

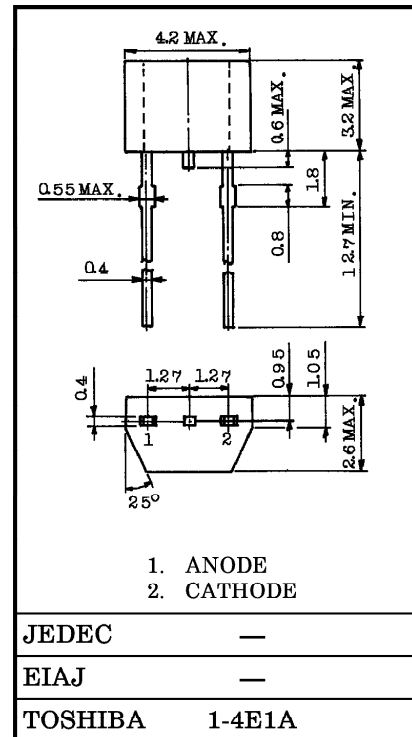
TOSHIBA VARIABLE CAPACITANCE DIODE SILICON EPITAXIAL PLANAR TYPE

# 1SV102

AM RADIO BAND TUNING APPLICATIONS.

Unit in mm

- High Capacitance Ratio :  $C_{2V} / C_{25V} = 23$  (Typ.)
- High Q :  $Q = 400$  (Typ.)
- Small Package.



Weight : 0.09g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	$V_R$	30	V
Junction Temperature	$T_j$	125	°C
Storage Temperature Range	$T_{stg}$	-55~125	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Voltage	$V_R$	$I_R = 10\mu A$	30	—	—	V
Reverse Current	$I_R$	$V_R = 30V$	—	—	50	nA
Capacitance	$C_{2V}$	$V_R = 2V, f = 1MHz$	360	—	460	pF
Capacitance	$C_{25V}$	$V_R = 25V, f = 1MHz$	15	—	21	pF
Capacitance Ratio	$C_{2V} / C_{25V}$	—	20	23	—	
Figure of Merit	Q	$V_R = 2V, f = 1MHz$	200	400	—	

Note: Available in matched group for capacitance to 3.0%.

$$\frac{C(\text{Max.}) - C(\text{Min.})}{C(\text{Min.})} \leq 0.03 \quad (V_R = 2V - 25V)$$

and capacitance is classified as Table 1.

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Table 1 : Capacitance Data  
 TEST CONDITION : f = 1MHz, Ta = 25°C

Unit : pF

No.	C <sub>2V</sub>	C <sub>10V</sub>	C <sub>20V</sub>	C <sub>25V</sub>
1	363.9~374.8	75.67~77.93	17.41~17.93	15.34~15.80
2	372.9~384.0	77.53~79.85	17.83~18.36	15.72~16.19
3	382.0~393.4	79.45~81.83	18.26~18.80	16.10~16.58
4	391.4~403.1	81.42~83.86	18.70~19.26	16.48~16.97
5	401.1~413.1	83.44~85.94	19.16~19.73	16.87~17.37
6	411.0~423.3	85.50~88.06	19.63~20.21	17.27~17.78
7	421.1~433.7	87.61~90.23	20.10~20.70	17.68~18.21
8	431.5~444.4	89.77~92.46	20.58~21.19	18.11~18.65
9	442.0~455.2	91.98~94.73	21.07~21.70	18.55~19.10
10		94.25~97.07	21.58~22.22	19.00~19.57
11		96.57~99.46	22.10~22.76	19.47~20.05
12		98.96~101.92	22.64~23.31	19.95~20.54
13		101.40~104.44	23.19~23.88	
14		103.92~107.03	23.76~24.47	
15		106.49~109.68	24.33~25.05	
16		109.12~112.39	24.91~25.65	
17		111.82~115.17	25.51~26.27	
18		114.59~118.02	26.13~26.91	
19			26.77~27.57	

- (1) This table is not selection guide, which means only to show the data.
- (2) The number on the vinyl package (on the label in the vinyl package) is to show the capacitance data at each voltage in a matched group.

EXAMPLE : 4 - 3 - 2 - 1  
 (C<sub>2V</sub>) (C<sub>10V</sub>) (C<sub>20V</sub>) (C<sub>25V</sub>)

- (3) The absolute capacitance value is in ±0.5%

