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

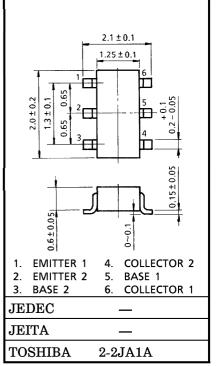
MOUNTED DEVICES

	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_{CEO}	5	V
Emitter-Base Voltage	$ m v_{EBO}$	2	V
Collector Current	$I_{\mathbf{C}}$	40	mA
Base Current	$I_{\mathbf{B}}$	10	mA
Collector Power Dissipation	PC	200	mW
Junction Temperature	$T_{ m j}$	125	$^{\circ}\mathrm{C}$
Storage Temperature Range	$\mathrm{T_{stg}}$	-55~125	°C

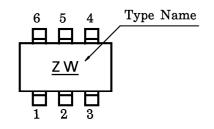
Unit in mm

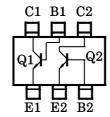


Weight: 0.008 g

MARKING







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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	ICBO	$V_{CB} = 5 V, I_{E} = 0$	_	_	0.1	μ A
Emitter Cut-off Current	$I_{ m EBO}$	$V_{EB} = 1 V, I_{C} = 0$			1	μ A
DC Current Gain	${ m h_{FE}}$	$V_{ m CE}=1 m V,I_{ m C}=5 m mA$	80	_	160	_
Transition Frequency	f _T (1)	$V_{CE} = 1 V, I_{C} = 5 mA$	5	7	_	GHz
	f _T (2)	$ m V_{CE} = 3~V,~I_{C} = 10~mA$	7	10	_	GHz
Insertion Gain	$ S_{21e} ^2(1)$	$V_{\text{CE}} = 1 \text{ V}, \text{ I}_{\text{C}} = 5 \text{ mA},$ $f = 2 \text{ GHz}$	_	5	_	dB
	$ S_{21e} ^2$ (2)	$V_{CE} = 3 \text{ V}, I_{C} = 20 \text{ mA}, $ f = 2 GHz	3	6.5	_	dB
Noise Figure	NF (1)	$V_{CE} = 1 \text{ V}, I_{C} = 5 \text{ mA},$ f = 2 GHz	_	1.7	3	dB
	NF (2)	$V_{CE} = 3 V$, $I_{C} = 7 mA$, $f = 2 GHz$	_	1.4	2.2	dB
Reverse Transfer Capacitance	$\mathrm{C_{re}}$	$V_{CB} = 1 V, I_{E} = 0,$ f = 1 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.

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