TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

# 1SV278B

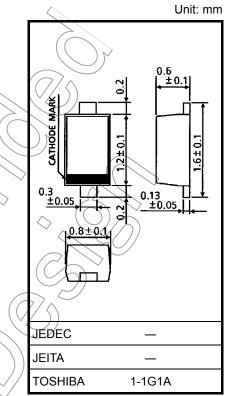
### **TV** Tuning

- High capacitance ratio:  $C_2 V/C_{25} V = 6.5$  (typ.)
- Low series resistance:  $r_s = 0.4 \Omega$  (typ.)
- Excellent C-V characteristics, and small tracking error.
- Suitable for small tuners

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

Characteristics	Symbol	Rating	Unit
Reverse voltage	V <sub>R</sub>	30	$(\mathcal{N} \land)$
Peak reverse voltage	V <sub>RM</sub>	35 (R <sub>L</sub> = 10 kΩ)	V V
Junction temperature	Тј	125	°C
Storage temperature range	T <sub>stg</sub>	-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.).



Weight: 0.0014 g (typ.)

## Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Reverse voltage	VR	$H_{R} = 1 \mu A$	30	_	—	V
Reverse current	۱ <sub>R</sub>	V <sub>R</sub> =28 V		_	10	nA
Capacitance	C <sub>2</sub> V	V <sub>R</sub> = 2 V, f = 1 MHz	14.16	_	16.25	pF
Capacitance	C25 V	V <sub>R</sub> = 25 V, f = 1 MHz	2.01	_	2.43	pF
Capacitance ratio	C2 V/C25 V	_	5.90	6.50	7.28	_
Series resistance	rs	$V_{R} = 5 V, f = 470 MHz$	_	0.4	0.58	Ω

Note 1: Available in matched group for capacitance to 2.%.

$$\frac{C (max) - C (min)}{C (min)} \leq 0.02$$

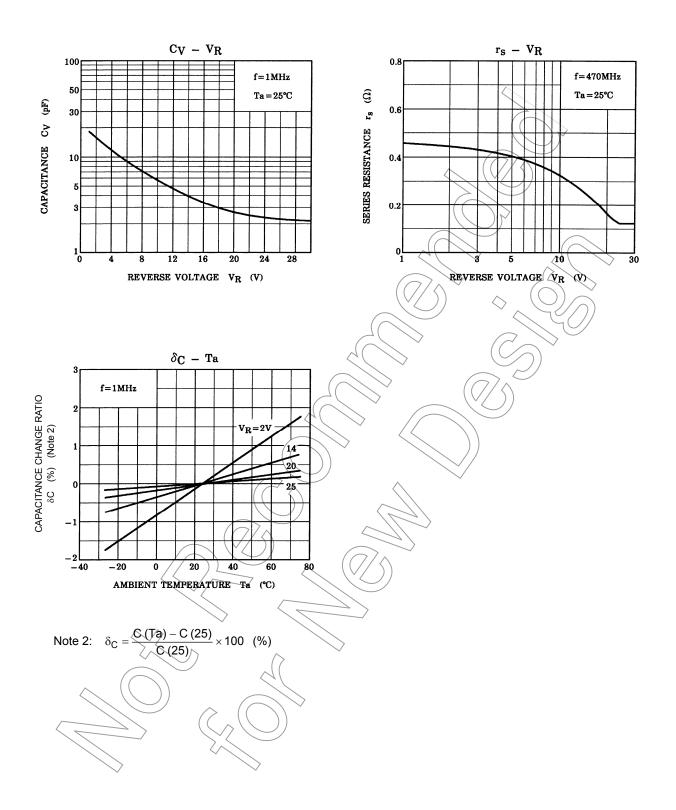
(V<sub>R</sub> = 2~25 V)

#### Marking



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