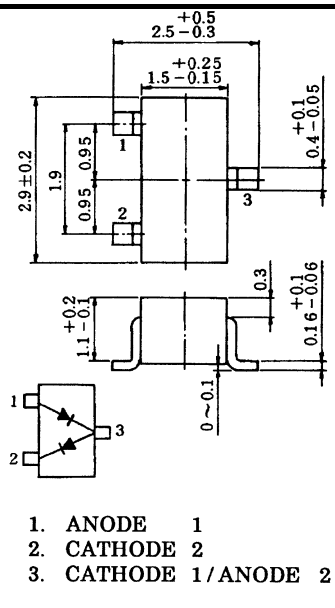
TOSHIBA Diode Silicon Epitaxial Pin Type

1SV172

VHF~UHF Band RF Attenuator Applications

- Useful for small size tuner
- Small total capacitance: C_T = 0.25 pF (typ.)
- Low series resistance: r_s = 3 Ω (typ.)

Unit: mm



JEDEC	—
JEITA	SC-59
TOSHIBA	1-3G1G

Weight: 0.013 g (typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Reverse voltage	V_R	50	V
Forward current	I_F	50	mA
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55~125	°C

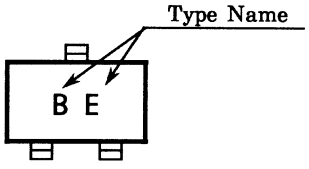
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

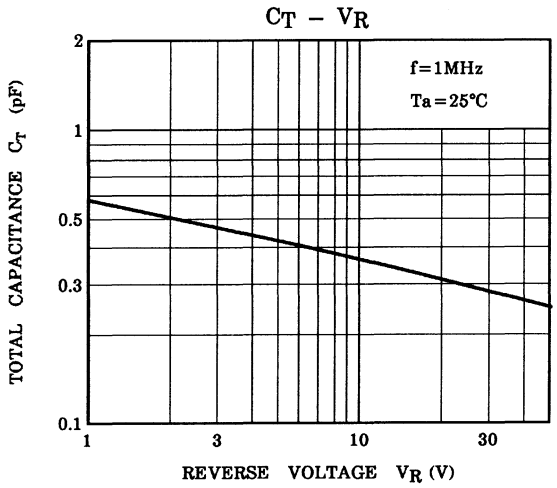
Electrical Characteristics (Ta = 25°C)

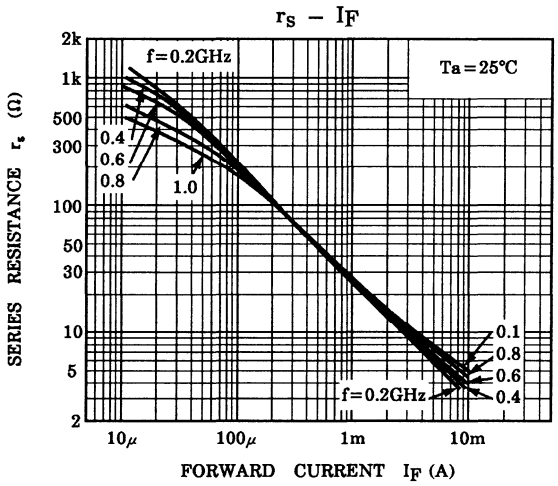
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse voltage	V_R	I_R = 10 μA	50	—	—	V
Reverse current	I_R	V_R = 50 V	—	—	0.1	μA
Forward voltage	V_F	I_F = 50 mA	—	0.95	—	V
Total capacitance (Note)	C_T	V_R = 50 V, f = 1 MHz	—	0.25	—	pF
Series resistance	r_s	I_F = 10 mA, f = 100 MHz	—	3	—	Ω

Note: C_T is measured by 3 terminal method with capacitance bridge.

Marking




$C_T - V_R$
f=1MHz
Ta=25°C
TOTAL CAPACITANCE C_T (pF)
2
1
0.5
0.3
0.1
1
3
10
30
REVERSE VOLTAGE V_R (V)


$r_S - I_F$
f=0.2GHz
Ta=25°C
SERIES RESISTANCE r_s (Ω)
2k
1k
500
300
100
50
30
10
5
2
0.4
0.6
0.8
1.0
0.1
0.8
0.6
0.4
f=0.2GHz
10μ
100μ
1m
10m
FORWARD CURRENT I_F (A)

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