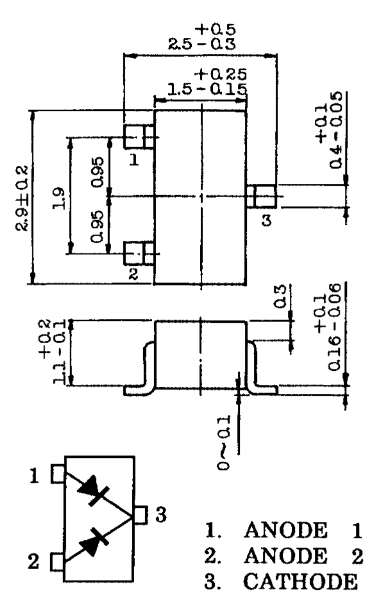
TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

1SV242

TV VHF Wide Band Tuning

- High capacitance ratio: C1 V/C28 V = 14.5 (typ.)
- Low series resistance: r_S = 0.65 Ω (typ.)
- Excellent C-V characteristics, and small tracking error.
- Small package

Unit: mm



JEDEC	—
JEITA	SC-59
TOSHIBA	1-3G1F

Weight: 0.013 g (typ.)

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Reverse voltage	V_R	30	V
Peak reverse voltage	V_{RM}	35 (R_L = 10 kΩ)	V
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55~125	°C

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse voltage	V_R	I_R = 1 μA	30	—	—	V
Reverse current	I_R	V_R = 28 V	—	—	10	nA
Capacitance	C1 V	V_R = 1 V, f = 1 MHz (Note 1)	36	39	42	pF
Capacitance	C28 V	V_R = 28 V, f = 1 MHz (Note 1)	2.43	2.7	3.0	pF
Capacitance ratio	C1 V/C28 V	— (Note 1)	13.4	14.5	—	—
Series resistance	r_s	V_R = 5 V, f = 470 MHz (Note 1)	—	0.65	0.8	Ω

Note 1: Characteristic between anode 1 and anode 2

Note 2: Units are compounded in one package and are matched to 2.5%

$$\frac{C\,(\max) - C\,(\min)}{C\,(\min)} \leqq 0.025 \;(VR = 1\text{~}28\ V)$$

Marking