TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

# 1SV280

#### VCO for UHF Band Radio

Unit: mm

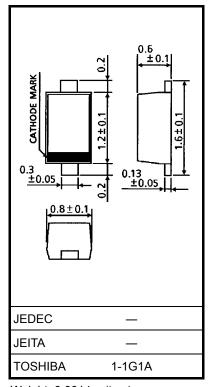
- High capacitance ratio:  $C_{2V}$  /  $C_{10V}$  = 2.4 (typ.)
- Low series resistance:  $r_s = 0.44 \Omega$  (typ.)
- Useful for small size tuner.

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

Characteristics	Symbol	Rating	Unit
Reverse voltage	$V_{R}$	15	V
Junction temperature	Tj	125	°C
Storage temperature range	T <sub>stg</sub>	-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).



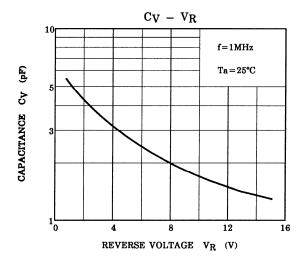
Weight: 0.0014 g (typ.)

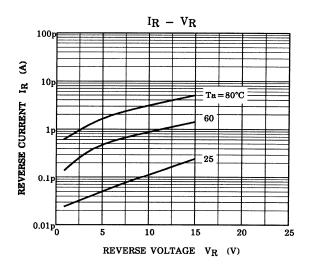
## **Electrical Characteristics (Ta = 25°C)**

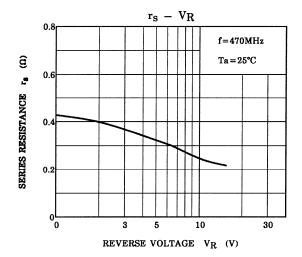
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Reverse voltage	$V_{R}$	Ι <sub>R</sub> = 1 μΑ	15	_	_	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> = 15 V	_	_	3	nA
Capacitance	C <sub>2V</sub>	V <sub>R</sub> = 2 V, f = 1 MHz	3.8	_	4.7	pF
Capacitance	C <sub>10V</sub>	V <sub>R</sub> = 10 V, f = 1 MHz	1.5	_	2.0	pF
Capacitance ratio	C <sub>2V</sub> / C <sub>10V</sub>	_	2.0	2.4	_	_
Series resistance	r <sub>s</sub>	V <sub>R</sub> = 1 V, f = 470 MHz		0.44	0.6	Ω

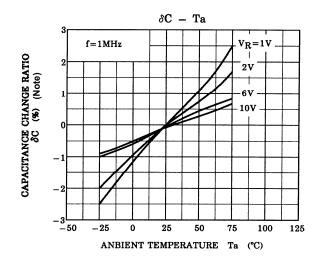
## Marking











Note: 
$$\delta_C = \frac{C (Ta) - C (25)}{C (25)} \times 100 (\%)$$

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