

TOSHIBA VARIABLE CAPACITANCE DIODE SILICON EPITAXIAL PLANAR TYPE

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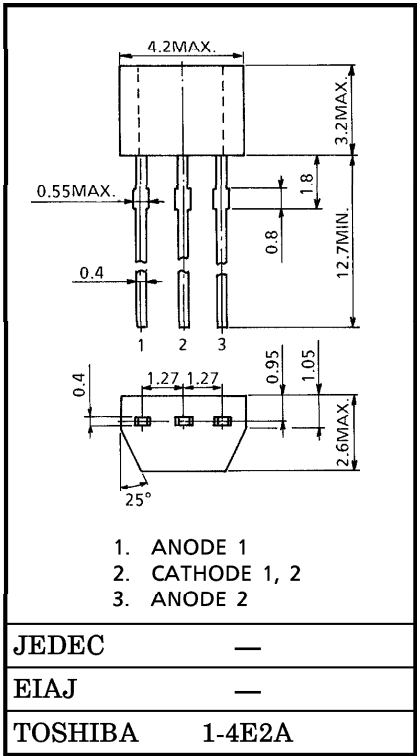
FM RADIO BAND TUNING APPLICATIONS

Unit in mm

- Low r_s : $r_s = 0.3 \Omega$ (Typ.)
- Small Package

MAXIMUM RATINGS (Ta = 25°C)

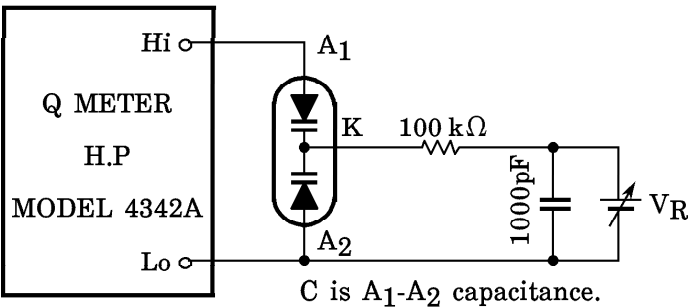
CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	V_R	15	V
Junction Temperature	T_j	125	°C
Storage Temperature	T_{stg}	-55~125	°C



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	$V_R = 15 V$	—	—	50	nA
Capacitance	C_{3V}	$V_R = 3 V, f = 1 MHz$	28.5	—	32.5	pF
Capacitance	C_{8V}	$V_R = 8 V, f = 1 MHz$	11.7	—	13.7	pF
Capacitance Ratio	C_{3V} / C_{8V}	—	2.1	—	2.6	—
Series Resistance	r_s	$C = 30 pF, f = 50 MHz$ (Note)	—	0.3	0.5	Ω

(Note) : r_s test circuit



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Table 1: Capacitance Data

TEST CONDITION (f = 1 MHz, Ta = 25°C)

No.	C _{2V}	C _{3V}	C _{6V}	C _{8V}
1	34.70 ~ 35.74	28.60 ~ 29.45	16.80 ~ 17.30	11.72 ~ 12.07
2	35.56 ~ 36.62	29.31 ~ 30.18	17.21 ~ 17.72	12.01 ~ 12.37
3	36.44 ~ 37.53	30.03 ~ 30.93	17.63 ~ 18.15	12.31 ~ 12.67
4	37.35 ~ 38.47	30.77 ~ 31.69	18.06 ~ 18.60	12.61 ~ 12.98
5	38.27 ~ 39.41	31.53 ~ 32.47	18.50 ~ 19.05	12.92 ~ 13.30
6			18.95 ~ 19.51	13.23 ~ 13.62

- (1) Available in matched group for capacitance to 3.0%.

$$\frac{C(\text{Max.}) - C(\text{Min.})}{C(\text{Min.})} \leq 0.03 (V_R = 2 \sim 8 \text{ V})$$

and capacitance is classified as Table 1.

- (2) C_{2V}, C_{3V}, C_{6V} and C_{8V} are A₁-A₂ capacitance.
- (3) This table is not selection guide, which means only to show the data.
- (4) 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: 5 - 4 - 3 - 2
 (C_{2V}) (C_{3V}) (C_{6V}) (C_{8V})

- (5) The absolute capacitance value is in $\pm 0.5\%$.

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