

TOSHIBA

MT6P03AT

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

MT6P03AT

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

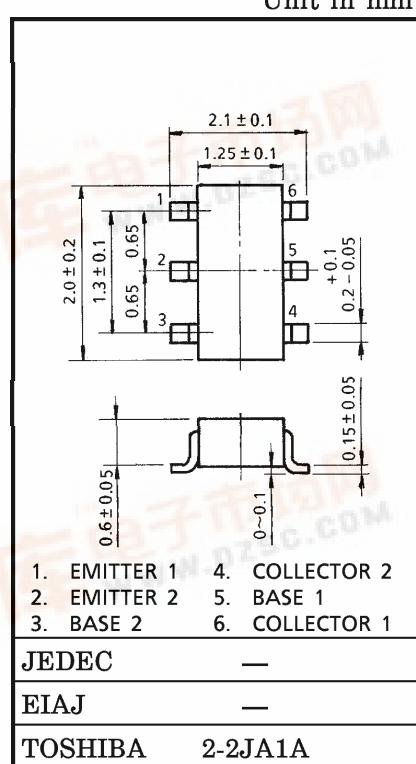
- TWO devices are built in to the super-thin and ultra super mini (6 pins) package : TU6

MOUNTED DEVICES

	Q1 / Q2 : SSM (TESM)
Three-pins (SSM / TESM) mold products are corresponded.	MT3S03AS (MT3S03AT)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	Q1 / Q2	UNIT
Collector-Base Voltage	V _{CBO}	10	V
Collector-Emitter Voltage	V _{CCEO}	5	V
Emitter-Base Voltage	V _{EBO}	2	V
Collector Current	I _C	40	mA
Base Current	I _B	10	mA
Collector Power Dissipation	P _C	200	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-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	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 1 \text{ V}, I_C = 0$	—	—	1	μA
DC Current Gain	h_{FE}	$V_{CE} = 1 \text{ V}, I_C = 5 \text{ mA}$	80	—	160	—
Transition Frequency	$f_T(1)$	$V_{CE} = 1 \text{ V}, I_C = 5 \text{ mA}$	3	5	—	GHz
	$f_T(2)$	$V_{CE} = 3 \text{ V}, I_C = 10 \text{ mA}$	7	10	—	GHz
Insertion Gain	$ S_{21e} ^2(1)$	$V_{CE} = 1 \text{ V}, I_C = 5 \text{ mA}, f = 2 \text{ GHz}$	—	5	—	dB
	$ S_{21e} ^2(2)$	$V_{CE} = 3 \text{ V}, I_C = 20 \text{ mA}, f = 2 \text{ GHz}$	3	6.5	—	dB
Noise Figure	NF(1)	$V_{CE} = 1 \text{ V}, I_C = 5 \text{ mA}, f = 2 \text{ GHz}$	—	1.7	3	dB
	NF(2)	$V_{CE} = 3 \text{ V}, I_C = 7 \text{ mA}, f = 2 \text{ GHz}$	—	1.4	2.2	dB
Reverse Transfer Capacitance	C_{re}	$V_{CB} = 1 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ (Note)	—	0.8	1.15	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.