Ordering number : EN5816

Silicon Diffused Junction Type

# SVC347

## Varactor Diode (IOCAP) for AM Receiver Electronic Tuning

### Features

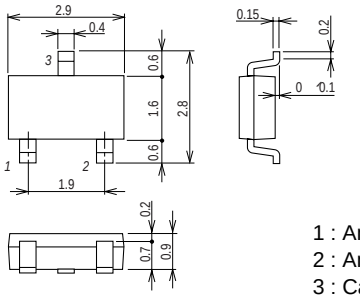
- Twin type varactor diode for AM electronic tuning use.
- Miniaturization and high-integration of tuner sets can be easily achieved due to the small package.
- High capacitance ratio and high quality factor.
- Provided in a tape reel packaging.
- Surface mount type.

### Package Dimensions

unit: mm

**1291**

[SVC347]




1 : Anode
2 : Anode
3 : Cathode
SANYO: CPH3

### Specifications

### Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Reverse voltege | $V_R$ | | 16 | V |
| Junction temperature | Tj | | 125 | °C |
| Storage temperature | Tstg | | –55 to +125 | °C |

### Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Breakdown voltage | $V_{(BR)R}$ | $I_R$=10μA | 16 | | | V |
| Reverse current (One diode) | $I_R$ | $V_R$=9V | | | 100 | nA |
| Interterminal capacitance | $C_{1V}$ | $V_R$=1V, f=1MHz *1 | 470* | | 535* | pF |
| (Capacitance value of | $C_{6V}$ | $V_R$=6V, f=1MHz | | 55 | | pF |
| one diode) | $C_{8V}$ | $V_R$=8V, f=1MHz | 20 | | 26 | pF |
| Quality factor | Q | $V_R$=1V, f=1MHz | 200 | | | |
| Capacitance ratio | CR | $C_{1V}$ / $C_{8V}$, f=1MHz | 18.5 | | | |
| Matching tolerance *2 | ΔCm | (Cmax – Cmin) / Cmin×100 | | | | |
| | | $V_R$=1V, f=1MHz | | | 2.5 | % |
| | | $V_R$=6V, f=1MHz | | | 3.0 | % |
| | | $V_R$=8V, f=1MHz | | | 3.0 | % |

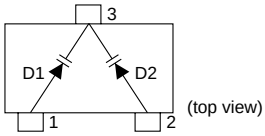
*1 : 1MHz signal : 20mVrms

*2 : Matching tolerance between D1 and D2

∗ : The SVC347 is classified bosed on C1V capacitance as shown in the table below :

| Rank | C1V (pF) |
|---|---|
| S | 470 to 505 |
| T | 495 to 535 |

### Electrical Connection




(top view)

1:Anode
2:Anode
3:Cathode

A09978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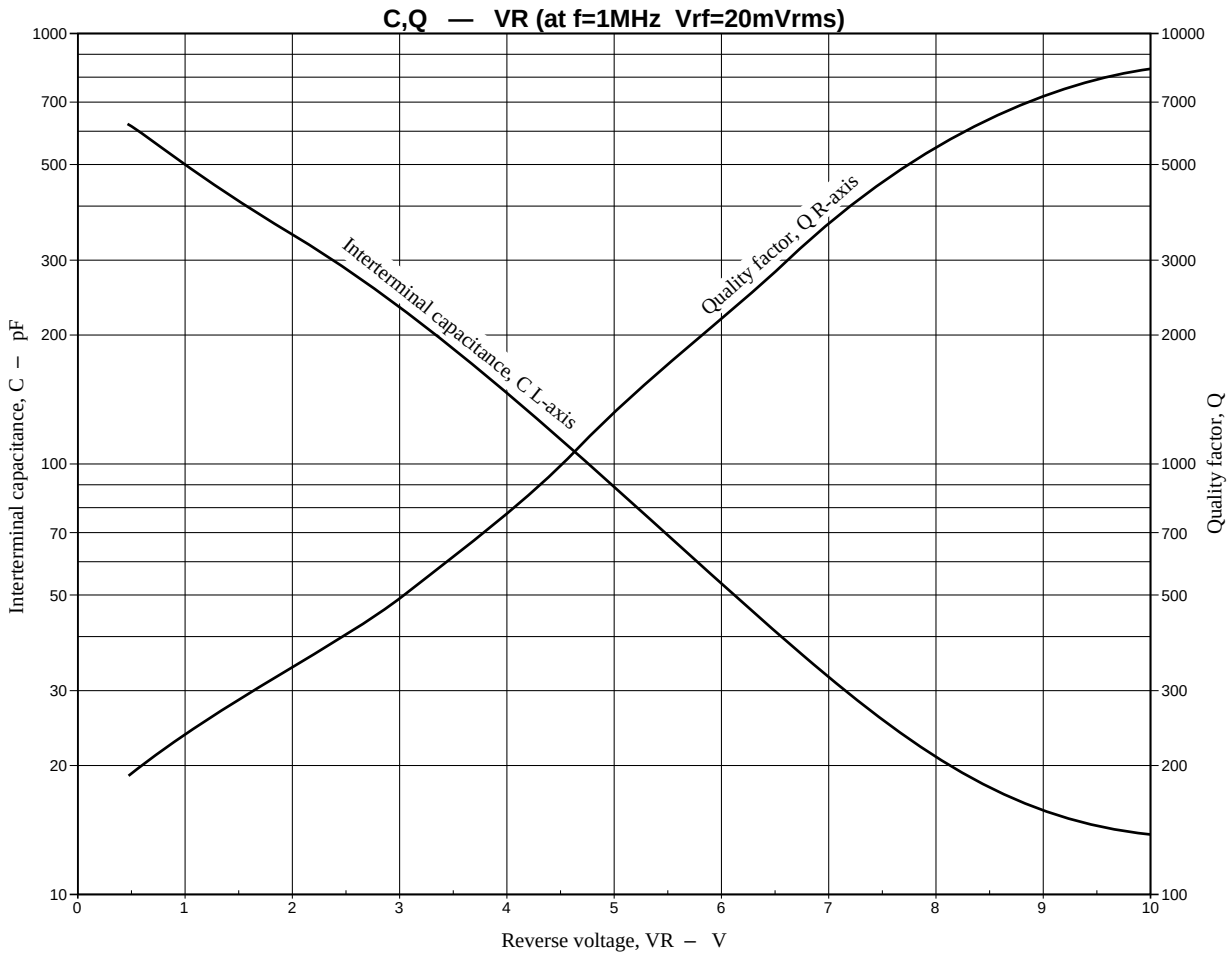
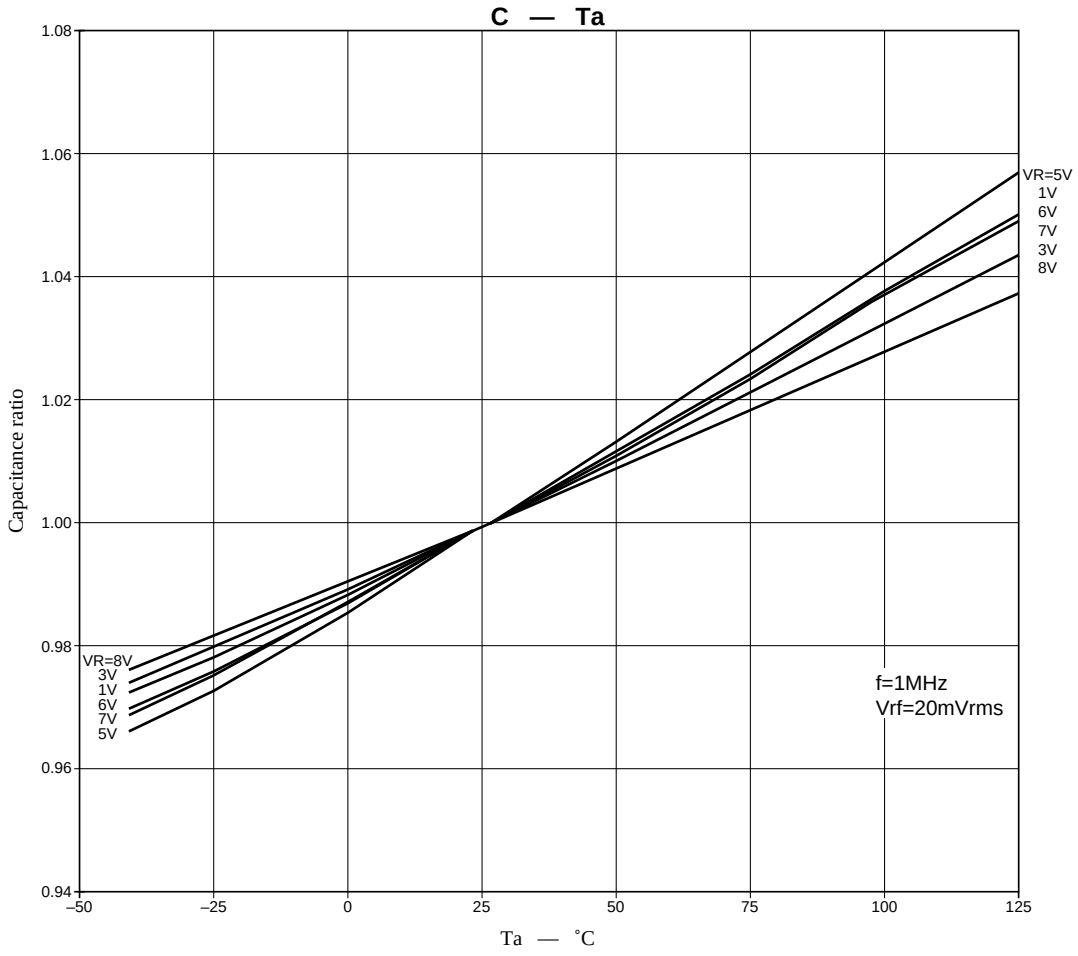

C,Q — VR (at f=1MHz Vrf=20mVrms)
Interterminal capacitance, C L-axis
Quality factor, Q R-axis
Interterminal capacitance, C – pF
Quality factor, Q
Reverse voltage, VR – V
1000
700
500
300
200
100
70
50
30
20
10
10000
7000
5000
3000
2000
1000
700
500
300
200
100
0
1
2
3
4
5
6
7
8
9
10


C — Ta
Capacitance ratio
Ta — ˚C
VR=5V
1V
6V
7V
3V
8V
VR=8V
3V
1V
6V
7V
5V
f=1MHz
Vrf=20mVrms
1.08
1.06
1.04
1.02
1.00
0.98
0.96
0.94
–50
–25
0
25
50
75
100
125