

JDV2S42FS

1. Applications

VCO for UHF Band Radio

- High capacitance ratio: $C_{2V} / C_{10V} = 2.4$ (typ.)
- Low series resistance: $r_s = 0.44 \Omega$ (typ.)
- Useful for small size tuner.

2. Absolute Maximum Ratings (Ta = 25 °C)

Table 2.1

Characteristics	Symbol	Rating	Unit
Reverse voltage	V_R	15	V
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	-55 to 125	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

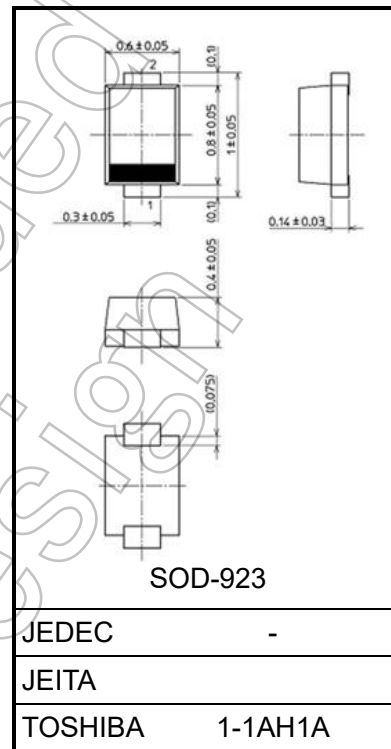
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

3. Electrical Characteristics (Ta = 25°C)

Table 3.1

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse voltage	V_R	$I_R = 1 \mu A$	15	-	-	V
Reverse current	I_R	$V_R = 15 V$	-	-	35	nA
Capacitance	C_{2V}	$V_R = 2 V, f = 1 MHz$	3.8	-	4.7	pF
Capacitance	C_{10V}	$V_R = 10 V, f = 1 MHz$	1.5	-	2.0	pF
Capacitance ratio	C_{2V} / C_{10V}	-	2.0	2.4	-	-
Series resistance	r_s	$V_R = 1 V, f = 470 MHz$	-	0.44	0.6	Ω

Unit: mm

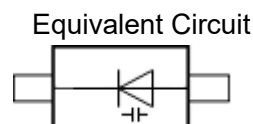
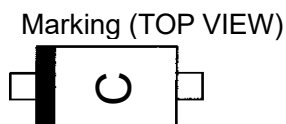


JEDEC	-
JEITA	
TOSHIBA	1-1AH1A

Weight: 0.7mg (typ.)

Start of commercial production
2023-09

4. Marking



5. Characteristics Curves (Note)

Figure 5.2 $C_V - V_R$

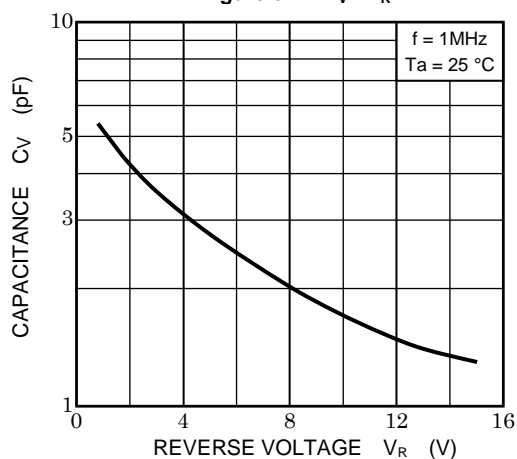


Figure 5.1 $I_R - V_R$

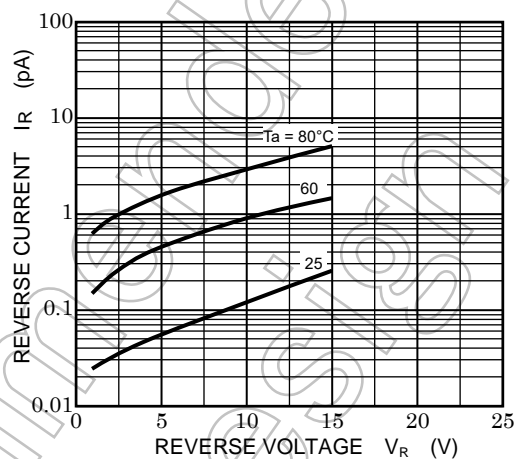


Figure 5.3 $r_s - V_R$

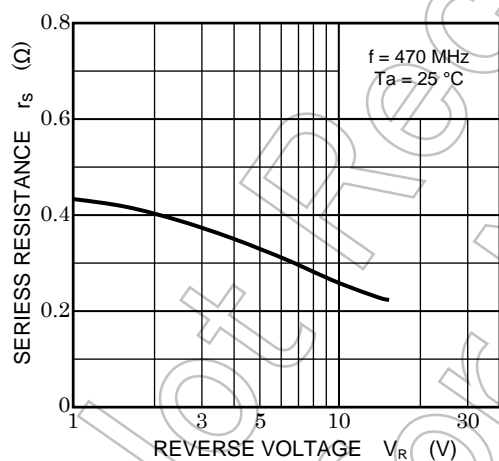
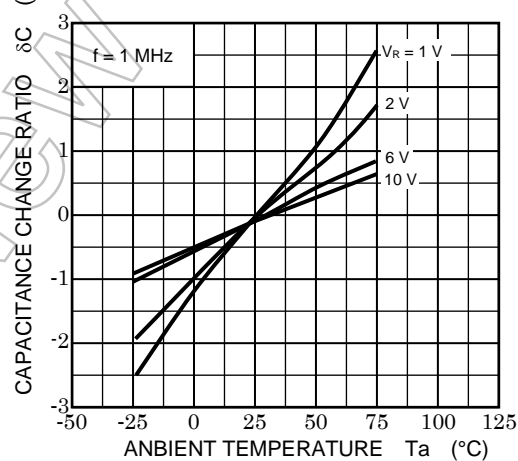


Figure 5.4 $\delta C - T_a$



$$\delta C (\%) = \frac{C(T_a) - C(25)}{C(25)} \times 100$$

Note: The characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

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