

TENTATIVE TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC5322

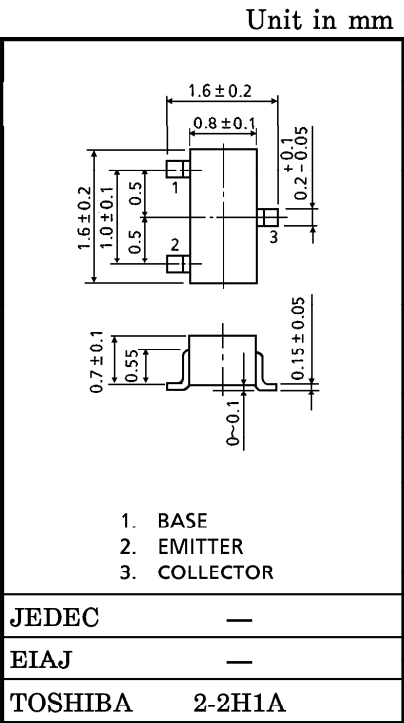
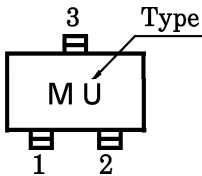
VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS  
(CHIP :  $f_T=16\text{GHz}$  series)

- Low Noise Figure :  $NF=1.4\text{dB}$  ( $f=2\text{GHz}$ )
- High Gain :  $G_a=10\text{dB}$  ( $f=2\text{GHz}$ )

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

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	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	$-55\sim 125$	$^\circ\text{C}$

MARKING



Weight : 2.4mg

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Transition Frequency	$f_T$	$V_{CE}=3\text{V}$ , $I_C=7\text{mA}$	9	—	—	GHz
Insertion Gain	$ S_{21e} ^2 (1)$	$V_{CE}=3\text{V}$ , $I_C=7\text{mA}$ , $f=1\text{GHz}$	—	15.5	—	dB
	$ S_{21e} ^2 (2)$	$V_{CE}=3\text{V}$ , $I_C=7\text{mA}$ , $f=2\text{GHz}$	—	10	—	
Noise Figure	NF (1)	$V_{CE}=3\text{V}$ , $I_C=3\text{mA}$ , $f=1\text{GHz}$	—	0.9	1.8	dB
	NF (2)	$V_{CE}=3\text{V}$ , $I_C=3\text{mA}$ , $f=2\text{GHz}$	—	1.4	2.3	

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## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=10V, I_E=0$	—	—	1	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=1V, I_C=0$	—	—	1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=3V, I_C=7mA$	50	—	250	V
Output Capacitance	$C_{ob}$	$V_{CB}=2.5V, I_E=0, f=1MHz$ (Note)	—	0.45	—	pF
Reverse Transfer Capacitance	$C_{re}$		—	0.35	—	pF

Note :  $C_{re}$  is measured by 3 terminal method with Capacitance bridge.

## CAUTION

This device electrostatic sensitivity. Please handle with caution.