Ordering number : EN2195H

SANYO Semiconductors
DATA SHEET

SVC203C — Varactor Diode for FM Low-Voltage Electronic Tuning Use

Diffused Junction Type Silicon Diode

Features

- Dual type with a good linearity of C-V characteristic. Excels in large input characteristics.
- Small-sized package (CP) usable in ultrasmall-sized sets (surface mount type).
- Applicable to FM wide band due to high capacitance ratio (V_R=1.5 to 9V).

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Reverse Voltage	V_R		16	V
Junction Temperature	Tj		125	°C
Storage Temperature	Tstg		–55 to +125	°C

Electrical Characteristics at Ta=25°C

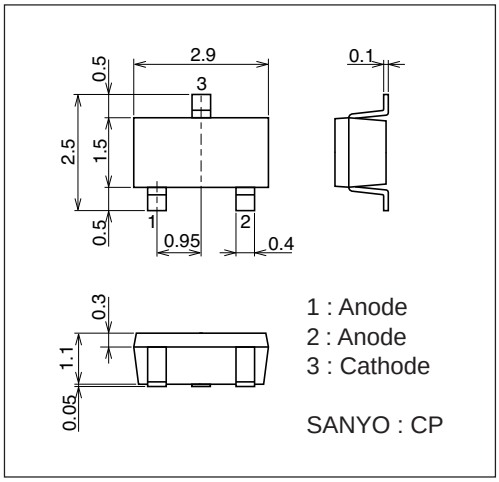
Parameter	Symbol	Conditions	Ratings min	Ratings typ	Ratings max	Unit
Breakdown Voltage	$V_{(BR)R}$	I_R=1μA	16			V
Reverse Current	I_R	V_R=10V			50	nA
Interterminal Capacitance *	$C_{1.0V}$	V_R=1.0V, f=1MHz	58.80		65.98	pF
	$C_{6.0V}$	V_R=6.0V, f=1MHz	18.72		25.11	pF
	$C_{9.0V}$	V_R=9.0V, f=1MHz	10.84		13.40	pF
Quality Factor	Q	V_R=3.0V, f=100MHz	60			
Capacitance Ratio	CR	C1.0V / C9.0V	4.6			
Matching Tolerance	ΔCm	V_R=1.0V, $\frac{(Cmax - Cmin)}{Cmin} \times 100$			6.5	%
		V_R=6.0V, $\frac{(Cmax - Cmin)}{Cmin} \times 100$			5.5	%
		V_R=9.0V, $\frac{(Cmax - Cmin)}{Cmin} \times 100$			11.8	%

* Capacitance value of one diode

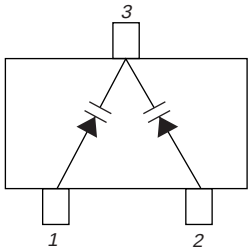
Package Dimensions

unit : mm (typ)

7013A-006



Electrical Connection



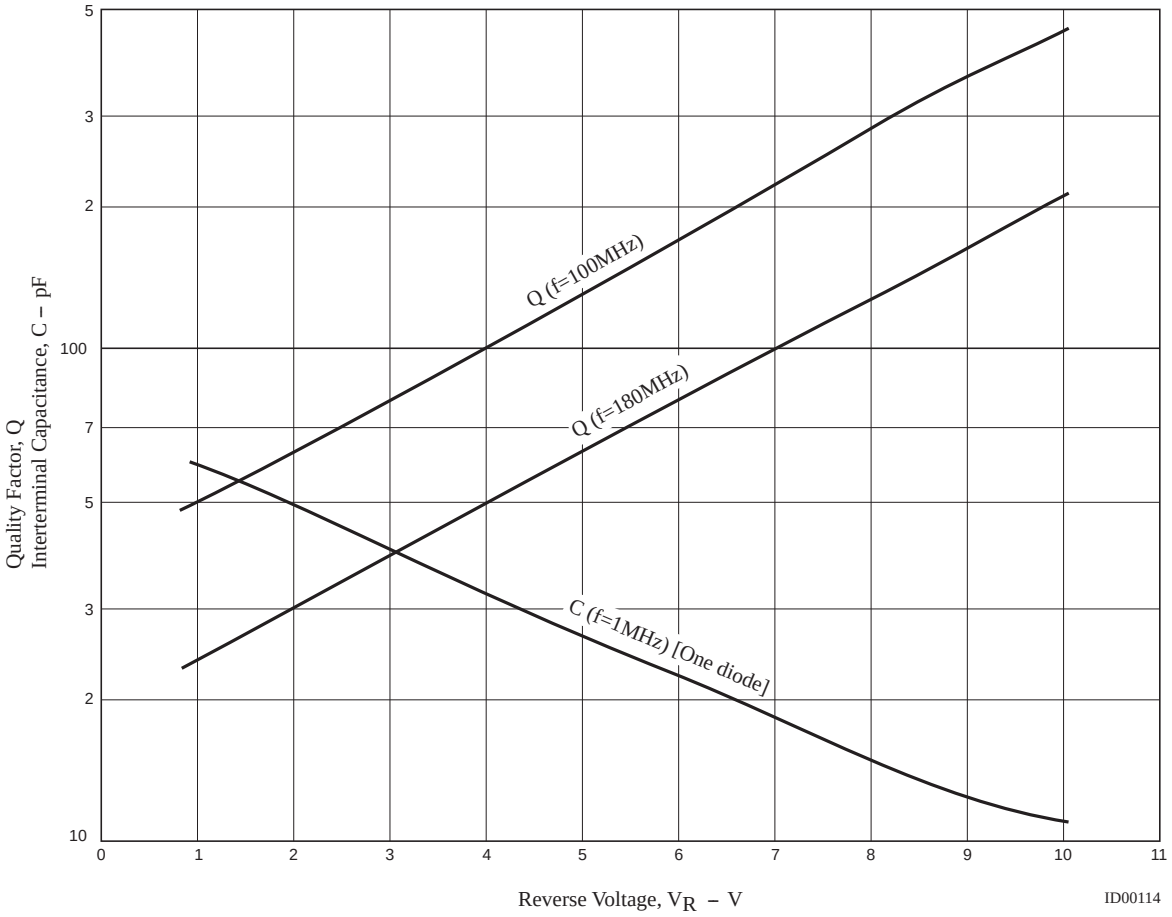
1 : Anode
2 : Anode
3 : Cathode

Top view

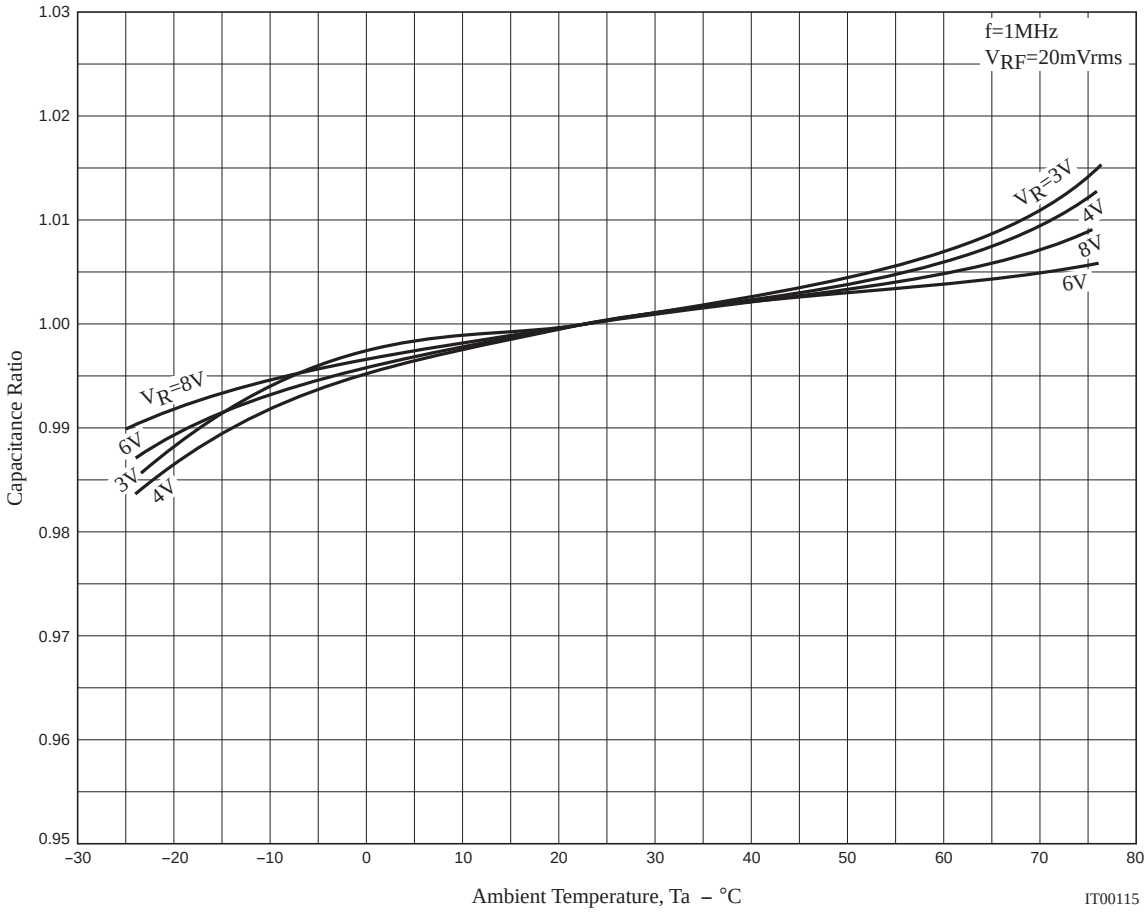
Address and Capacitance Value (Reference Value)

C1.0V		C6.0V		C9.0V	
Address	Capacitance (pF)	Address	Capacitance (pF)	Address	Capacitance (pF)
11	59.10 62.92	61	18.91 19.95	91	10.89 12.17
12	61.97 65.65	62	19.76 20.85	92	11.93 13.33
		63	20.64 21.79		
		64	21.57 22.77		
		65	22.55 23.80		
		66	23.56 24.87		

C, Q – V_R


Quality Factor, Q
Interterminal Capacitance, C – pF
Q (f=100MHz)
Q (f=180MHz)
C (f=1MHz) [One diode]
Reverse Voltage, V_R – V
ID00114

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
IT00115