



SANYO Semiconductors

DATA SHEET

SVC203CP — 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_{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	$V_{(BR)R}$	$I_R=1\mu\text{A}$	16			V
Reverse Current	I_R	$V_R=10V$			50	nA
Interterminal Capacitance *	C1.0V	$V_R=1.0V, f=1\text{MHz}$	58.80		65.98	pF
	C6.0V	$V_R=6.0V, f=1\text{MHz}$	18.72		25.11	pF
	C9.0V	$V_R=9.0V, f=1\text{MHz}$	10.84		13.40	pF
Quality Factor	Q	$V_R=3.0V, f=100\text{MHz}$	60			
Capacitance Ratio	CR	C1.0V / C9.0V	4.6			
Matching Tolerance	ΔC_m	$V_R=1.0V$	$\frac{(C_{\text{max}} - C_{\text{min}})}{C_{\text{min}}} \times 100$		6.5	%
		$V_R=6.0V$			5.5	%
		$V_R=9.0V$			11.8	%

* Capacitance value of one diode

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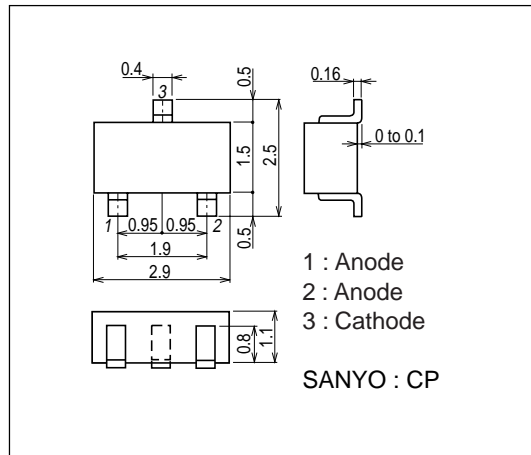
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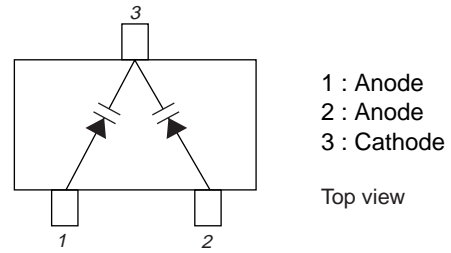
Package Dimensions

unit : mm

1169A



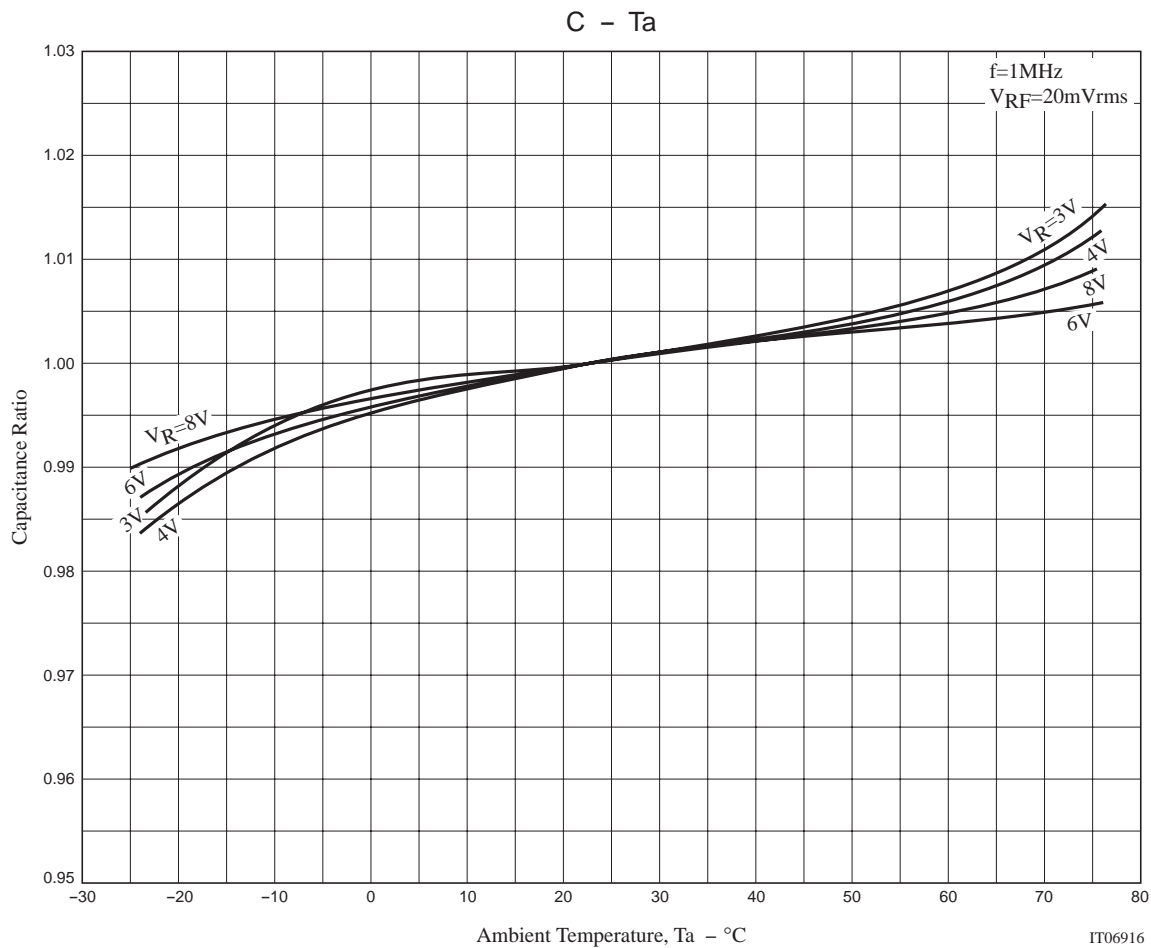
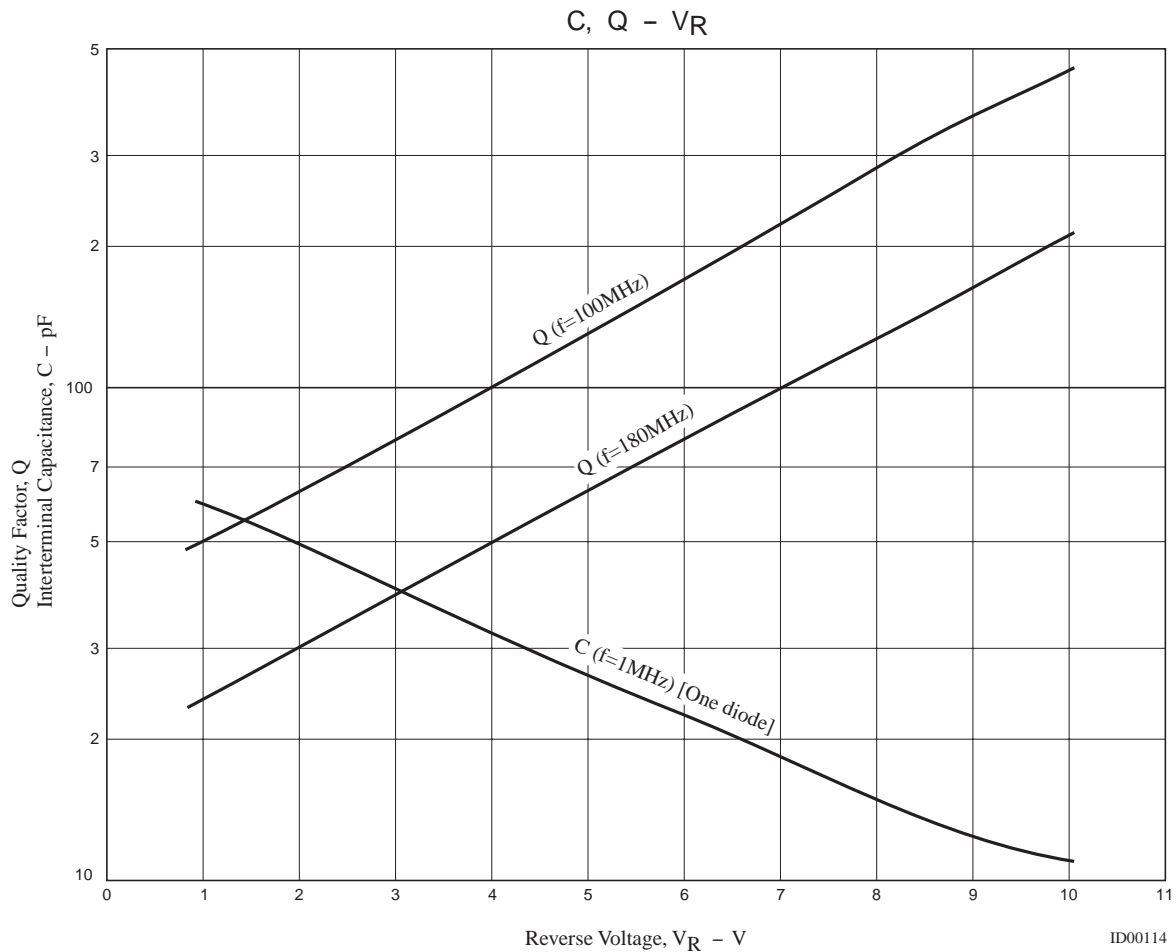
Electrical Connection



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		

SVC203CP



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