

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

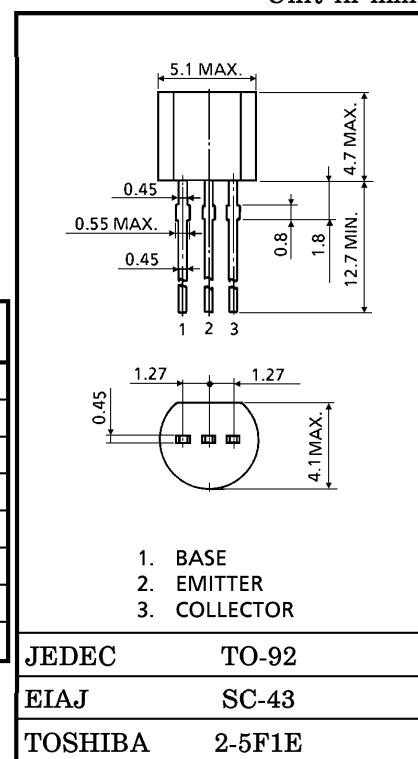
2SC2644

VHF~UHF BAND WIDEBAND AMPLIFIER APPLICATIONS

- High Gain
- Low IMD
- $f_T = 4$ GHz (Typ.)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	25	V
Collector-Emitter Voltage	V_{CEO}	12	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	120	mA
Emitter Current	I_B	40	mA
Collector Power Dissipation	P_C	0.5	W
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55\text{--}125$	$^\circ\text{C}$



Weight : 0.21 g

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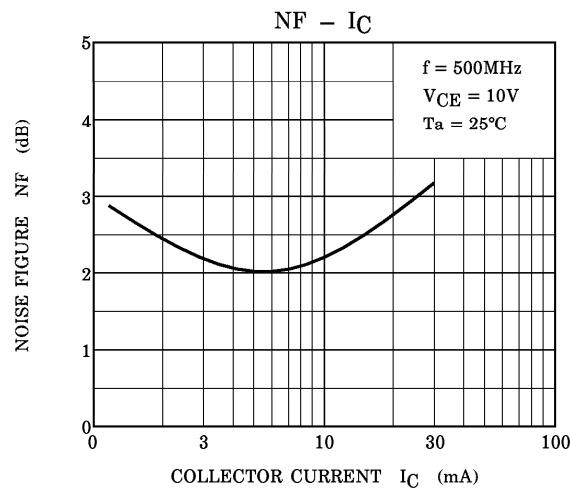
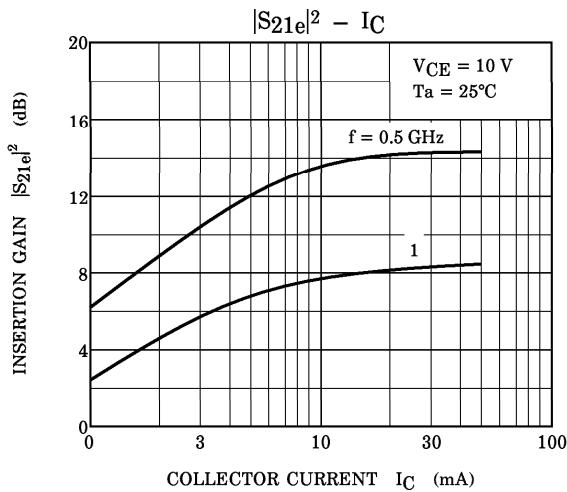
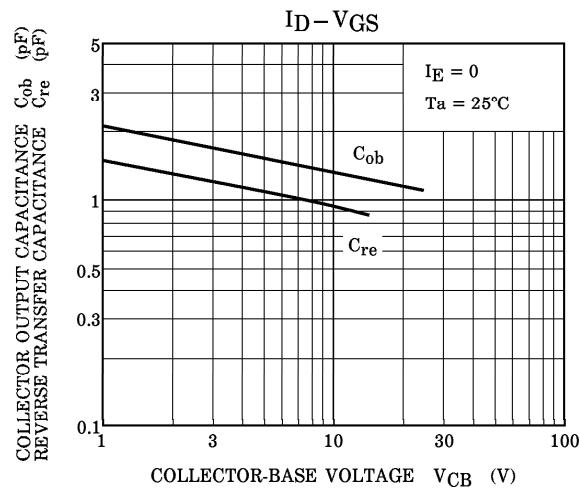
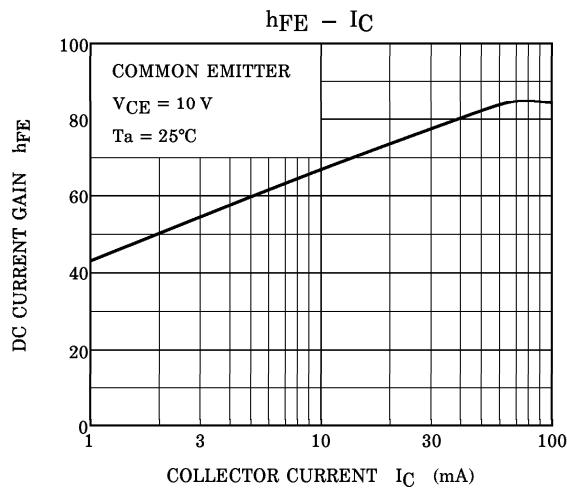
MICROWAVE CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Transition Frequency	f_T	$V_{CE} = 10 \text{ V}$, $I_C = 30 \text{ mA}$	—	4.0	—	GHz
Insertion Gain	$ S_{21e} ^2$ (1)	$V_{CE} = 10 \text{ V}$, $I_C = 30 \text{ mA}$, $f = 0.5 \text{ GHz}$	—	14.0	—	dB
	$ S_{21e} ^2$ (2)	$V_{CE} = 10 \text{ V}$, $I_C = 30 \text{ mA}$, $f = 1 \text{ GHz}$	—	8.5	—	dB
Noise Figure	NF (1)	$V_{CE} = 10 \text{ V}$, $I_C = 10 \text{ mA}$, $f = 0.5 \text{ GHz}$	—	2.3	—	dB
	NF (2)	$V_{CE} = 10 \text{ V}$, $I_C = 10 \text{ mA}$, $f = 1 \text{ GHz}$	—	3.0	—	dB

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 10 \text{ V}$, $I_E = 0$	—	—	1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 1.0 \text{ V}$, $I_C = 0$	—	—	10	μA
DC Current Gain	h_{FE}	$V_{CE} = 5 \text{ V}$, $I_C = 50 \text{ mA}$	20	50	—	—
Collector Output Capacitance	C_{ob}	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$ (Note)	—	1.6	—	pF
Reverse Transfer Capacitance	C_{re}		—	1.1	—	pF

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



COMMON Emitter SMALL S-PARAMETERS OF 2SC2644

 $V_{CE} = 10 \text{ V}$, $I_C = 30 \text{ mA}$ 