TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

1SV228

Electronic Tuning Applications of FM Receivers

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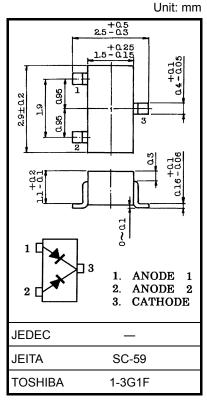
- Low r_s : $r_s = 0.3 \Omega$ (typ.)
- Small package

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Reverse voltage	V_{R}	15	V
Junction temperature	Tj	125	°C
Storage temperature	T _{stg}	-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).



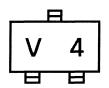
Weight: 0.013 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Reverse voltage	V_{R}	I _R = 10 μA	15	_	_	V
Reverse current	I _R	V _R = 15 V	_	_	10	nA
Capacitance	C _{3 V}	$V_R = 3 V, f = 1 MHz$ (Note 1	28.5	30.5	32.5	pF
Capacitance	C _{8 V}	$V_R = 8 \text{ V}, f = 1 \text{ MHz}$ (Note 1	11.7	12.7	13.7	pF
Capacitance ratio	C _{3 V} /C _{8 V}	— (Note 1	2.1	_	2.6	_
Series resistance	r _S	V _R = 3 V, f = 100 MHz (Note 1	_	0.3	0.5	Ω

Note 1: Characteristics between anode 1 and anode 2

Marking



2007-11-01

Table 1 Address Classification of Capacitance Test Condition: f = 1 MHz, Ta = 25°C

No.	C _{2 V}	C _{3 V}	C _{6 V}	C _{8 V}
1	34.70~35.74	28.60~29.45	16.80~17.30	11.72~12.07
2	35.56~36.62	29.31~30.18	17.21~17.72	12.01~12.37
3	36.44~37.53	30.03~30.93	17.63~18.15	12.31~12.67
4	37.35~38.47	30.77~31.69	18.06~18.60	12.61~12.98
5	38.27~39.41	31.53~32.47	18.50~19.05	12.92~13.30
6	_	_	18.95~19.51	13.23~13.62

(1) Units are compounded in one package and are matched to 3%.

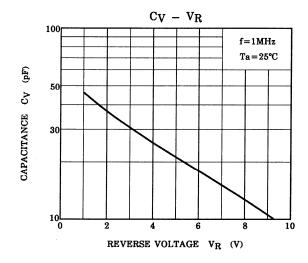
$$\frac{\text{C (max)} - \text{C (min)}}{\text{C (min)}} \, \leqq 0.03 \; (V_R = 2 {\sim} 8 \; V)$$

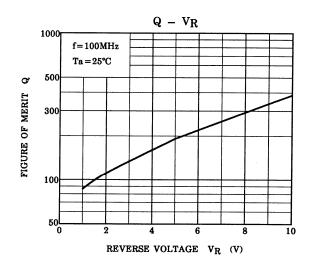
and capacitance is classified as Table 1.

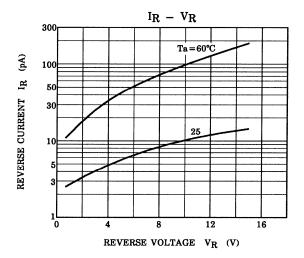
- (2) $C_2 V$, $C_3 V$, $C_6 V$, $C_8 V$ are A1-A2 capacitance.
- (3) The tolerance of address is ± 1 address.

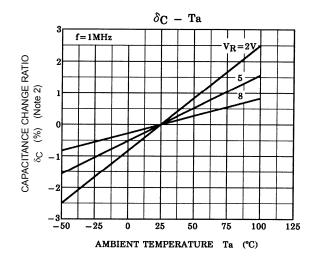
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2









Note 2:
$$\delta_C = \frac{C (Ta) - C (25)}{C (25)} \times 100$$
 (%)

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