

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC5324

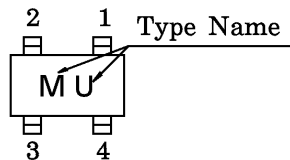
VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

- Low Noise Figure : NF = 1.4 dB (f = 2 GHz)
- High Gain : $|S_{21e}|^2 = 12$ dB (f = 2 GHz)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CBO}	8	V
Collector-Emitter Voltage	V _{CEO}	5	V
Emitter-Base Voltage	V _{EBO}	1.5	V
Collector Current	I _C	10	mA
Base Current	I _B	5	mA
Collector Power Dissipation	P _C	100	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C

Marking



Unit in mm

1, 3. EMITTER
2. BASE
4. COLLECTOR

USQ	
JEDEC	—
EIAJ	—
TOSHIBA	2-2K1A

Weight : 0.006 g

MICROWAVE CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Transition Frequency	f _T	V _{CE} = 3 V, I _C = 7 mA	13	16	—	GHz
Insertion Gain	$ S_{21e} ^2$ (1)	V _{CE} = 3 V, I _C = 7 mA, f = 1 GHz	14.5	17.5	—	dB
	$ S_{21e} ^2$ (2)	V _{CE} = 3 V, I _C = 7 mA, f = 2 GHz	9	12	—	
Noise Figure	NF (1)	V _{CE} = 3 V, I _C = 3 mA, f = 1 GHz	—	0.9	1.8	dB
	NF (2)	V _{CE} = 3 V, I _C = 3 mA, f = 2 GHz	—	1.4	2.3	

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I _{CBO}	V _{CB} = 8 V, I _E = 0	—	—	1	μA
Emitter Cut-off Current	I _{EBO}	V _{EB} = 1 V, I _C = 0	—	—	1	μA
DC Current Gain	h _{FE}	V _{CE} = 3 V, I _C = 7 mA	50	—	250	V
Output Capacitance	C _{ob}	V _{CB} = 2.5 V, I _E = 0,	—	0.4	—	pF
Reverse Transfer Capacitance	C _{re}	f = 1 MHz (Note)	—	0.3	0.7	pF

(Note) : C_{re} is measured by 3 terminal method with Capacitance Bridge.

CAUTION

This device electrostatic sensitivity. Please handle with caution.

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