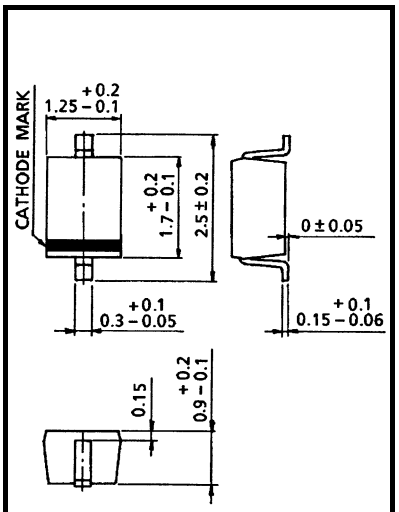
TOSHIBA Diode Silicon Epitaxial Pin Type

1SV271

VHF to 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	—
TOSHIBA	1-1E1A

Weight: 0.004 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 to 125	°C

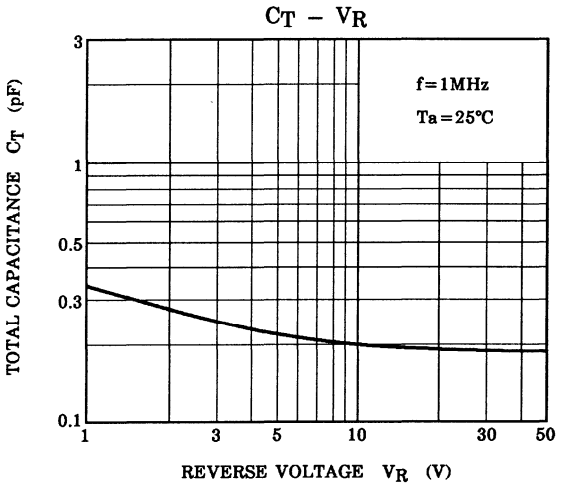
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

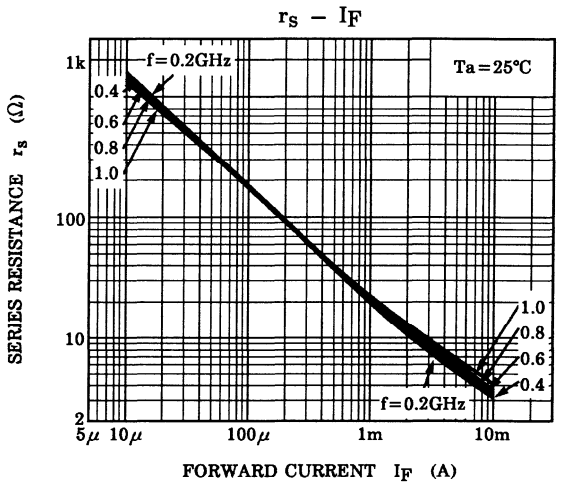
Electrical Characteristics (Ta = 25°C)

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	—	0.93	1.0	V
Total capacitance	C_T	V_R = 50 V, f = 1 MHz	—	0.25	0.4	pF
Series resistance	r_s	I_F = 10 mA, f = 100 MHz	—	3	—	Ω

Marking

Start of commercial production
1993-06


C_T – V_R
f=1MHz
Ta=25°C
TOTAL CAPACITANCE C_T (pF)
REVERSE VOLTAGE V_R (V)
3
1
0.5
0.3
0.1
1
3
5
10
30
50


r_S – I_F
Ta=25°C
f=0.2GHz
SERIES RESISTANCE r_S (Ω)
FORWARD CURRENT I_F (A)
1k
100
10
2
0.4
0.6
0.8
1.0
5μ
10μ
100μ
1m
10m

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