



# 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  $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Reverse Voltage	$V_R$		16	V
Junction Temperature	$T_j$		125	$^\circ\text{C}$
Storage Temperature	$T_{\text{stg}}$		-55 to +125	$^\circ\text{C}$

**Electrical Characteristics** at  $T_a=25^\circ\text{C}$

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

\* Capacitance value of one diode

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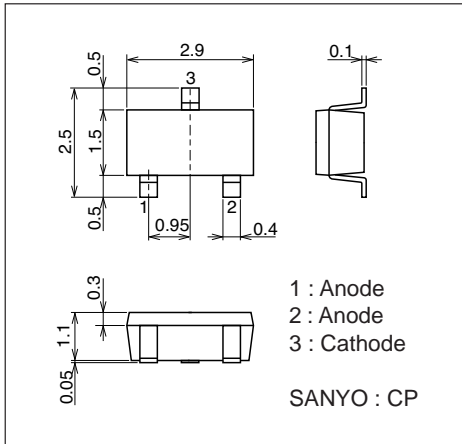
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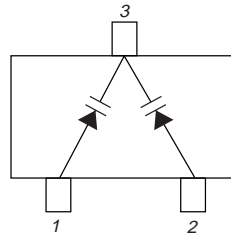
## Package Dimensions

unit : mm (typ)

7013A-006



## Electrical Connection



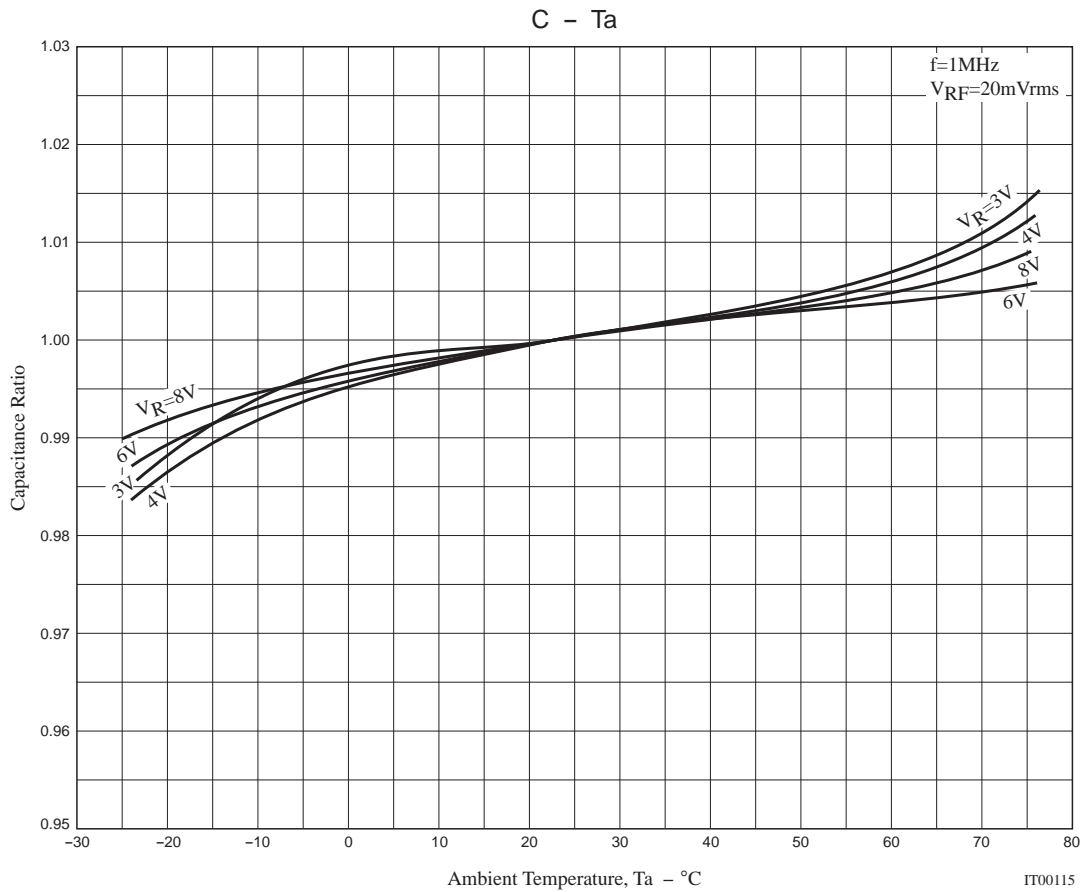
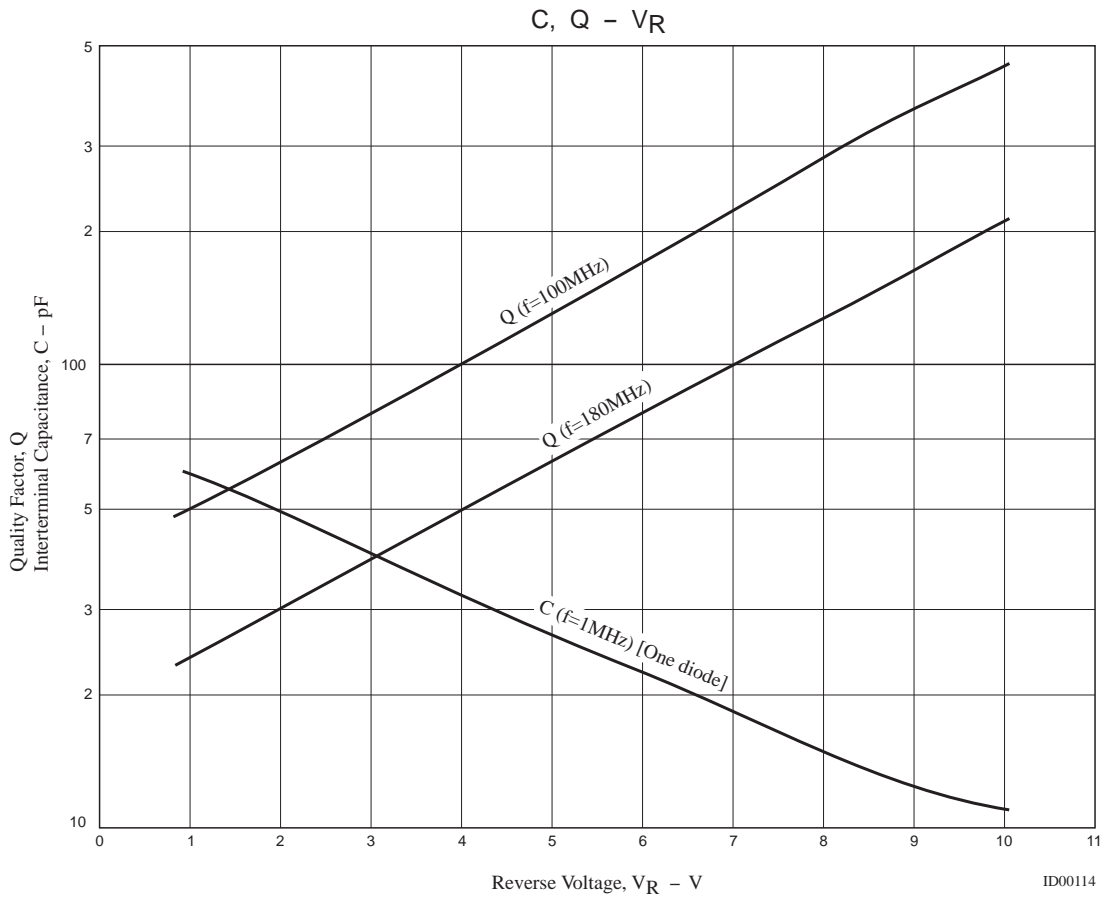
1 : Anode  
2 : Anode  
3 : Cathode

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	61	18.91	91	10.89
	62.92		19.95		12.17
12	61.97	62	19.76	92	11.93
	65.65		20.85		13.33
		63	20.64		
			21.79		
		64	21.57		
			22.77		
		65	22.55		
			23.80		
		66	23.56		
			24.87		

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