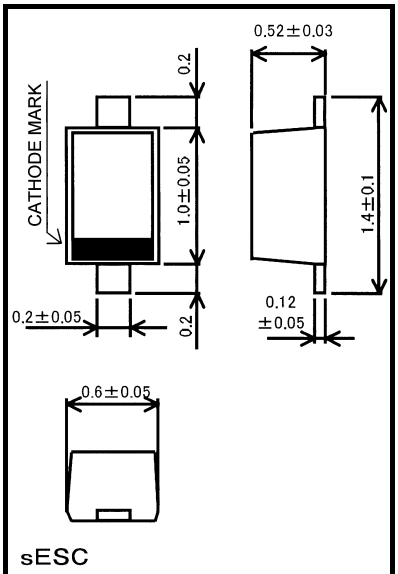
TOSHIBA DIODE Silicon Epitaxial Planar Type

JDV2S10S

VCO for UHF Band Radio

- High Capacitance Ratio: $C_{0.5V}/C_{2.5V}$ = 2.5 (typ.)
- Low Series Resistance : r_s = 0.35 Ω (typ.)
- This device is suitable for use in a small-size tuner.

Unit: mm



JEDEC	—
JEITA	—
TOSHIBA	1-1K1A

Weight: 0.0011 g (typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Reverse voltage	V_R	10	V
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	−55~150	°C

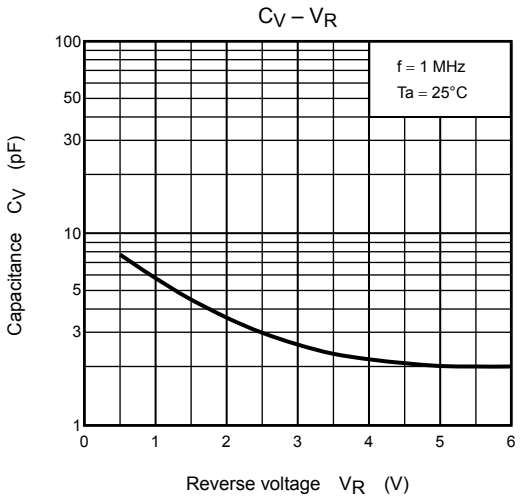
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

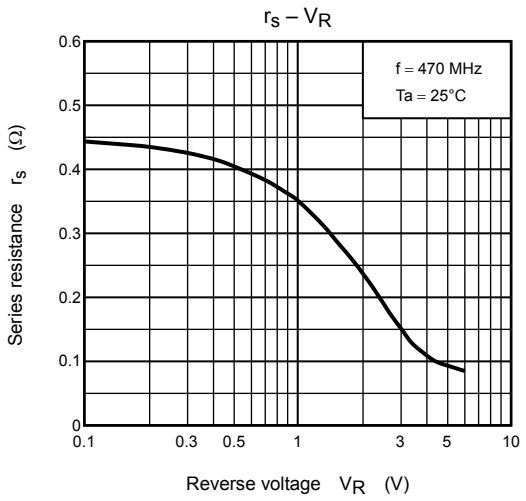
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse voltage	V_R	I_R = 1 μA	10	—	—	V
Reverse current	I_R	V_R = 10 V	—	—	3	nA
Capacitance	$C_{0.5V}$	V_R = 0.5 V, f = 1 MHz	7.3	—	8.4	pF
	$C_{2.5V}$	V_R = 2.5 V, f = 1 MHz	2.75	—	3.4	
Capacitance ratio	$C_{0.5V}/C_{2.5V}$	—	2.4	2.5	—	—
Series resistance	r_s	V_R = 1 V, f = 470 MHz	—	0.35	0.5	Ω

Note: Signal level when capacitance is measured: V_{sig} = 500 mVrms

Marking


CV – VR
f = 1 MHz
Ta = 25°C
Capacitance CV (pF)
100
50
30
10
5
3
1
0
1
2
3
4
5
6
Reverse voltage VR (V)


rs – VR
f = 470 MHz
Ta = 25°C
Series resistance rs (Ω)
0.6
0.5
0.4
0.3
0.2
0.1
0
0.1
0.3
0.5
1
3
5
10
Reverse voltage VR (V)

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