

# SVC203C



ON Semiconductor®

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## Varactor Diode

Monolithic dual Varactor Diode for FM Tuning  
16V, 50nA, CR=4.6, Q=60

### 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  $T_a=25^\circ C$

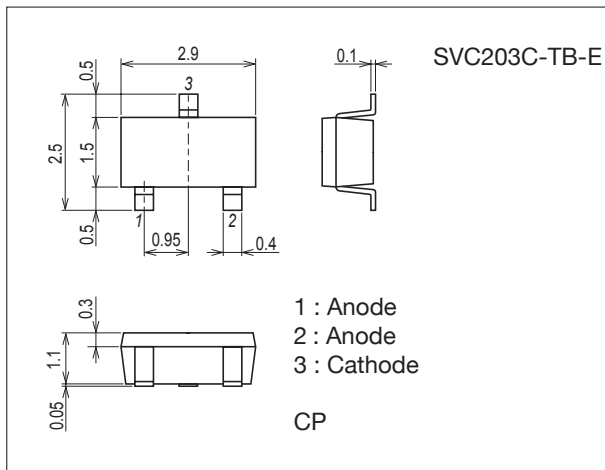
Parameter	Symbol	Conditions	Ratings	Unit
Reverse Voltage	$V_R$		16	V
Junction Temperature	$T_j$		125	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +125	$^\circ C$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

### Package Dimensions

unit : mm (typ)

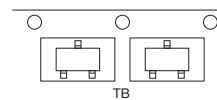
7013A-006



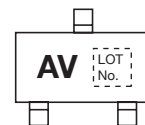
### Product & Package Information

- Package : CP
- JEITA, JEDEC : SC-59, TO-236, SOT-23, TO-236AB
- Minimum Packing Quantity : 3,000 pcs./reel

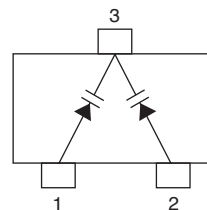
### Packing Type: TB



### Marking



### Electrical Connection



### ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

# SVC203C

## Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Breakdown Voltage	V <sub>(BR)R</sub>	I <sub>R</sub> =10μA	16			V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =10V			50	nA
Interterminal Capacitance*	C1.0V	V <sub>R</sub> =1.0V, f=1MHz	58.80		65.98	pF
	C6.0V	V <sub>R</sub> =6.0V, f=1MHz	18.72		25.11	pF
	C9.0V	V <sub>R</sub> =9.0V, f=1MHz	10.84		13.40	pF
Quality Factor	Q	V <sub>R</sub> =3.0V, f=100MHz	60			
Capacitance Ratio	C <sub>R</sub>	C1.0V / C9.0V	4.6			
Matching Tolerance	ΔC <sub>m</sub>	V <sub>R</sub> =1.0V	$\frac{(C_{max} - C_{min})}{C_{min}} \times 100$		6.5	%
		V <sub>R</sub> =6.0V			5.5	%
		V <sub>R</sub> =9.0V			11.8	%

\* Capacitance value of one diode

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

## Address and Capacitance Value (Reference Value)

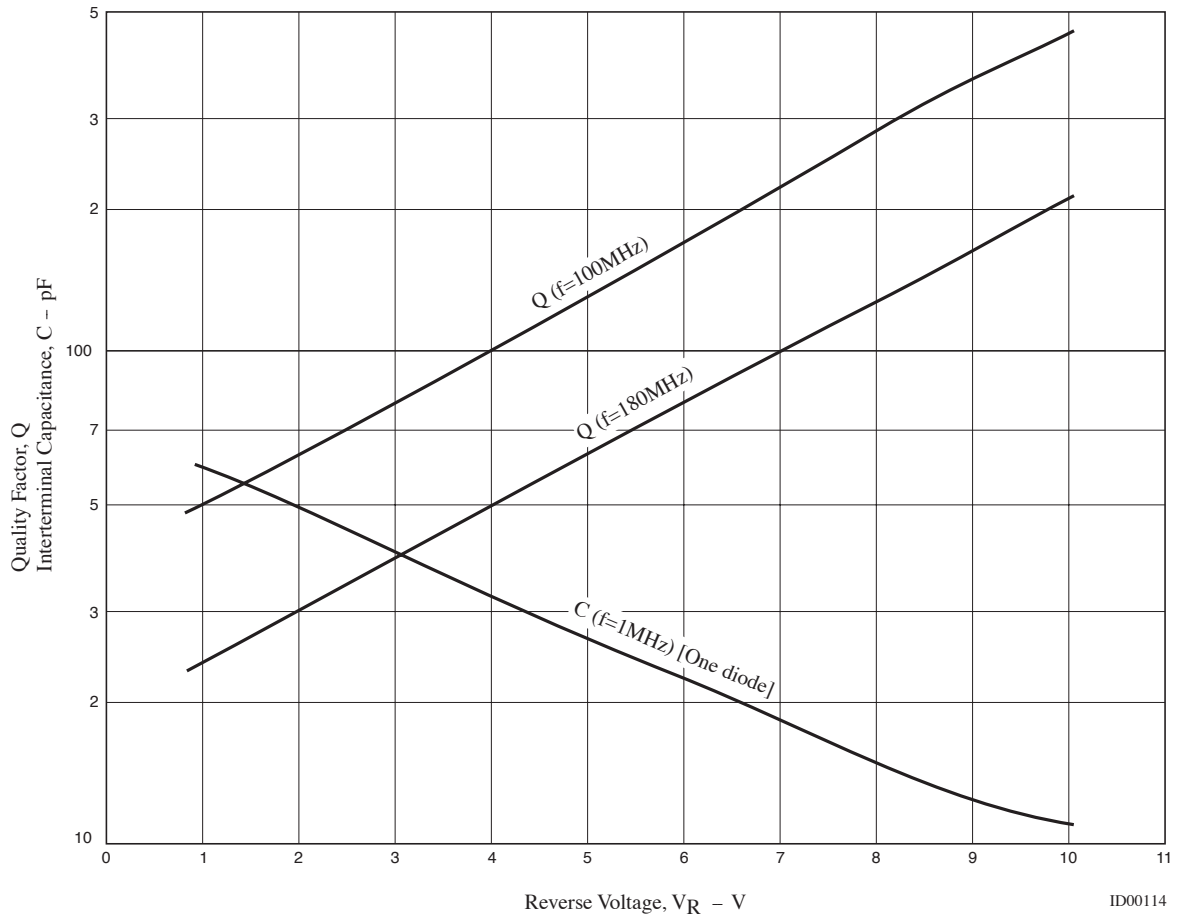
C1.0V		C6.0V		C9.0V	
Address	Capacitance (pF)	Address	Capacitance (pF)	Address	Capacitance (pF)
11	59.10	61	18.91	91	10.89
	62.92		19.95		12.17
12	61.97	62	19.76	92	11.93
	65.65		20.85		13.33
		63	20.64		
			21.79		
		64	21.57		
			22.77		
		65	22.55		
			23.80		
		66	23.56		
			24.87		

## ORDERING INFORMATION

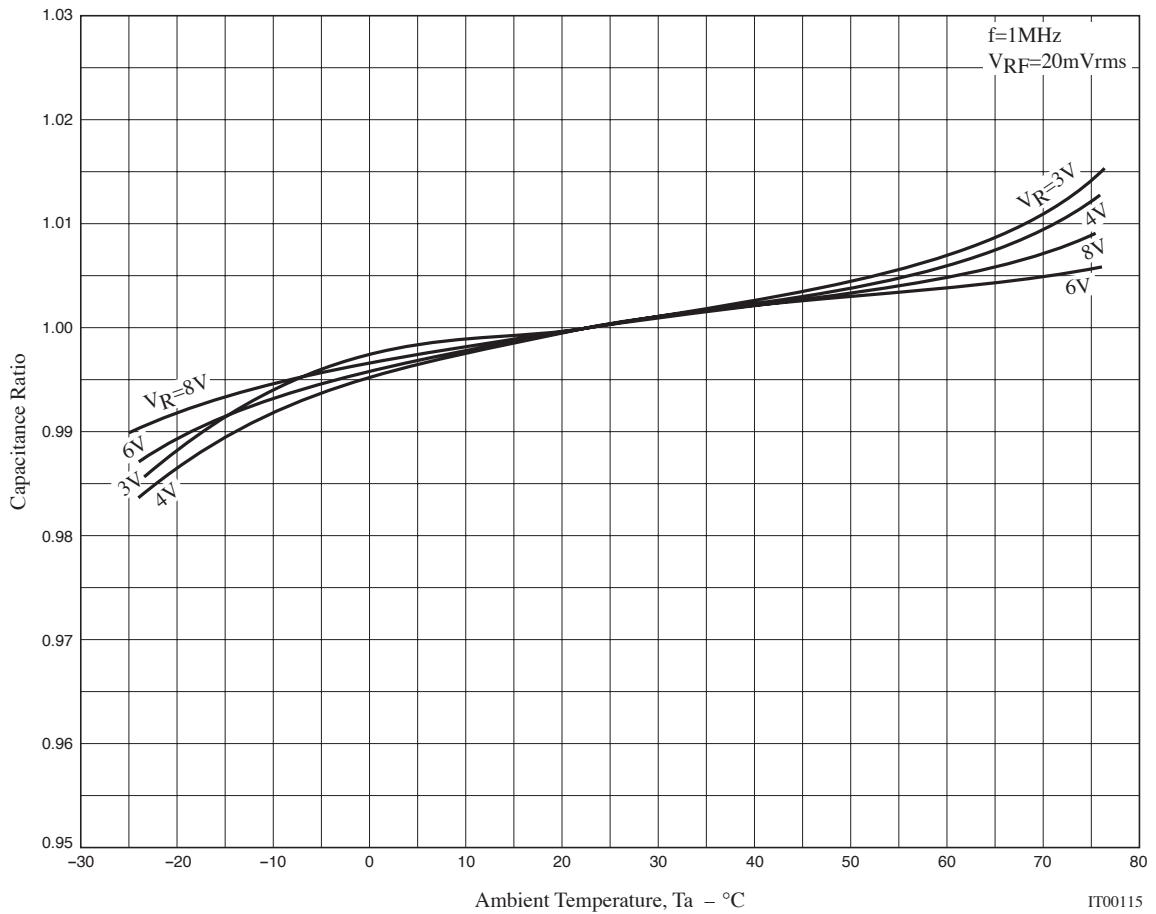
Device	Package	Shipping	memo
SVC203C-TB-E	CP	3,000pcs./reel	Pb-Free

# SVC203C

C, Q - V<sub>R</sub>



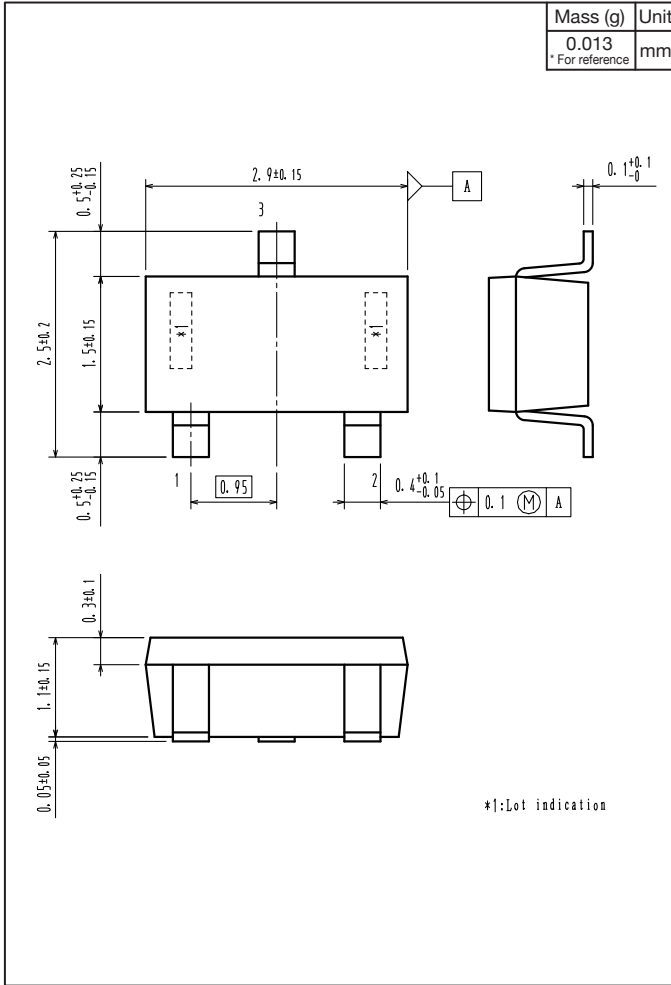
C - T<sub>a</sub>



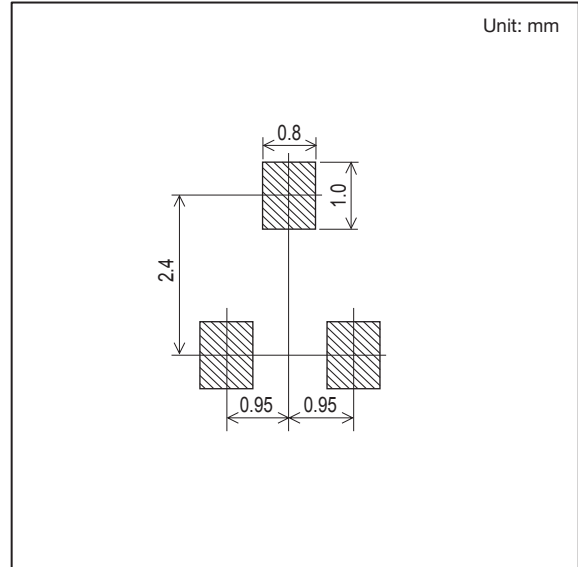
# SVC203C

## Outline Drawing

SVC203C-TB-E



## Land Pattern Example



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Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)