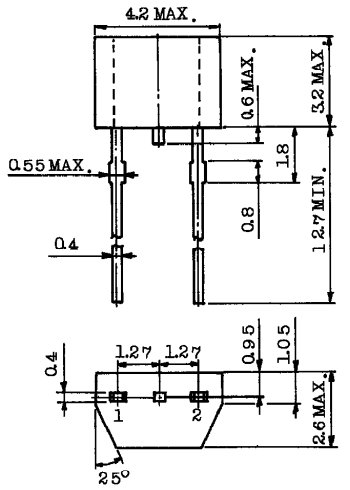
TOSHIBA VARIABLE CAPACITANCE DIODE SILICON EPITAXIAL PLANAR TYPE

1SV101

FM TUNER APPLICATIONS.

Unit in mm

- High Capacitance Ratio : $C_{3V}/C_{9V}=2.0\sim2.7$
- Low Series Resistance : $r_S=0.3\Omega$ (Typ.)
- Small Package.
- Low Tuning Voltage Range : 3V-9V



1. ANODE
2. CATHODE

JEDEC	—
EIAJ	—
TOSHIBA	1-4E1A

Weight : 0.9g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	V_R	15	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	$I_R=10\mu A$	15	—	—	V
Reverse Current	I_R	$V_R=15V$	—	—	10	nA
Capacitance	C_{3V}	$V_R=3V$, f=1MHz	28	—	32	pF
Capacitance	C_{9V}	$V_R=9V$, f=1MHz	12	—	14	pF
Capacitance Ratio	C_{3V}/C_{9V}	—	2.0	—	2.7	
Series Resistance	r_s	C=30pF, f=50MHz	—	0.3	0.5	Ω

Note: Units are compounded in one package and are matched to 3%.

$$\frac{C(Max.)-C(Min.)}{C(Min.)} \leqq 0.03 \quad (V_R=3V\text{-}9V)$$

and capacitance is classified as Table 1.

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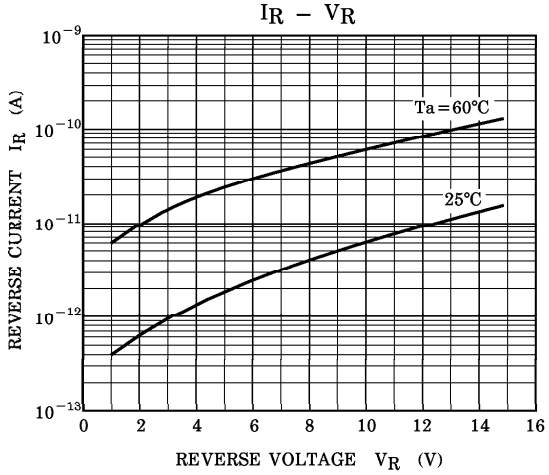
Table 1 : Address classification of capacitance
TEST CONDITION : f = 1MHz, Ta = 25°C Unit : pF

No.	C_{3V}	C_{5V}	C_{7V}	C_{9V}
1	28.20~29.04	20.50~21.11	15.65~16.11	12.066~12.427
2	28.85~29.71	20.97~21.59	16.01~16.49	12.343~12.713
3	29.51~30.39	21.44~22.08	16.38~16.87	12.627~13.005
4	30.19~31.09	21.94~22.59	16.76~17.26	12.917~13.304
5	30.89~31.81	22.45~23.12	17.15~17.66	13.214~13.610
6		22.97~23.65	17.54~18.06	13.518~13.923
7		23.49~24.19	17.94~18.47	

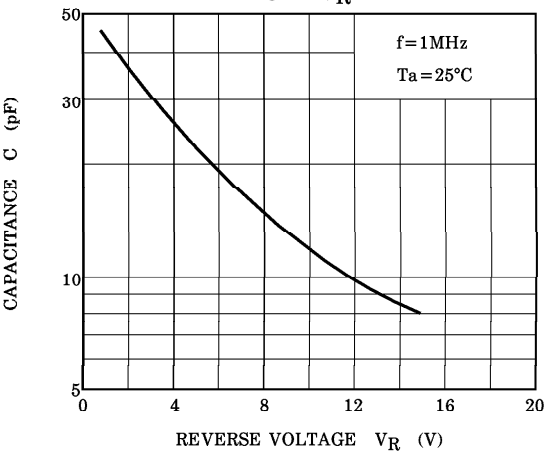
(1) The capacitance value of address classification is shown with confidence to at least ±0.5% accuracy.
(2) The address is specified in the compounded package (or label).

Example $\underset{(C_{3V})\,(C_{5V})\,(C_{7V})\,(C_{9V})}{4 - 3 - 2 - 1}$

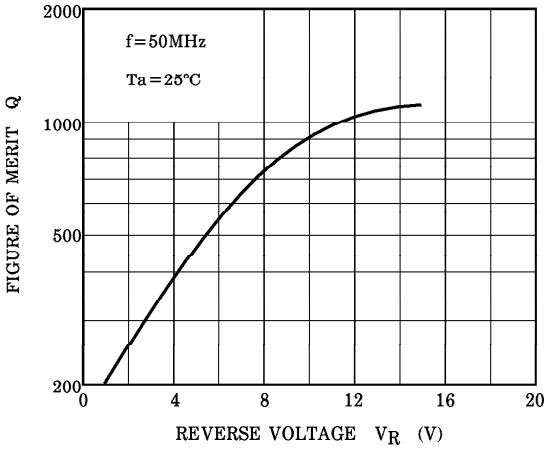
$I_R - V_R$



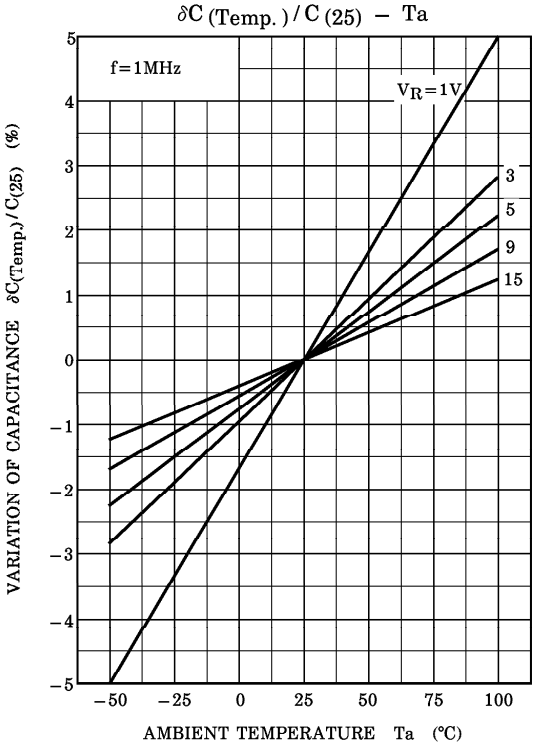
$C - V_R$



$Q - V_R$



$\delta C\,(\text{Temp.}) / C\,(25) - Ta$



$f/f_{MAX} - V_R$