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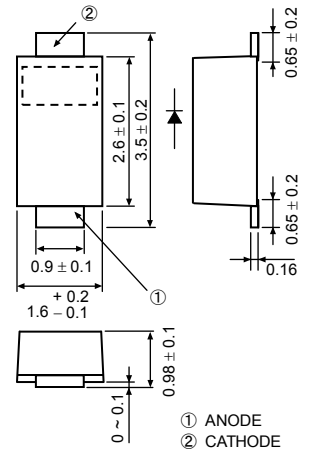
TOSHIBA Diode Silicon Epitaxial PIN Type

JDP2S12CR

UHF~VHF Band RF Switch Applications

- Suitable for high-density board assembly due to the use of a small surface-mount package, S−FLAT
- Low series resistance: r_s = 0.4 Ω (typ.)
- Low capacitance: C_T = 1.0 pF (typ.)

Unit: mm



S-FLAT

JEDEC	—
JEITA	—
TOSHIBA	3-2A1A

Weight: 13 mg

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Reverse voltage	V_R	180	V
Forward current	I_F	1	A
Power dissipation	P_D (Note 1)	1	W
Junction temperature	T_j	175	°C
Storage temperature range	T_{stg}	−55 to 175	°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).

Note 1:Tc = 25°C (When mounted on a 110.0mm×30.0mm×1.0mm glass epoxy PCB)

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse current	I_R	V_R = 50 V	—	—	10	μA
Forward voltage	V_F	I_F = 50 mA	—	0.8	1.0	V
Capacitance	C_T	V_R = 40 V, f = 1 MHz	—	1.0	1.3	pF
Series resistance	r_s	I_F = 10 mA, f = 100 MHz	—	0.4	0.7	Ω

Note: Signal level when capacitance is measured. V_{sig} = 100 mV_{rms}

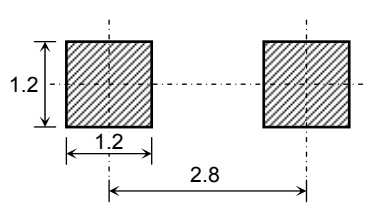
Marking

Abbreviation Code	Part No.
P1	JDP2S12CR

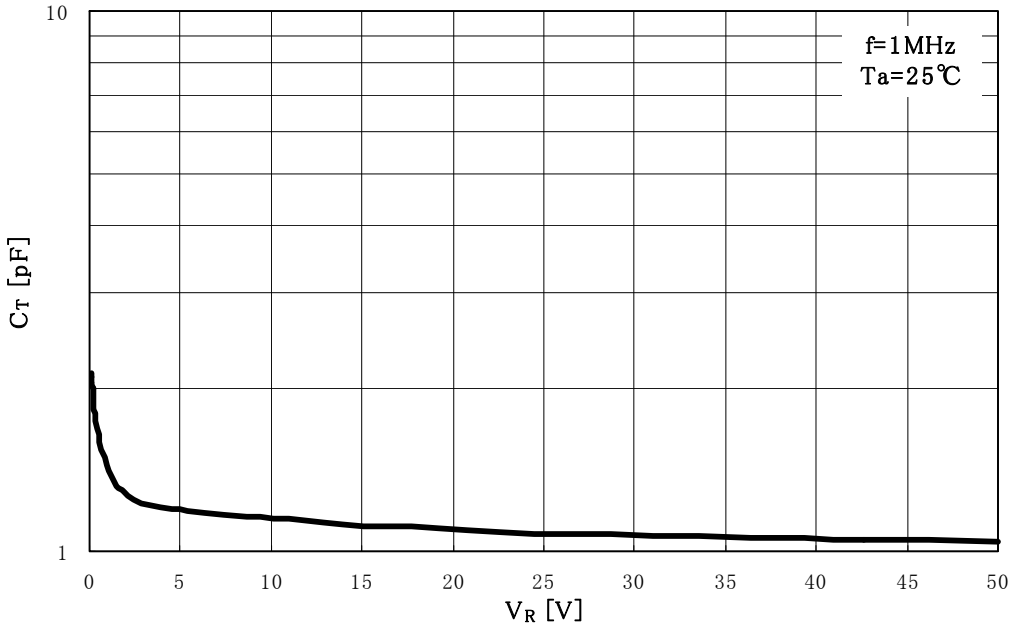
Start of commercial production
2010-03

Standard Soldering Pad

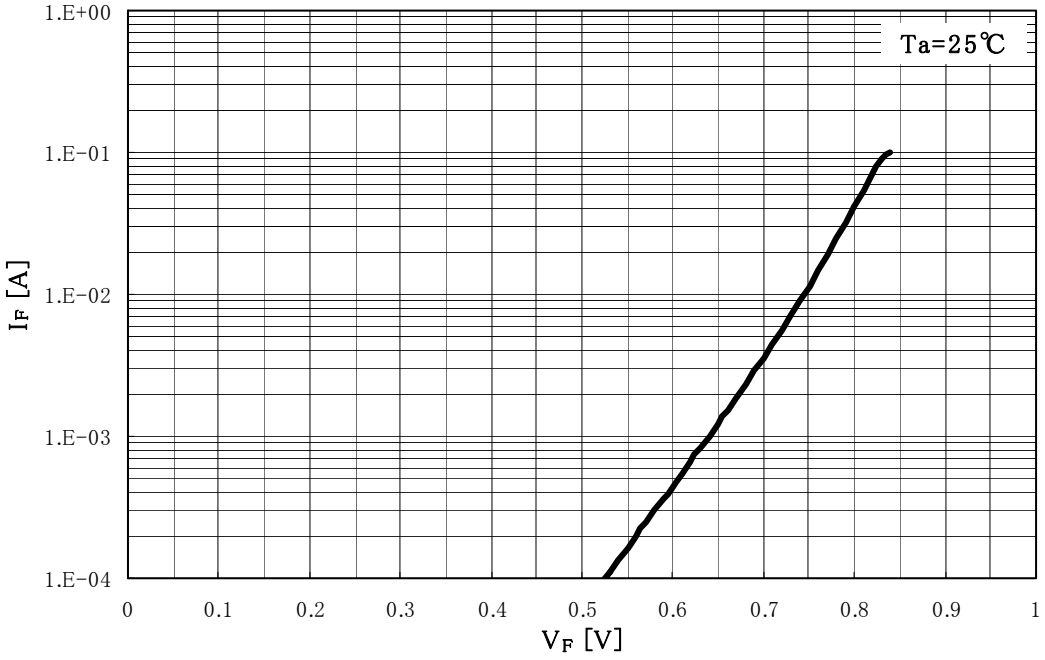
Unit: mm



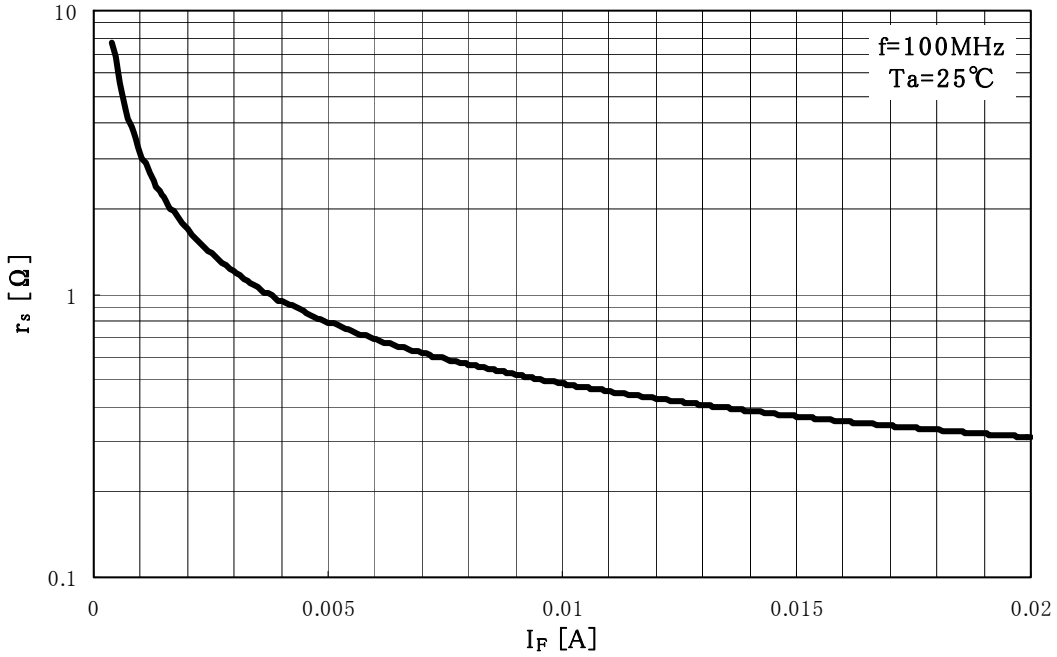
C_T–V_R


10
1
f=1MHz
Ta=25℃
CT [pF]
0
5
10
15
20
25
30
35
40
45
50
VR [V]

I_F–V_F


1.E+00
1.E-01
1.E-02
1.E-03
1.E-04
Ta=25℃
IF [A]
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
VF [V]

$r_s - I_F$



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