TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

1SV225

Electronic Tuning Applications of FM Receivers

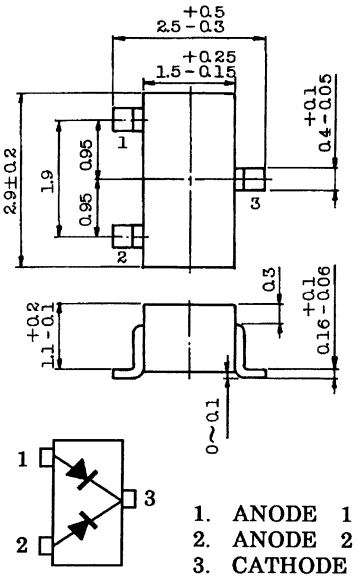
- Low series resistance: r_s = 0.35 (typ.)
- Small package

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Reverse voltage	V_R	32	V
Junction temperature	T_j	125	°C
Storage temperature range	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).

Unit: mm



JEDEC	—
JEITA	SC-59
TOSHIBA	1-3G1F

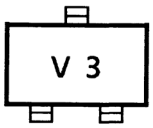
Weight: 0.013 g (typ.)

Electrical Characteristics (Ta = 25°C)

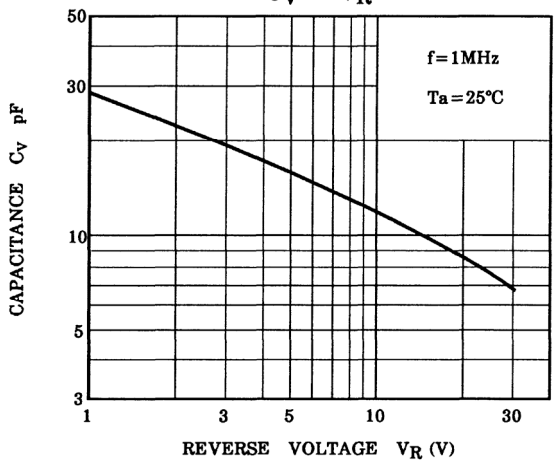
Characteristics	Symbol	Test Condition		Min	Typ.	Max	Unit
Reverse voltage	V_R	I_R = 10 μA		32	—	—	V
Reverse current	I_R	V_R = 30 V		—	—	50	nA
Capacitance	$C_{3\ V}$	V_R = 3 V, f = 1 MHz	(Note 1)	18.5	19.7	21	pF
Capacitance	$C_{30\ V}$	V_R = 30 V, f = 1 MHz	(Note 1)	6.6	7.2	7.7	pF
Capacitance ratio	$C_{3\ V}/C_{30\ V}$	—	(Note 1)	2.6		2.9	—
Series resistance	r_s	V_R = 3 V, f = 100 MHz	(Note 1)	—	0.35	0.5	Ω

Note 1: Characteristics between anode 1 and anode 2

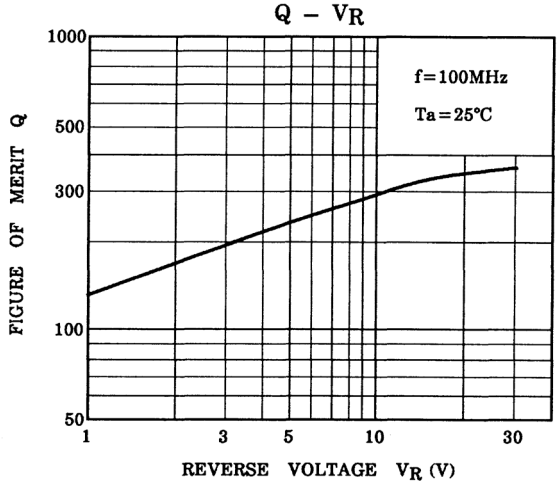
Marking



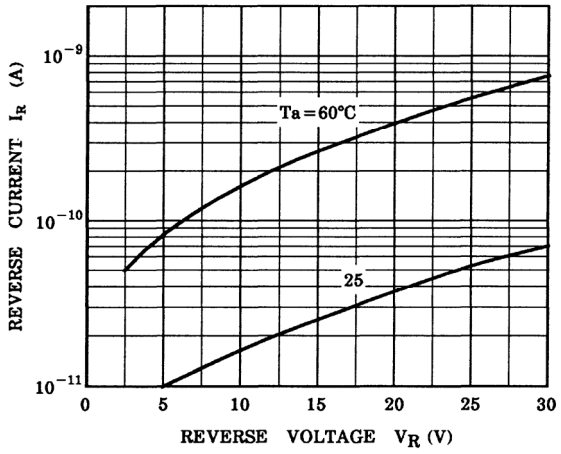
$C_V - V_R$



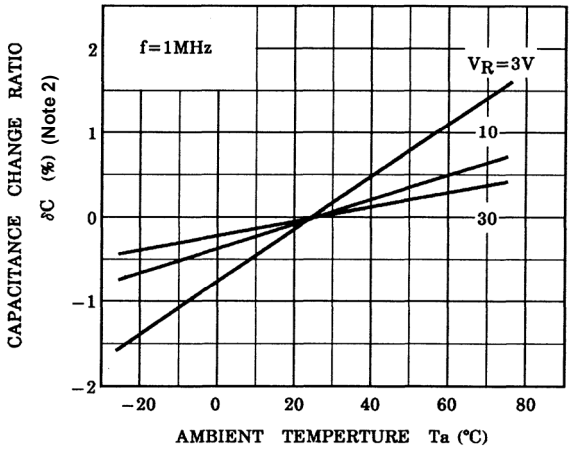
$Q - V_R$



$I_R - V_R$



$\delta C - Ta$



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

RESTRICTIONS ON PRODUCT USE

20070701-EN GENERAL

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