EN953C

SVC203SPA

Diffused Junction Type Silicon Diode

Varactor Diode (IOCAP)
for FM Receiver Electronic Tuning

Features

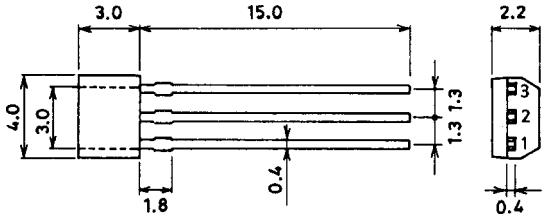
· The SVC203SPA is a varactor diode of dual type with a good linearity of C-V characteristic. It excels in temperature characteristic, large input characteristics and suitable for use in FM electronic tuning appilications (low voltage).

Package Dimensions

unit:mm

1129A

[SVC203SPA]



1,3:Anode
2:Cathode

SANYO:SPA

Specifications

Absolute Maximum Ratings at Ta = 25˚C

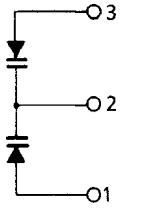
Parameter	Symbol	Conditions	Ratings	Unit
Reverse Voltage	V_R		16	V
Forward Current	I_F		100	mA
Allowable Power Dissipation	P_D		100	mW
Junction Temperature	Tj		125	˚C
Storage Temperature	Tstg		–55 to +125	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Breakdown Voltage	$V_{(BR)R}$	I_R=10μA	16			V
Reverse Current	I_R	V_R=10μA			50	nA
Interterminal Capacitance*	$C_{3.0V}$	V_R=3.0V	36.92		43.03	pF
	$C_{4.5V}$	V_R=4.5V	26.13		34.45	pF
	$C_{6.0V}$	V_R=6.0V	18.04		25.61	pF
	$C_{8.0V}$	V_R=8.0V	12.64		16.84	pF
Quality Factor	Q	V_R=3.0V, f=100MHz	60			
Capacitance Ratio	CR	$C_{3.0V}/C_{8.0V}$	2.50		3.00	
Matching Tolerance	ΔC_m	$(C_{max}–C_{min})/C_{min}$, V_R=2.0V to 8.0V			0.03	

Note)*:Capacitance value of one diode

Electrical Connection



1,3:Anode
2:Cathode

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

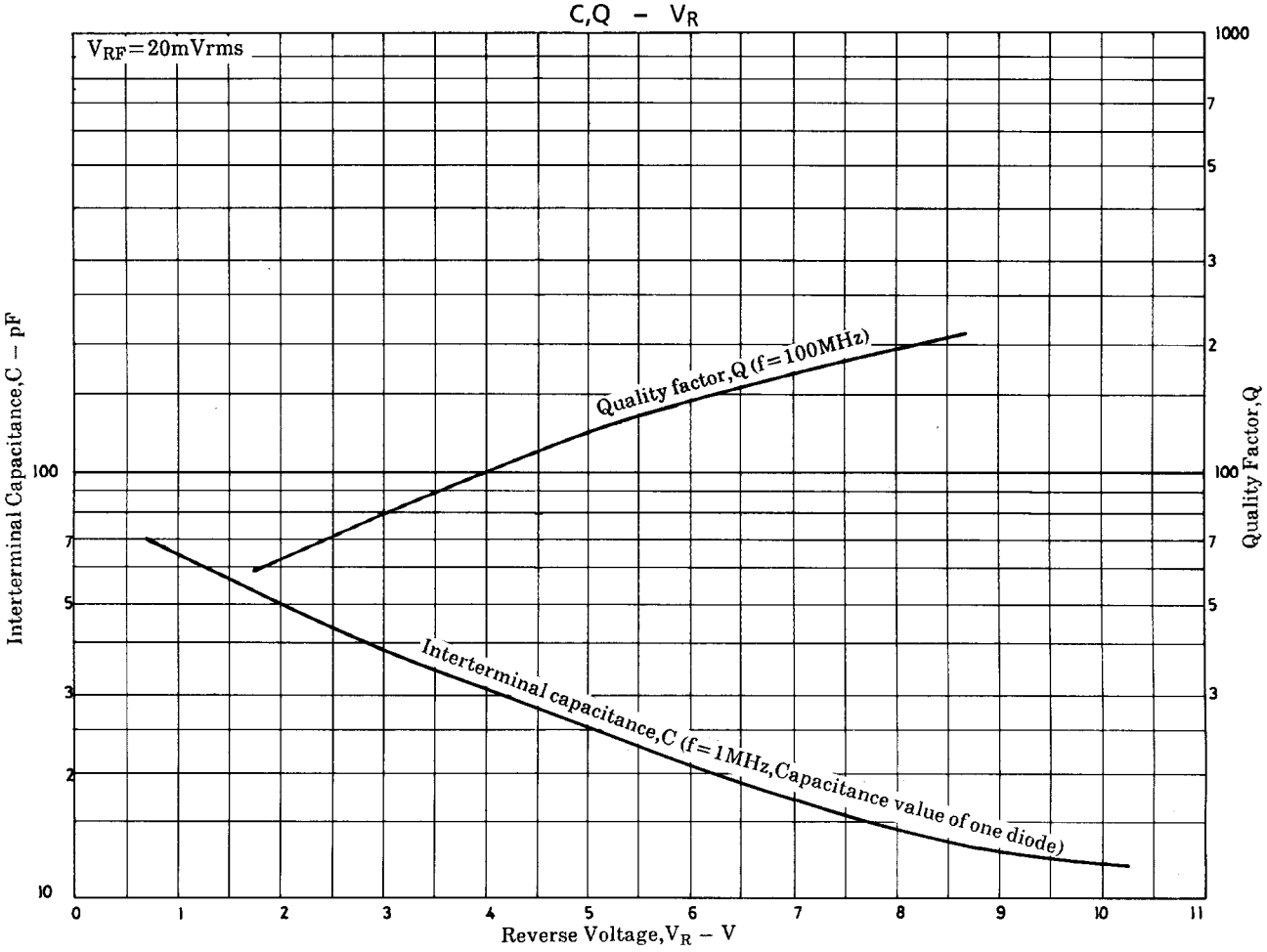
Address and Capacitance Value

V_R=3.0V		V_R=4.5V		V_R=6.0V		V_R=8.0V	
Address	Capacitance (pF)	Address	Capacitance (pF)	Address	Capacitance (pF)	Address	Capacitance (pF)
63	36.92~38.02	49	26.13~26.92	34	18.04~18.59	19	12.46~12.83
64	37.85~38.98	50	26.78~27.59	35	18.49~19.05	20	12.77~13.15
65	38.79~39.96	51	27.45~28.27	36	18.95~19.52	21	13.09~13.48
66	39.76~40.95	52	28.14~28.98	37	19.43~20.01	22	13.42~13.82
67	40.76~41.98	53	28.85~29.71	38	19.91~20.51	23	13.76~14.17
68	41.78~43.03	54	29.57~30.45	39	20.41~21.02	24	14.09~14.52
		55	30.30~31.21	40	20.93~21.56	25	14.44~14.88
		56	31.06~31.99	41	21.45~22.09	26	14.81~15.26
		57	31.84~32.80	42	21.98~22.64	27	15.18~15.64
		58	32.63~33.61	43	22.53~23.21	28	15.56~16.03
		59	33.45~34.45	44	23.09~23.78	29	15.95~16.43
				45	23.67~24.38	30	16.35~16.84
				46	24.27~25.00		
				47	24.87~25.61		

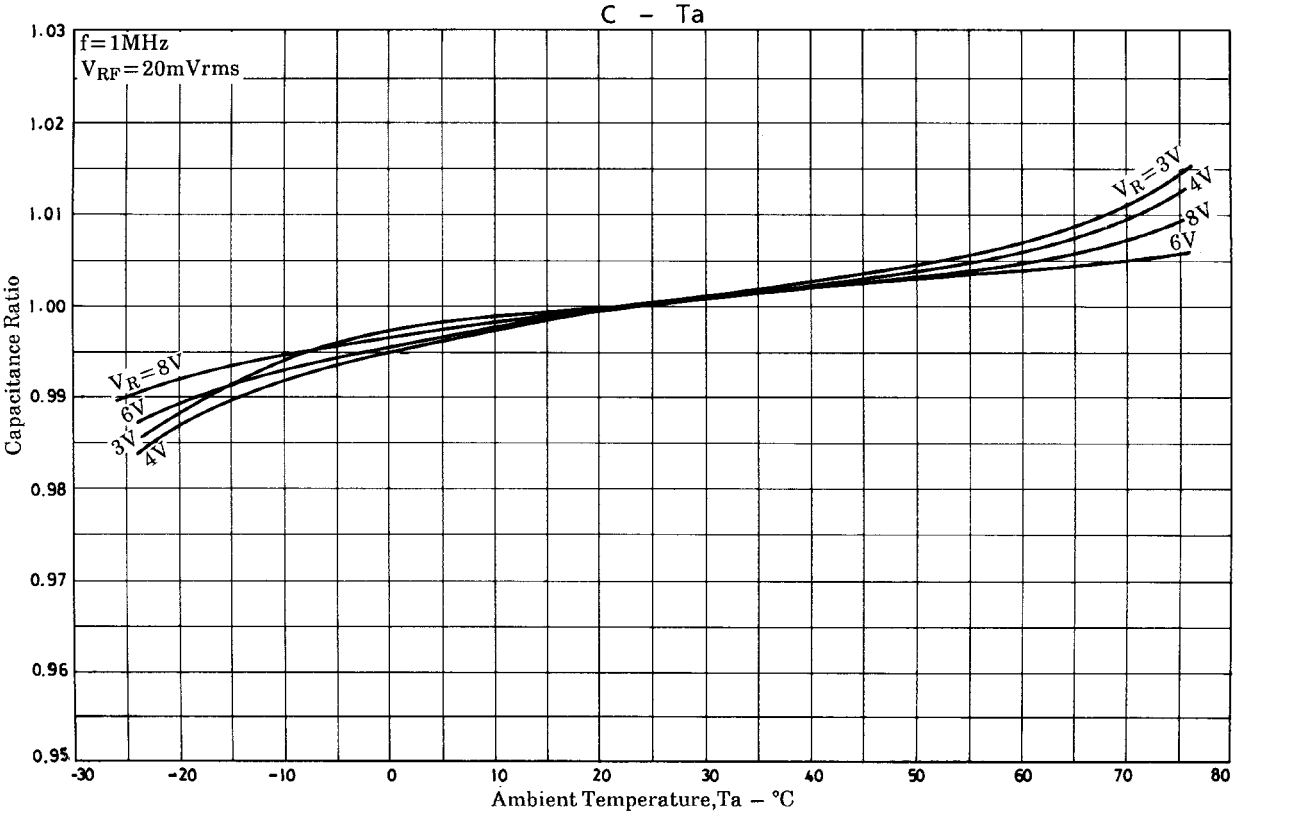
Rank Width

$C_{3.0V}$ \ $C_{8.0V}$	19	20	21	22	23	24	25	26	27	28	29	30
63												
64												
65												
66												
67												
68												

C,Q – V_R


V_{RF}=20mVrms
Quality factor,Q (f=100MHz)
Interterminal capacitance,C (f=1MHz,Capacitance value of one diode)
Interterminal Capacitance,C – pF
Quality Factor,Q
Reverse Voltage,V_R – V
1000
100
10
0
1
2
3
4
5
6
7
8
9
10
11

C – Ta


f=1MHz
V_{RF}=20mVrms
V_R=3V
4V
8V
6V
V_R=8V
6V
3V
4V
Capacitance Ratio
Ambient Temperature,Ta – °C
1.03
1.02
1.01
1.00
0.99
0.98
0.97
0.96
0.95
-30
-20
-10
0
10
20
30
40
50
60
70
80