Ordering number : ENN501I

Diffused Junction Type Silicon Diode

SVC201SPA

Varactor Diode (IOCAP) for FM Receiver Electronic Tuning

Features

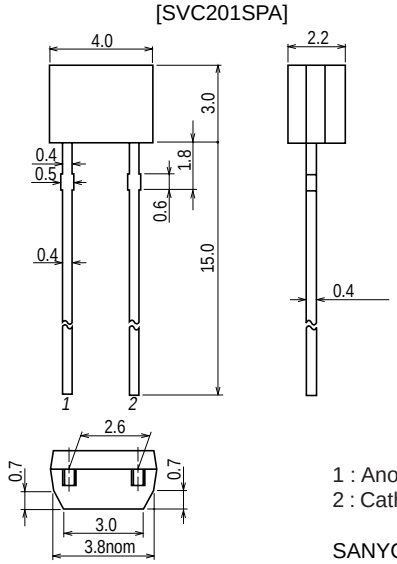
- The SVC201SPA, 201Y are varactor diodes of hyper abrupt junction structure fabricated with ion implantation technology.
  It is intended for use in FM receiver electronic tuning applications.
  - Capable of being operated from a low voltage (Voltage range : 1 to 9V).
  - High Q.
  - High Capacitance raito.
  - Uniform capacistance-voltage characteristic provided diode to be used in combination.

Package Dimensions

unit : mm

1184

[SVC201SPA]



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Reverse Voltage	V_R		16	V
Junction Temperature	Tj		100	°C
Storage Temperature	Tstg		–55 to +100	°C

Electrical Characteristics at Ta=25°C

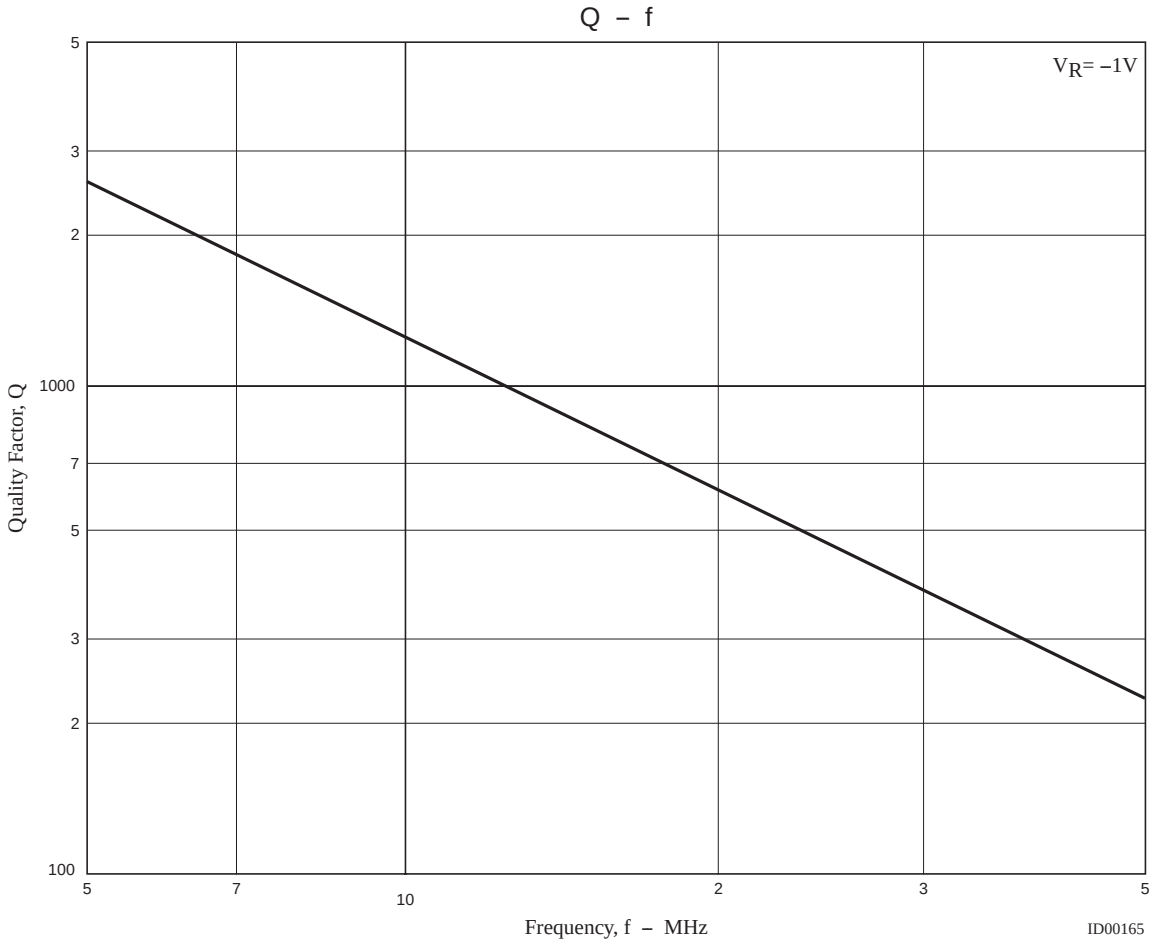
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Breakdown Voltage	$V_{(BR)R}$	I_R=10μA	16			V
Reverse Current	I_R	V_R=9V			50	nA
Interterminal Capacitance	$C_{1.6V}$	V_R=1.6V, f=1MHz	28.19		37.45	pF
	$C_{3.5V}$	V_R=3.5V, f=1MHz	19.04		24.33	pF
	$C_{5.0V}$	V_R=5.0V, f=1MHz	14.48		18.49	pF
	$C_{7.5V}$	V_R=7.5V, f=1MHz	10.17		12.99	pF
Capacitance Ratio	C_R	$C_{1.6V}$ / $C_{7.5V}$	2.2		3.7	
Series Resistance	r_s	f=50MHz, V_R=1V			0.6	Ω
Matching Tolerance	ΔC_m	$(C_{max} - C_{min}) / C_{min}$			0.05	

SANYO Electric Co.,Ltd. Semiconductor Company

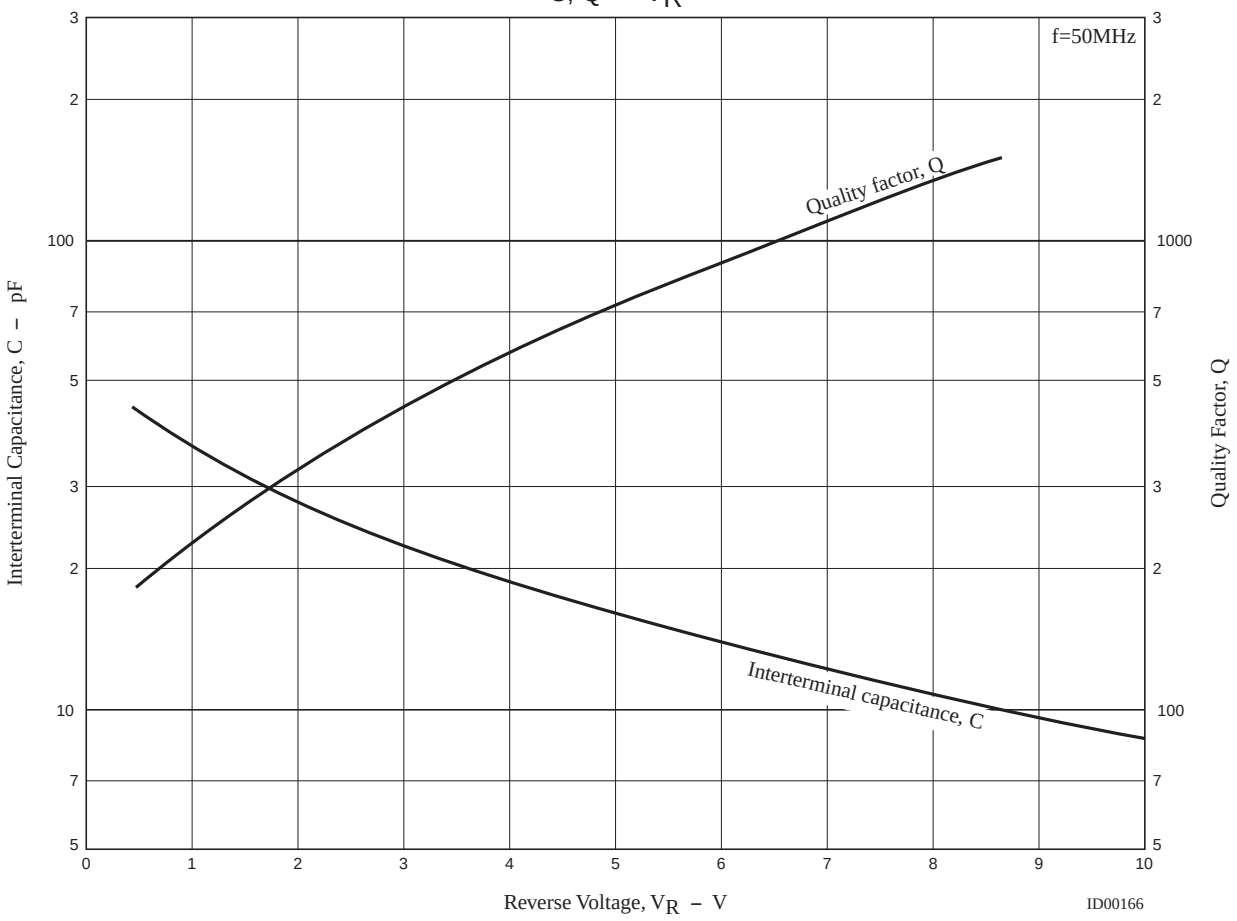
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Address and Capacitance Value

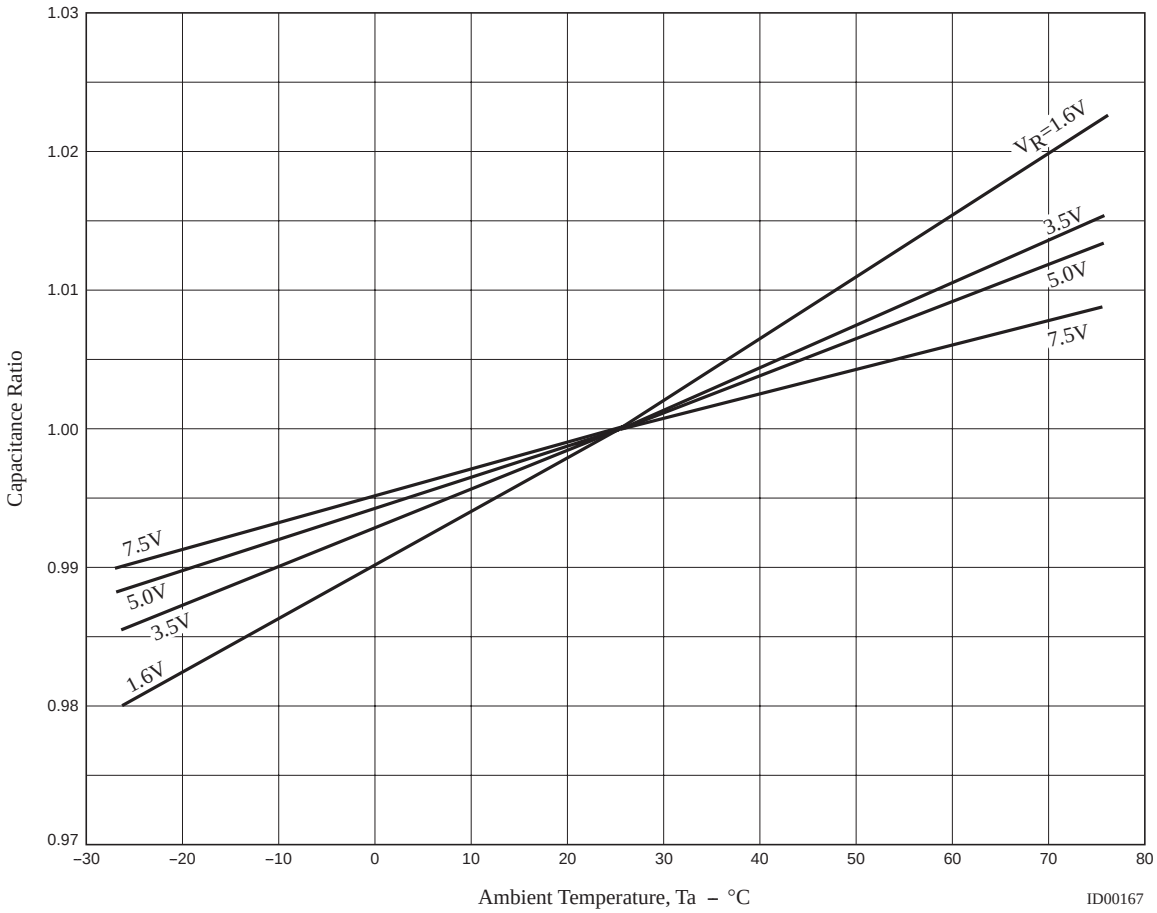
TEST POINT	C=1.6V		C=3.5V		C=5.0V		C=7.5V	
	Address	Capacitance(pF)	Address	Capacitance(pF)	Address	Capacitance(pF)	Address	Capacitance(pF)
CAPACITANCE VALUE	38	37.45 35.67	27	24.33 23.17	20	18.49 17.61	11	12.99 12.37
	37	36.01 34.30	26	23.39 22.28	19	17.78 16.93	10	12.50 11.90
	36	34.63 32.98	25	22.49 21.42	18	17.09 16.28	9	12.01 11.44
	35	33.30 31.71	24	21.63 20.60	17	16.43 15.65	8	11.54 10.99
	34	32.02 30.50	23	20.80 19.81	16	15.81 15.05	7	11.11 10.58
	33	30.79 29.32	22	20.00 19.04	15	15.20 14.48	6	10.68 10.17
	32	29.60 28.19						



C, Q – V_R


f=50MHz
Quality factor, Q
Interterminal capacitance, C
Interterminal Capacitance, C – pF
Quality Factor, Q
Reverse Voltage, V_R – V
ID00166

C – Ta


V_R=1.6V
3.5V
5.0V
7.5V
7.5V
5.0V
3.5V
1.6V
Capacitance Ratio
Ambient Temperature, Ta – °C
ID00167