

TOSHIBA

MT6P06T

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

## MT6P06T

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

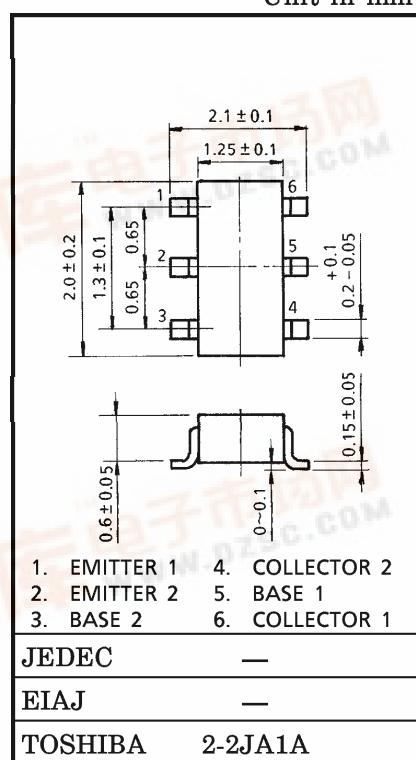
- TWO devices are built in to the super-thin and ultra super mini (6 pins) package : TU6

## MOUNTED DEVICES

	Q1 / Q2 : SSM (TESM)
Three-pins (SSM / TESM) mold products are corresponded.	MT3S06S (MT3S06T)

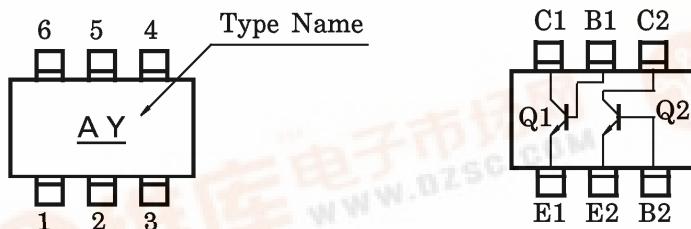
## MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	Q1 / Q2	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	10	V
Collector-Emitter Voltage	V <sub>CCEO</sub>	5	V
Emitter-Base Voltage	V <sub>EBO</sub>	1.5	V
Collector Current	I <sub>C</sub>	15	mA
Base Current	I <sub>B</sub>	7	mA
Collector Power Dissipation	P <sub>C</sub>	120	mW
Junction Temperature	T <sub>j</sub>	125	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°C



## MARKING

## PIN ASSIGNMENT (TOP VIEW)



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## ELECTRICAL CHARACTERISTICS Q1 / Q2 (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 5 \text{ V}$ , $I_E = 0$	—	—	0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 1 \text{ V}$ , $I_C = 0$	—	—	1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 1 \text{ V}$ , $I_C = 5 \text{ mA}$	70	—	140	—
Transition Frequency	$f_T$	$V_{CE} = 3 \text{ V}$ , $I_C = 5 \text{ mA}$	7	10	—	GHz
Insertion Gain	$ S_{21e} ^2 (1)$	$V_{CE} = 1 \text{ V}$ , $I_C = 5 \text{ mA}$ , $f = 2 \text{ GHz}$	—	7.5	—	dB
	$ S_{21e} ^2 (2)$	$V_{CE} = 3 \text{ V}$ , $I_C = 7 \text{ mA}$ , $f = 2 \text{ GHz}$	4.5	8	—	dB
Noise Figure	NF (1)	$V_{CE} = 1 \text{ V}$ , $I_C = 3 \text{ mA}$ , $f = 2 \text{ GHz}$	—	1.7	3	dB
	NF (2)	$V_{CE} = 3 \text{ V}$ , $I_C = 3 \text{ mA}$ , $f = 2 \text{ GHz}$	—	1.6	3	dB
Reverse Transfer Capacitance	$C_{re}$	$V_{CB} = 1 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$ (Note)	—	0.35	0.75	pF

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

## HANDLING PRECAUTION

When handling individual devices (which are not yet mounting on a circuit board), be sure that the environment is protected against electrostatic electricity. Operators should wear anti-static clothing, and containers and other objects that come into direct contact with devices should be made of anti-static materials.