

# ANTREX Electronics

## Electronic Components Sourcing Information

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### Product Reference Information

|                      |                                   |
|----------------------|-----------------------------------|
| <b>Part Number:</b>  | 1SV305,L3F                        |
| <b>Manufacturer:</b> | Toshiba Semiconductor and Storage |
| <b>Package:</b>      | Please confirm with sales         |
| <b>Availability:</b> | Please confirm with sales         |

**Product Page:**

<https://antrexco.com/product/details/toshiba-semiconductor-and-storage/1sv305-l3f.html>

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### Contact Information

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### Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

**Note:**

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

## 1SV305

VCO for VHF Band Radio

Unit: mm

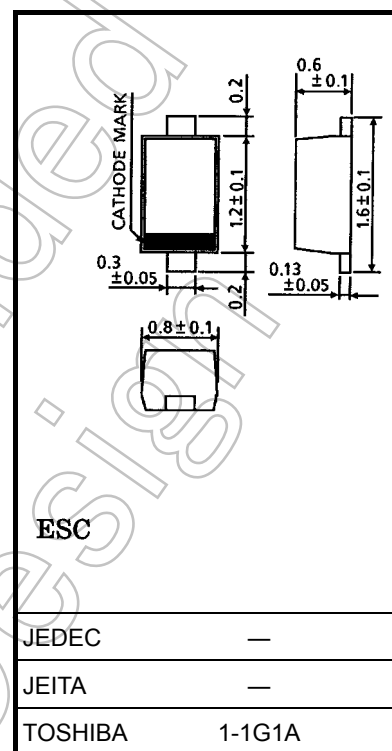
- Small package
- High capacitance ratio:  $C_{1V} / C_{4V} = 3.0$  (typ.)
- Low series resistance:  $r_s = 0.27 \Omega$  (typ.)

Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Characteristics           | Symbol    | Rating     | Unit             |
|---------------------------|-----------|------------|------------------|
| Reverse voltage           | $V_R$     | 10         | V                |
| Junction temperature      | $T_j$     | 125        | $^\circ\text{C}$ |
| Storage temperature range | $T_{stg}$ | -55 to 125 | $^\circ\text{C}$ |

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).



Weight: 0.0014 g (typ.)

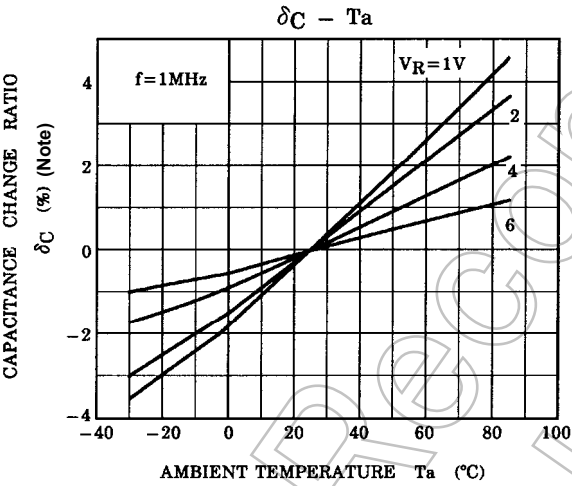
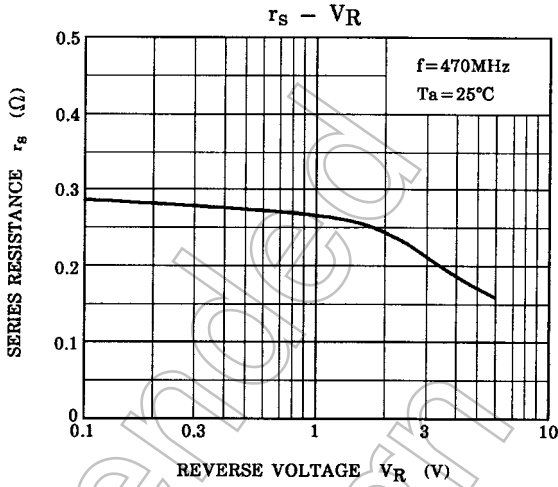
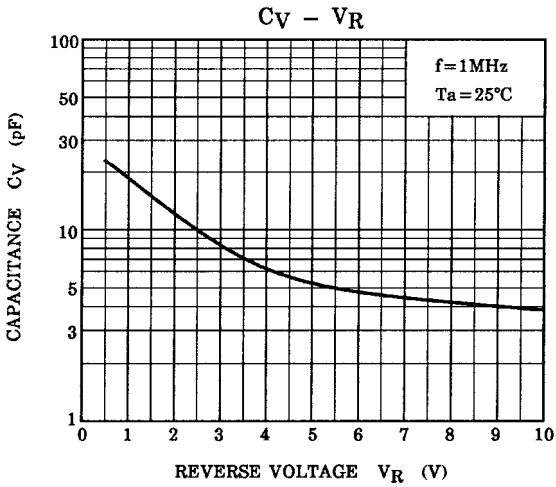
Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

| Characteristics   | Symbol            | Test Condition                           | Min  | Typ. | Max  | Unit     |
|-------------------|-------------------|------------------------------------------|------|------|------|----------|
| Reverse voltage   | $V_R$             | $I_R = 1 \mu\text{A}$                    | 10   | —    | —    | V        |
| Reverse current   | $I_R$             | $V_R = 10 \text{ V}$                     | —    | —    | 3    | nA       |
| Capacitance       | $C_{1V}$          | $V_R = 1 \text{ V}, f = 1 \text{ MHz}$   | 17.3 | 18.3 | 19.3 | pF       |
| Capacitance       | $C_{4V}$          | $V_R = 4 \text{ V}, f = 1 \text{ MHz}$   | 5.3  | 6.1  | 6.6  | pF       |
| Capacitance ratio | $C_{1V} / C_{4V}$ | —                                        | 2.8  | 3    | —    | —        |
| Series resistance | $r_s$             | $V_R = 1 \text{ V}, f = 470 \text{ MHz}$ | —    | 0.27 | 0.32 | $\Omega$ |

## Marking



Start of commercial production  
1997-03



Note:  $\delta C = \frac{C(T_a) - C(25)}{C(25)} \times 100 \text{ (%)}$

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