

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

# JDV2S38SC

## VCO for UHF Band Radio

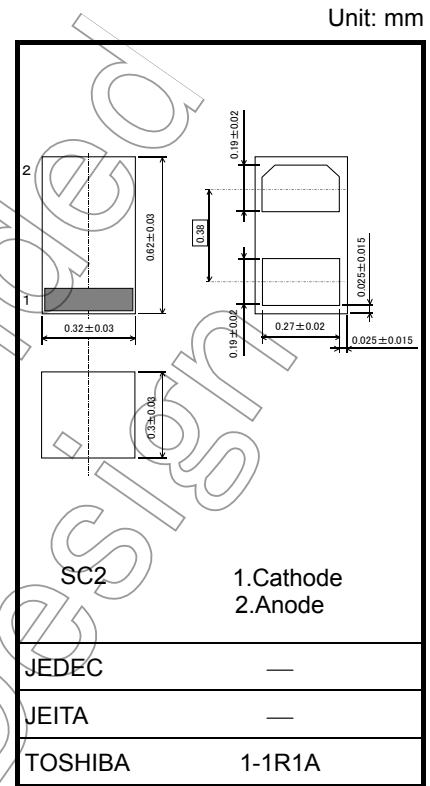
- High Capacitance Ratio :  $C_{0.5V} / C_{2.5V} = 2.5$  (typ.)
- Low Series Resistance :  $r_s = 0.48 \Omega$  (typ.)
- A two-terminal ultra-small package supports high-density mounting and the downsizing of end products

## Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Reverse voltage	$V_R$	10	V
Junction temperature	$T_j$	150	°C
Storage temperature range	$T_{stg}$	-55 to 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).



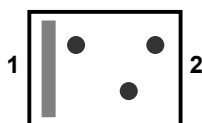
Weight: 0.17 mg (typ.)

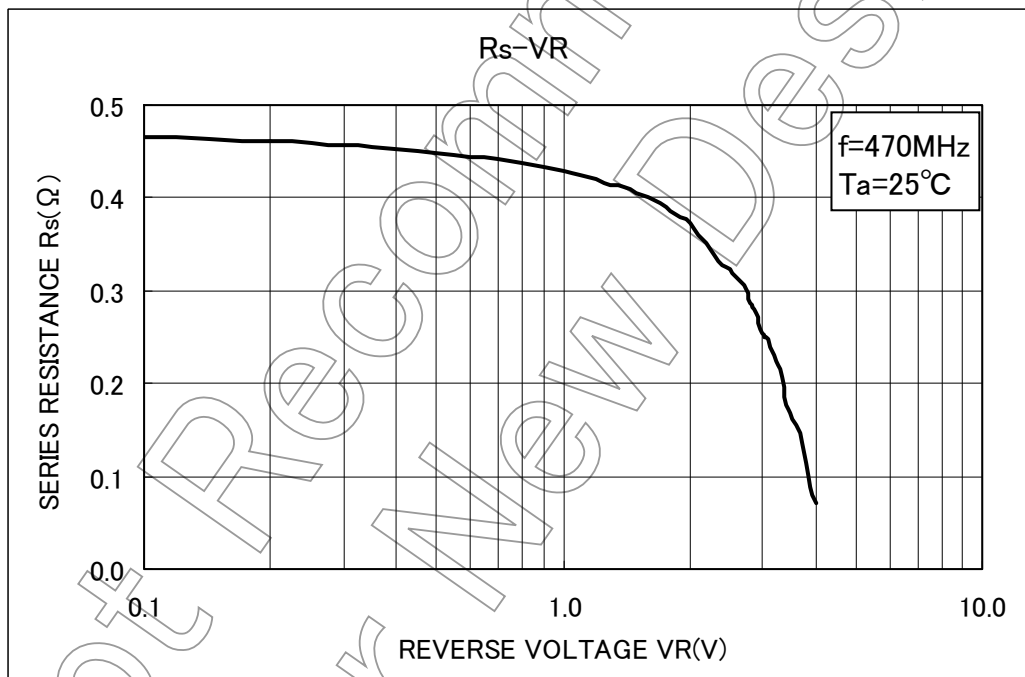
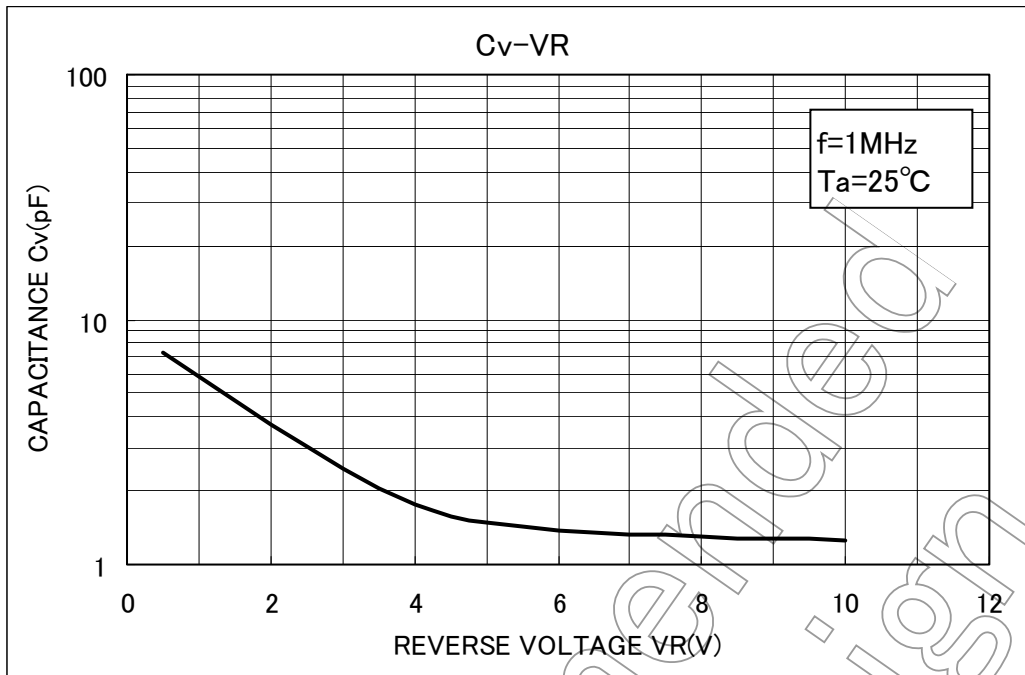
## Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse voltage	$V_R$	$I_R = 1 \mu A$	10	—	—	V
Reverse current	$I_R$	$V_R = 5 V$	—	—	1	nA
Capacitance	$C_{0.5V}$	$V_R = 0.5 V, f = 1 MHz$	7	7.37	7.74	pF
	$C_{2.5V}$	$V_R = 2.5 V, f = 1 MHz$	2.76	2.94	3.12	
Capacitance ratio	$C_{0.5V} / C_{2.5V}$	—	2.38	2.51	2.64	—
Series resistance	$r_s$	$V_R = 1 V, f = 470 MHz$	—	0.48	0.63	$\Omega$

Note: Signal level when capacitance is measured:  $V_{sig} = 100 mV_{rms}$

## Marking





Not Recommended for New Design

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