

SILICON NPN EPITAXIAL PLANAR TYPE

2SC2876

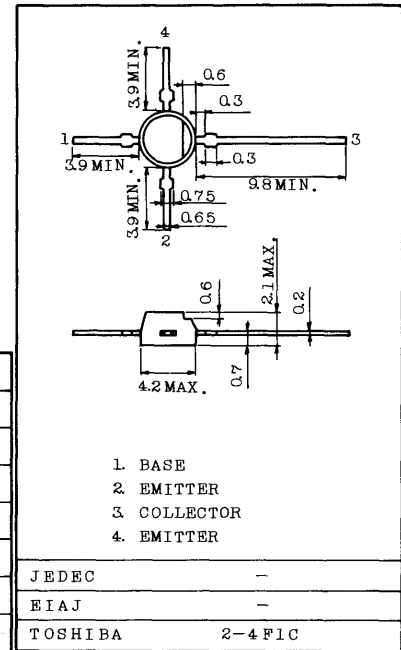
UHF~C BAND LOW NOISE AMPLIFIER APPLICATIONS.
HIGH SPEED SWITCHING APPLICATIONS.

FEATURES:

- High Gain : $|S_{21e}|^2 = 10.5\text{dB}$ (Typ.), $f = 1\text{GHz}$
- Low Noise Figure : $NF = 2.3\text{dB}$ (Typ.), $f = 1\text{GHz}$
- High f_T : $f_T = 7.0\text{GHz}$ (Typ.)
- Low $V_{CE(sat)}$: $V_{CE(sat)} = 0.13\text{V}$ (Typ.)

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

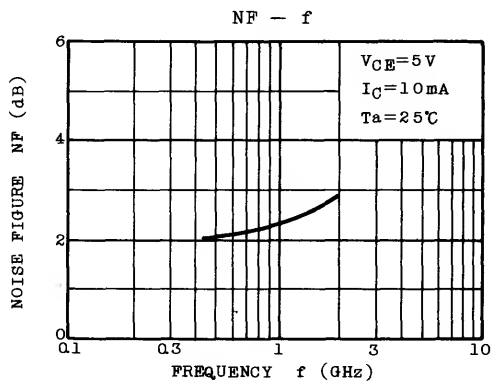
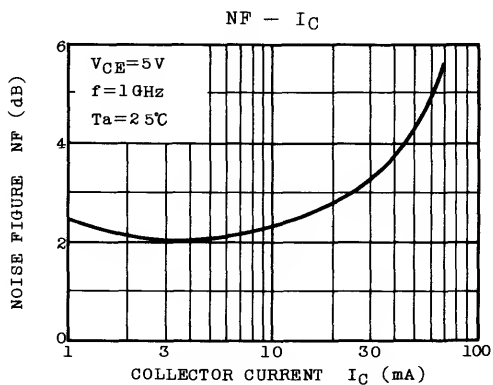
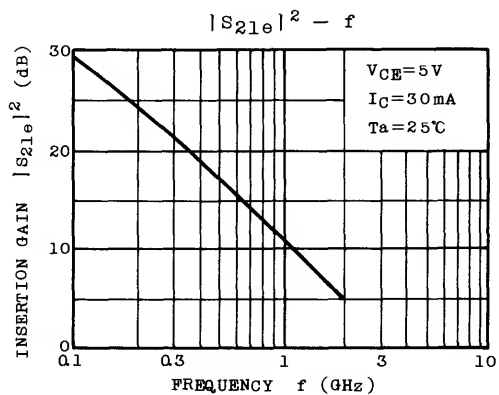
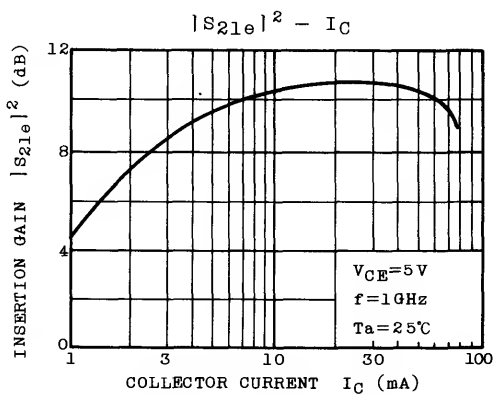
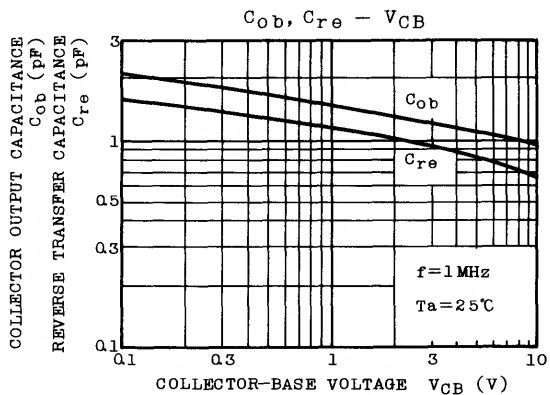
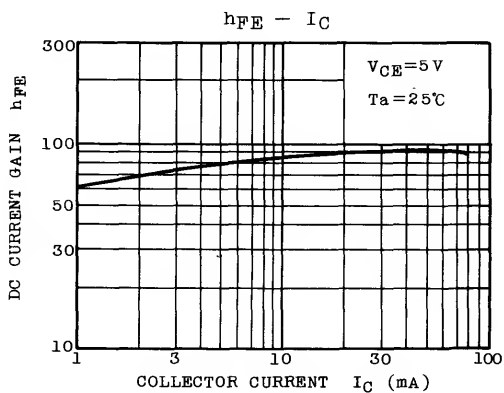
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	15	V
Collector-Emitter Voltage	V_{CE0}	7.5	V
Emitter-Base Voltage	V_{EB0}	3	V
Base Current	I_B	40	mA
Collector Current	I_C	80	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ 125	$^\circ\text{C}$



Marking : MA
Weight : 0.08g

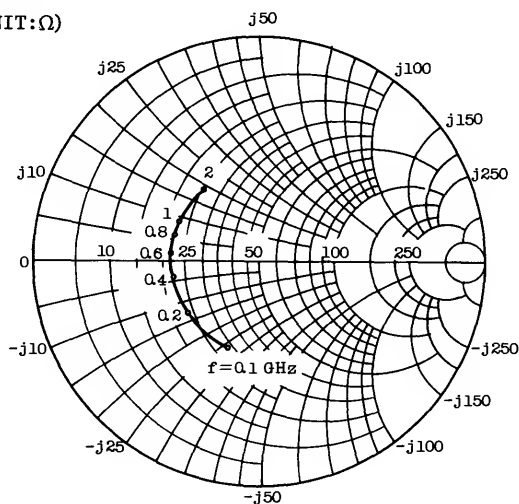
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CB0}	$V_{CB} = 10\text{V}$, $I_E = 0$	—	—	0.1	μA
Emitter Cut-off Current	I_{EB0}	$V_{EB} = 1\text{V}$, $I_C = 0$	—	—	1.0	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CE0}$	$I_C = 5\text{mA}$, $I_B = 0$	7.5	—	—	V
DC Current Gain	h_{FE}	$V_{CE} = 3\text{V}$, $I_C = 50\text{mA}$	30	—	200	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 30\text{mA}$, $I_B = 3\text{mA}$	—	0.13	—	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		—	0.87	—	V
Collector Output Capacitance	C_{ob}	$V_{CB} = 5\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	—	1.25	1.6	pF
Reverse Transfer Capacitance	C_{re}		—	0.86	—	pF
Input Capacitance	C_{ib}	$V_{EB} = 0.5\text{V}$, $I_C = 0$, $f = 1\text{MHz}$	—	2.5	—	pF
Transition Frequency	f_T	$V_{CE} = 5\text{V}$, $I_C = 30\text{mA}$	—	7.0	—	GHz
Insertion Gain	$ S_{21e} ^2$	$V_{CE} = 5\text{V}$, $I_C = 30\text{mA}$, $f = 1\text{GHz}$	—	10.5	—	dB
Noise Figure	NF	$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$, $f = 1\text{GHz}$	—	2.3	—	dB

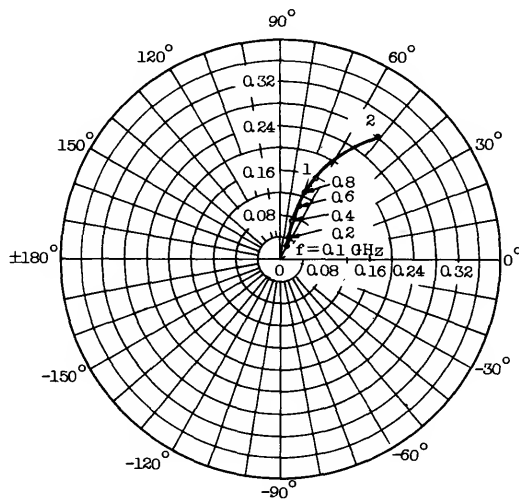


S11e
 $V_{CE}=5V$
 $I_C=30mA$
 $T_a=25^\circ C$

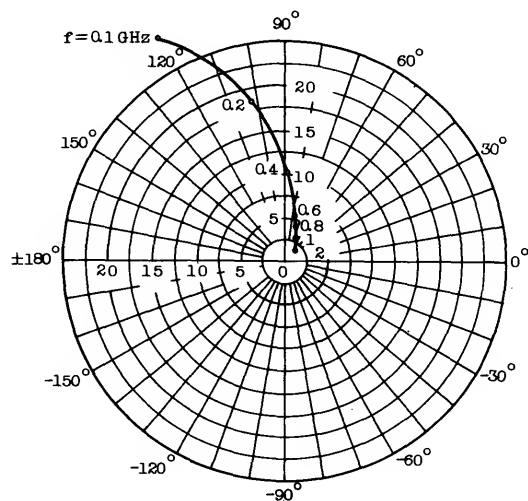
(UNIT: Ω)



S12e
 $V_{CE}=5V$
 $I_C=30mA$
 $T_a=25^\circ C$



S21e
 $V_{CE}=5V$
 $I_C=30mA$
 $T_a=25^\circ C$



S22e
 $V_{CE}=5V$
 $I_C=30mA$
 $T_a=25^\circ C$

(UNIT: Ω)

