

9097250 TOSHIBA (DISCRETE/OPTO)

67C 09368 DT-07-19

Silicon Epitaxial Planar Type
Variable Capacitance Diode

1SV147

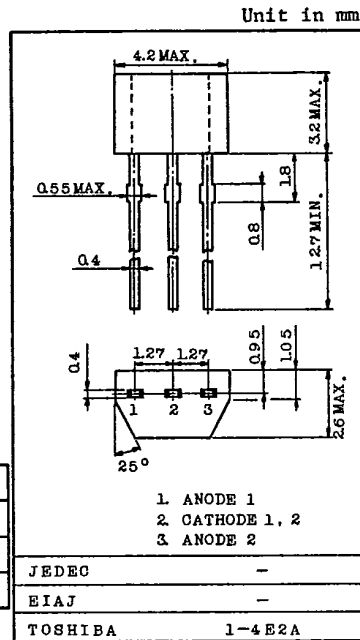
FM RADIO BAND TUNING APPLICATIONS.

FEATURES:

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

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	V_R	15	V
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ 125	$^\circ\text{C}$

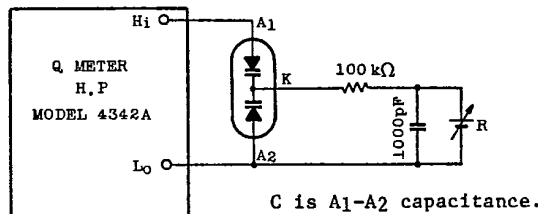


Weight : 0.13g

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Voltage	V_R	$I_R=10\mu\text{A}$	15	-	-	V
Reverse Current	I_R	$V_R=15\text{V}$	-	-	50	nA
Capacitance	C_{3V}	$V_R=3\text{V}, f=1\text{MHz}$	28.5	-	32.5	pF
Capacitance	C_{8V}	$V_R=8\text{V}, f=1\text{MHz}$	11.7	-	13.7	pF
Capacitance Ratio	C_{3V}/C_{8V}	-	2.1	-	2.6	
Series Resistance	r_s	$C=30\text{pF}, f=50\text{MHz}$ (Note)	-	0.3	0.5	Ω

Note : r_s test circuit



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Table 1 : Capacitance Data

TEST CONDITION : f=1MHz, 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%.

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

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})

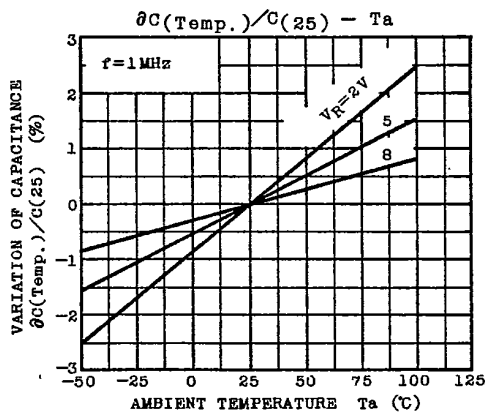
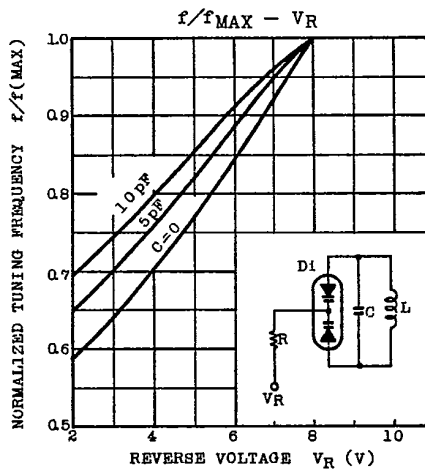
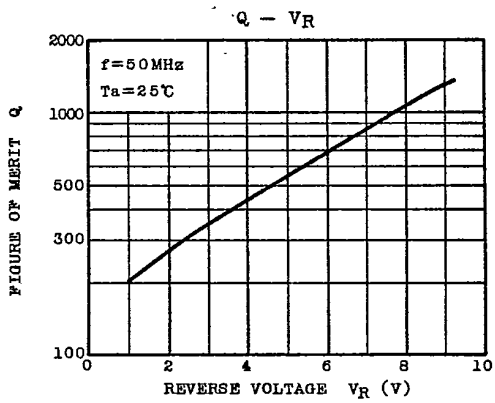
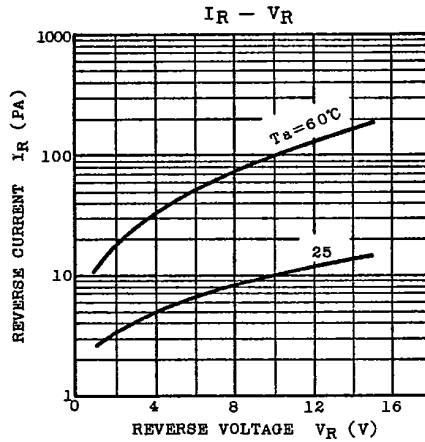
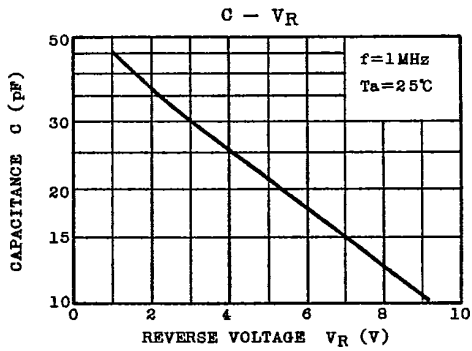
(5) The absolute capacitance value is in ±0.5%.

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