



SVC203C

Varactor Diode

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

ON Semiconductor®

<http://onsemi.com>

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 $T_a=25^\circ C$

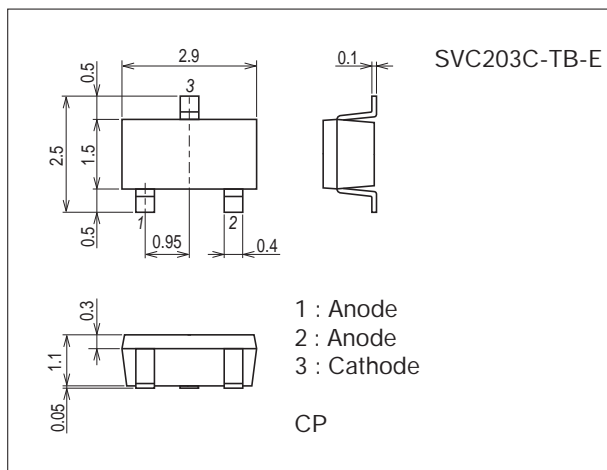
Parameter	Symbol	Conditions	Ratings	Unit
Reverse Voltage	V_R		16	V
Junction Temperature	T_j		125	$^\circ C$
Storage Temperature	T_{stg}		-55 to +125	$^\circ C$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

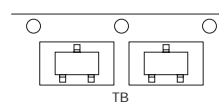
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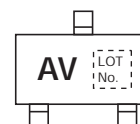
Product & Package Information

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

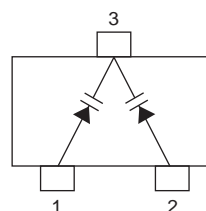
Packing Type: TB



Marking



Electrical Connection



SVC203C

Electrical Characteristics at Ta=25°C

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

* Capacitance value of one diode

Address and Capacitance Value (Reference Value)

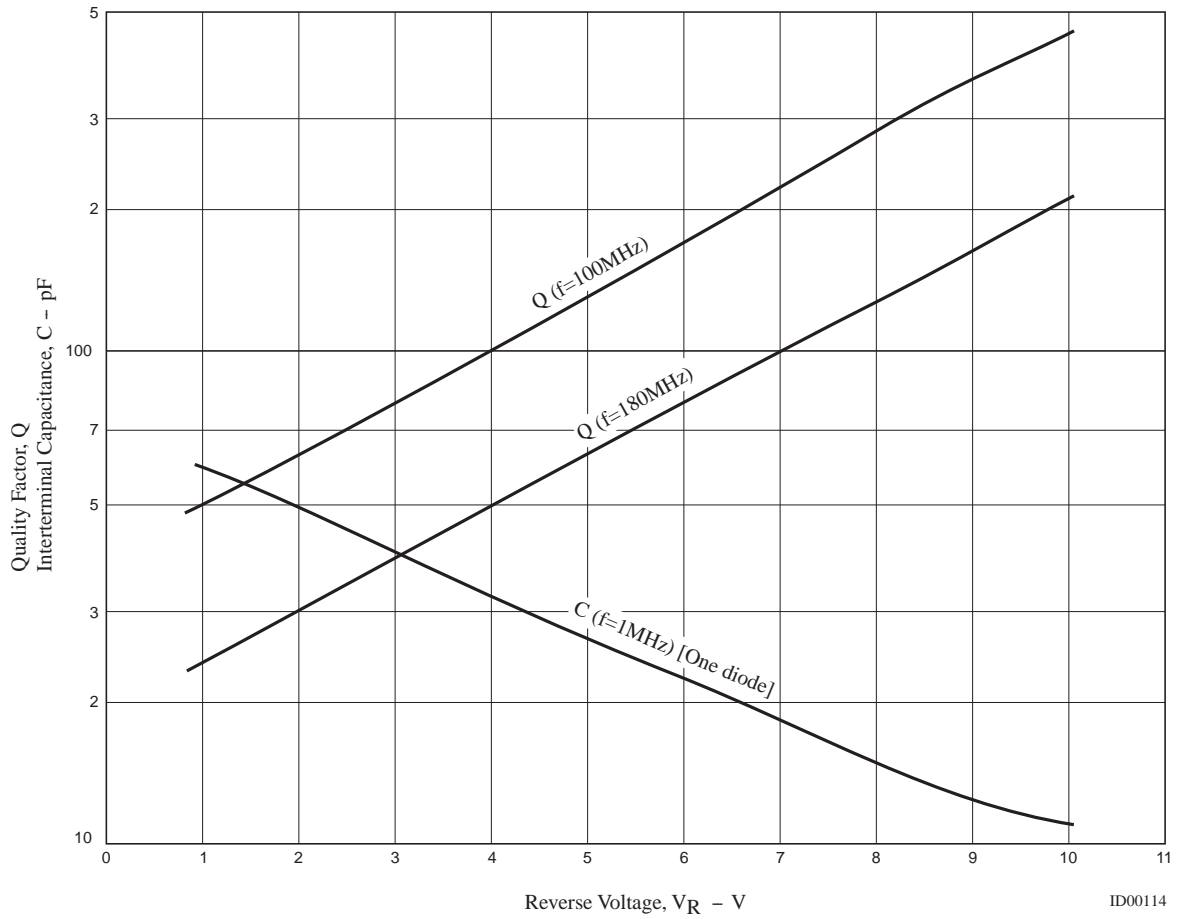
C1.0V		C6.0V		C9.0V	
Address	Capacitance (pF)	Address	Capacitance (pF)	Address	Capacitance (pF)
11	59.10	61	18.91	91	10.89
	62.92		19.95		12.17
12	61.97	62	19.76	92	11.93
	65.65		20.85		13.33
		63	20.64		
			21.79		
		64	21.57		
			22.77		
		65	22.55		
			23.80		
		66	23.56		
			24.87		

Ordering Information

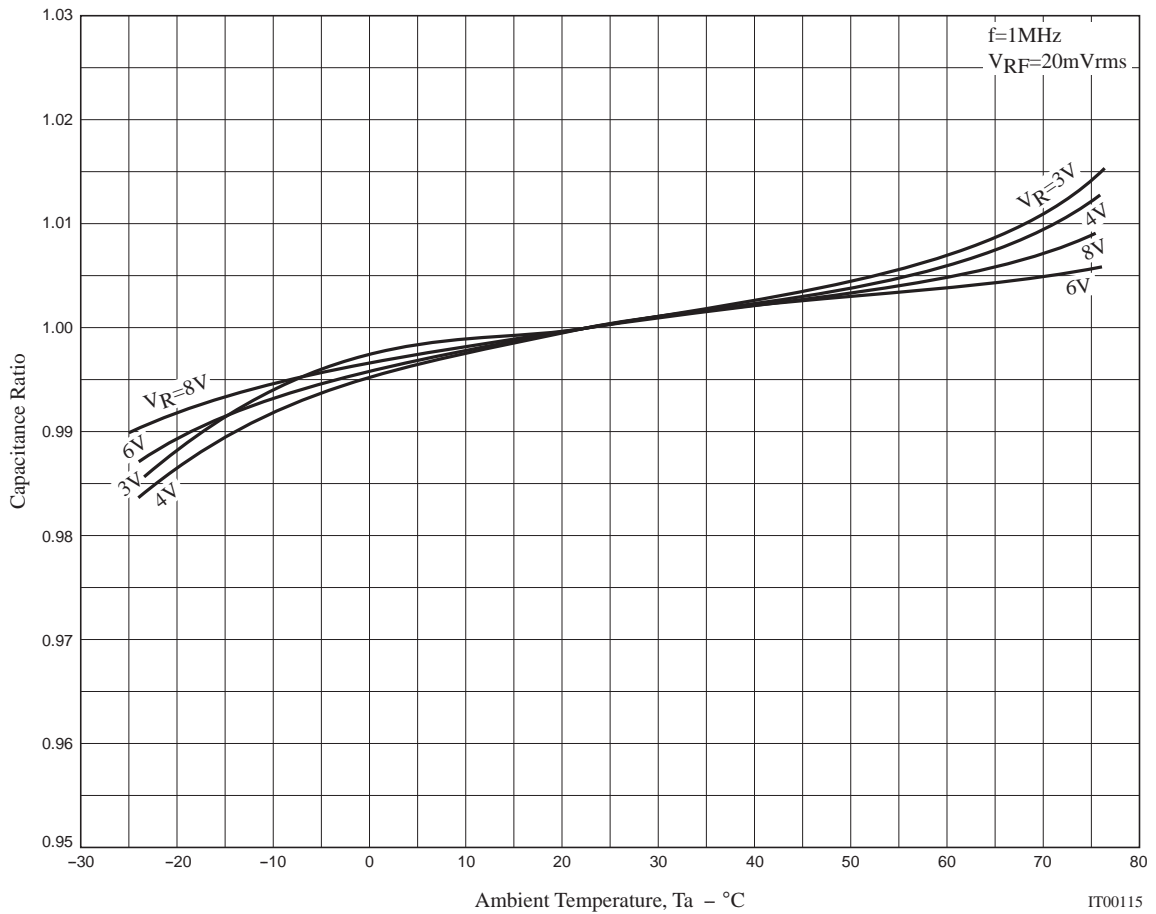
Device	Package	Shipping	memo
SVC203C-TB-E	CP	3,000pcs./reel	Pb Free

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C, Q - V_R



C - T_a



Taping Specification

SVC203C-TB-E

1. Packing Format

Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
CP	CP	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Packing method



Reel label



NOTE (1)

The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)



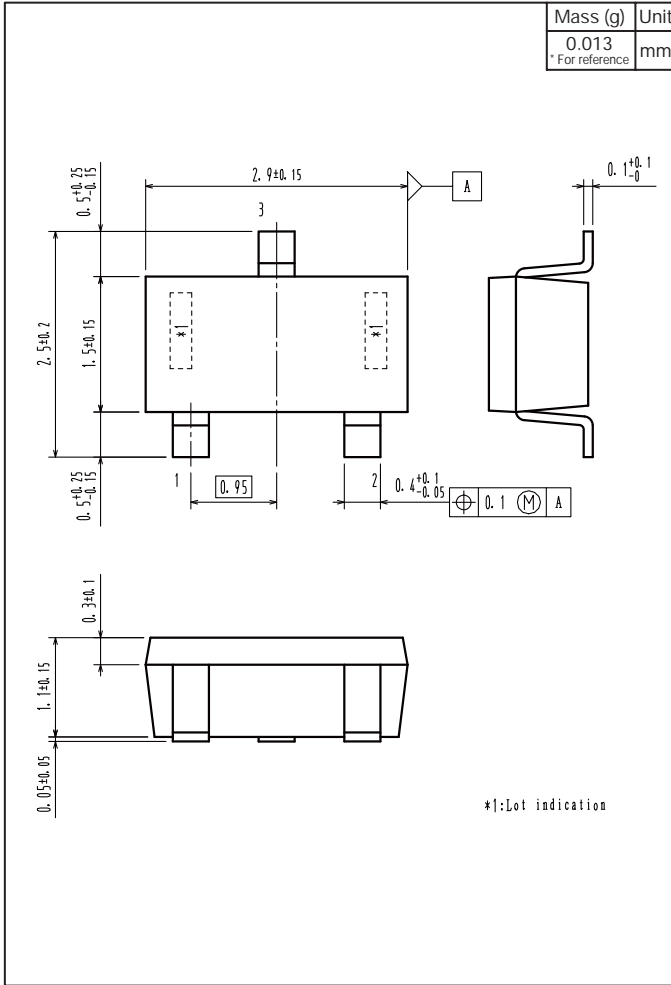
2-2. Device placement direction



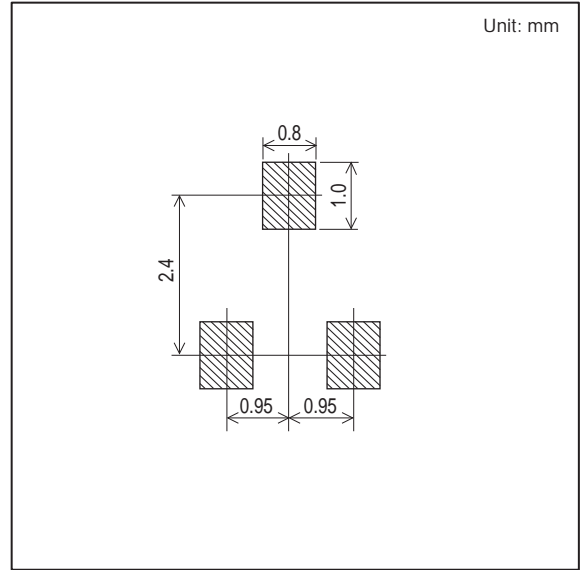
Those with one electrode terminal on the feed hole side.....TB

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Outline Drawing SVC203C-TB-E



Land Pattern Example



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