

**SVC203CP**

## Varactor Diode for FM Low-Voltage Electronic Tuning Use

### 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  $9V$ ).

### Absolute Maximum Ratings at $T_a=25^\circ C$

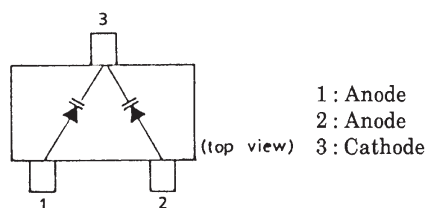
|                      |           |             | unit       |
|----------------------|-----------|-------------|------------|
| Reverse Voltage      | $V_R$     | 16          | V          |
| Junction Temperature | $T_j$     | 125         | $^\circ C$ |
| Storage Temperature  | $T_{stg}$ | -55 to +125 | $^\circ C$ |

### Electrical Characteristics at $T_a=25^\circ C$

|                            |              |                     | min  | typ | max   | unit |
|----------------------------|--------------|---------------------|--|-----|-------|------|
| Breakdown Voltage          | $V_{(BR)R}$  | $I_R=1\mu A$        | 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            | $V_R=3.0V, f=1MHz$  | 60   |     |       |      |
| Capacitance Ratio          | $C_R$        | $C_{1.0V}/C_{9.0V}$ | 4.6  |     |       |      |
| Matching Tolerance         | $\Delta C_m$ | $V_R=1.0V$          | $\frac{(C_{max} - C_{min})}{C_{min}} \times 100$ |     | 6.5   | %    |
|                            |              | $V_R=6.0V$          |  |     | 5.5   | %    |
|                            |              | $V_R=9.0V$          |  |     | 11.8  | %    |

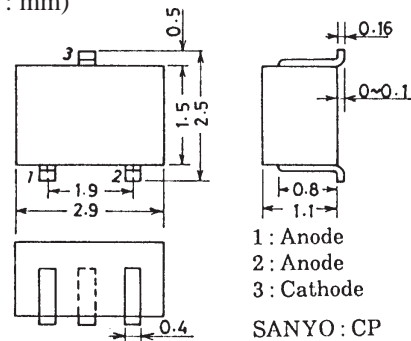
\* : Capacitance value of one diode

### Electrical Connection



### Package Dimensions 1169A

(unit : mm)

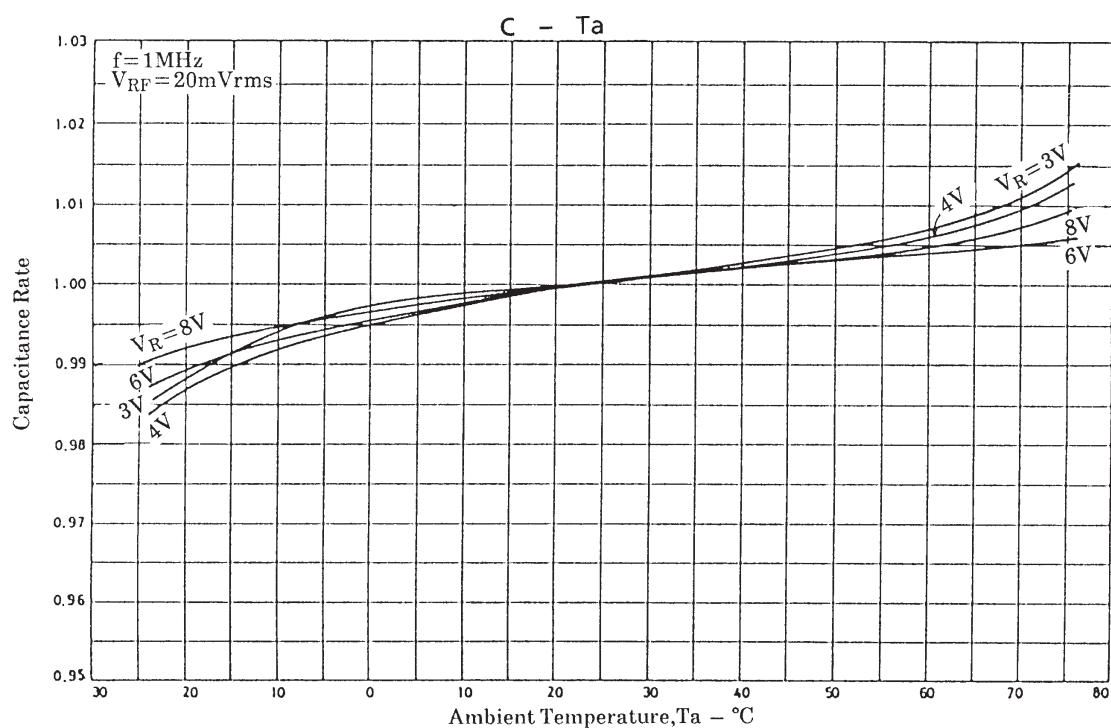
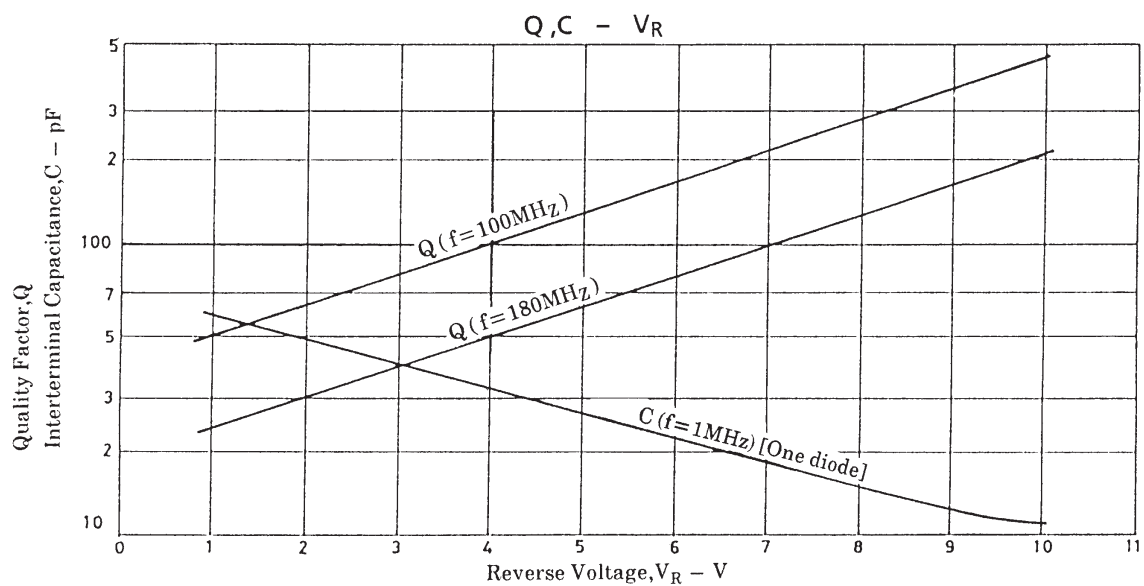

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## Address and Capacitance Value (Reference Value)

| C 1.0V  |                  | C 6.0V  |                  | C 9.0V  |                  |
|---------|------------------|---------|------------------|---------|------------------|
| 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      | 61.67            | 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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