TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

1SV228

Electronic Tuning Applications of FM Receivers

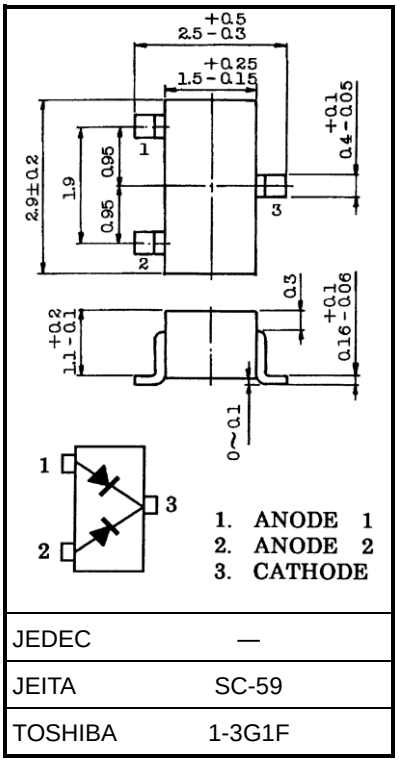
- Low r_S: r_S = 0.3 Ω (typ.)
- Useful for small size set

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Reverse voltage	V_R	15	V
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}	-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).

Unit: mm



JEDEC	—
JEITA	SC-59
TOSHIBA	1-3G1F

Weight: 0.013 g (typ.)

Electrical Characteristics (Ta = 25°C)

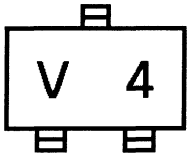
Characteristics	Symbol	Test Condition		Min	Typ.	Max	Unit
Reverse voltage	V_R	I_R = 10 μA		15	—	—	V
Reverse current	I_R	V_R = 15 V		—	—	10	nA
Capacitance (Note 2)	C_{3V}	V_R = 3 V, f = 1 MHz	(Note 1)	28.5	30.5	32.5	pF
Capacitance (Note 2)	C_{8V}	V_R = 8 V, f = 1 MHz	(Note 1)	11.7	12.7	13.7	
Capacitance ratio	C_{3V} / C_{8V}	—	(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

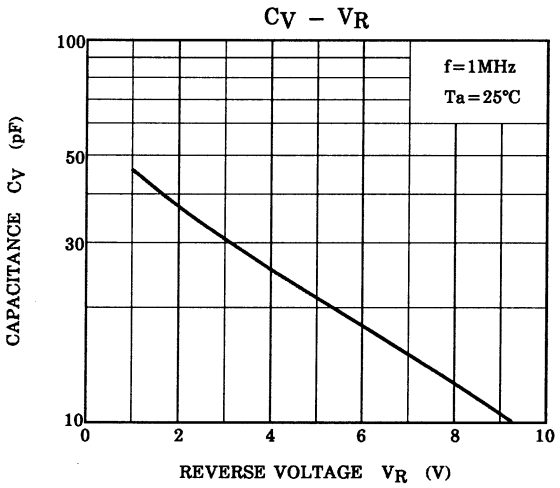
Note 2: Available in matched group for capacitance to 3%.
For devices with the ordering number 1SV228(TPH2,F) and 1SV228(TPH6,F).

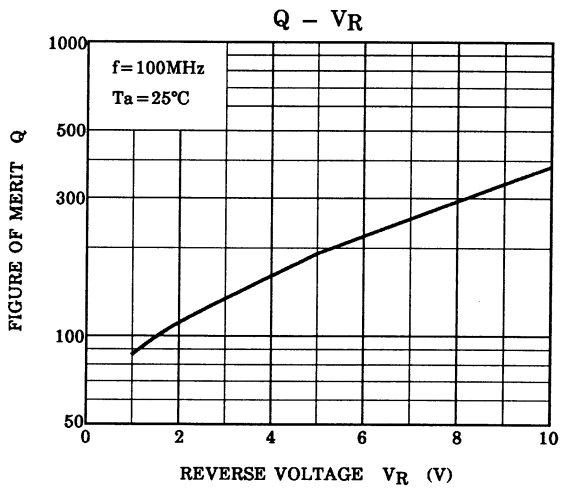
$$\frac{C\ (max) - C\ (min)}{C\ (min)} \leqq 0.03\ (V_R = 2 \text{ to } 8\ V).$$

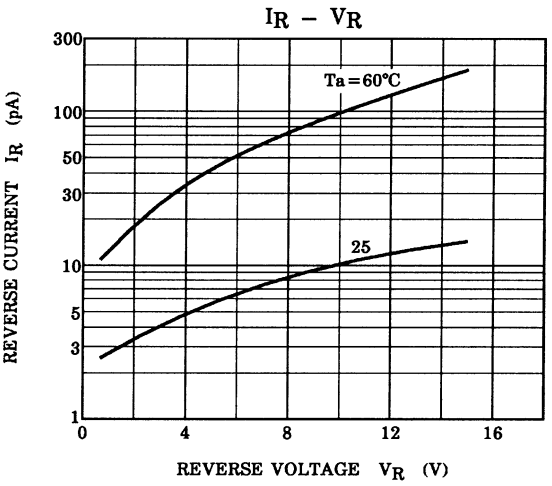
Marking

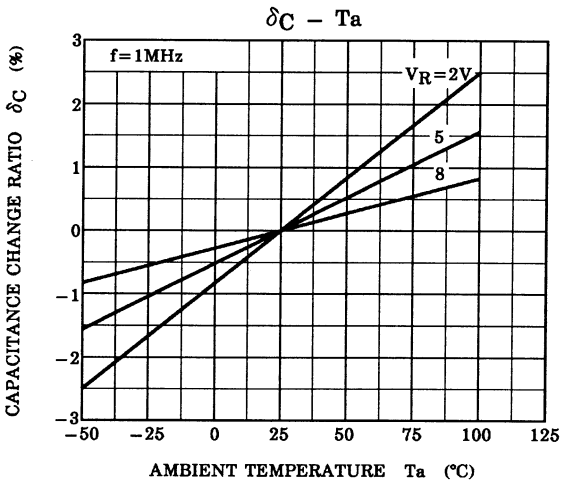


Start of commercial production
1995-12









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

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