



No.1954C

2SC3779

NPN Epitaxial Planar Silicon Transistor

**UHF Low-Noise Amp,
Wide-Band Amp Applications**

Applications

- . UHF low-noise amplifiers, wide-band amplifiers

Features

- . Small noise figure: NF=1.5dB typ(f=0.9GHz).
- . High power gain: MAG=14dB typ(f=0.9GHz).
- . High cutoff frequency: $f_T=5\text{GHz}$ typ.

Absolute Maximum Ratings at Ta=25°C

			unit
Collector to Base Voltage	V_{CB0}	20	V
Collector to Emitter Voltage	V_{CE0}	12	V
Emitter to Base Voltage	V_{EB0}	3	V
Collector Current	I_C	100	mA
Base Current	I_B	40	mA
Collector Dissipation	P_C	600	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics at Ta=25°C

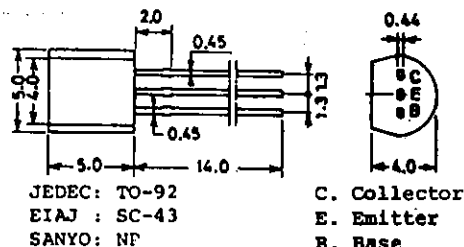
		min	typ	max	unit
Collector Cutoff Current	I_{CB0} $V_{CB}=12\text{V}, I_E=0$			1.0	μA
Emitter Cutoff Current	I_{EB0} $V_{EB}=2\text{V}, I_C=0$			10	μA
DC Current Gain	h_{FE} $V_{CE}=10\text{V}, I_C=20\text{mA}$	40*		200*	
Gain-Bandwidth Product	f_T $V_{CE}=10\text{V}, I_C=20\text{mA}$		5.0		GHz
Output Capacitance	c_{ob} $V_{CB}=10\text{V}, f=1\text{MHz}$		1.0		pF
Reverse Transfer Capacitance	c_{re} $V_{CB}=10\text{V}, f=1\text{MHz}$		0.7		pF
Forward Transfer Gain	$ S_{21e}^2 $ $V_{CE}=10\text{V}, I_C=20\text{mA}, f=0.9\text{GHz}$	8.5	10		dB
Maximum Available Power Gain	MAG $V_{CE}=10\text{V}, I_C=20\text{mA}, f=0.9\text{GHz}$		14		dB
Noise Figure	NF $V_{CE}=10\text{V}, I_C=5\text{mA}, f=0.9\text{GHz}$	1.5	3.0		dB

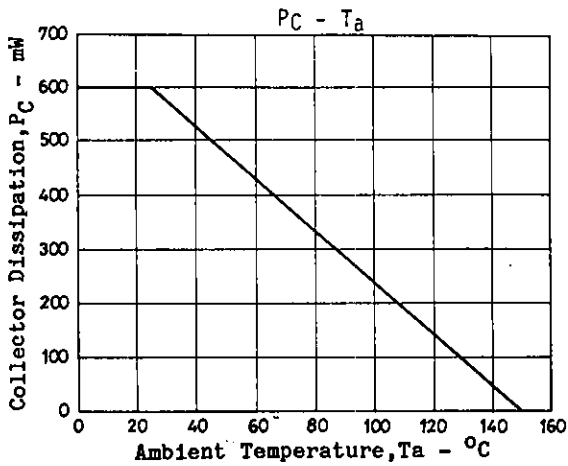
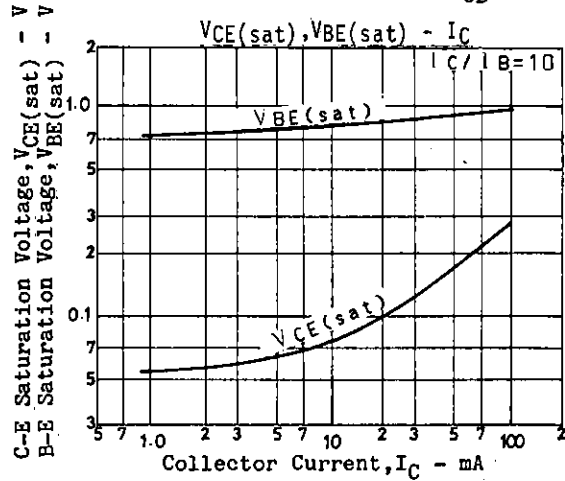
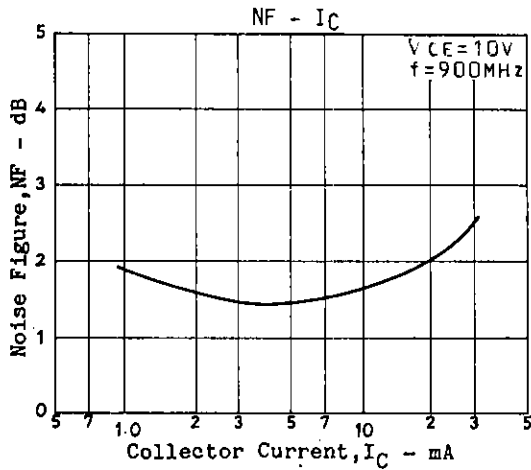
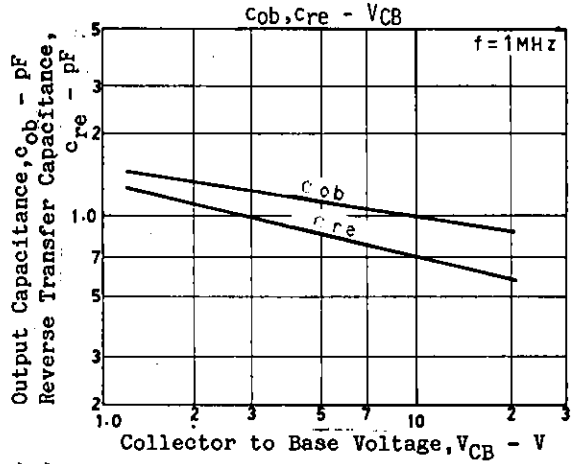
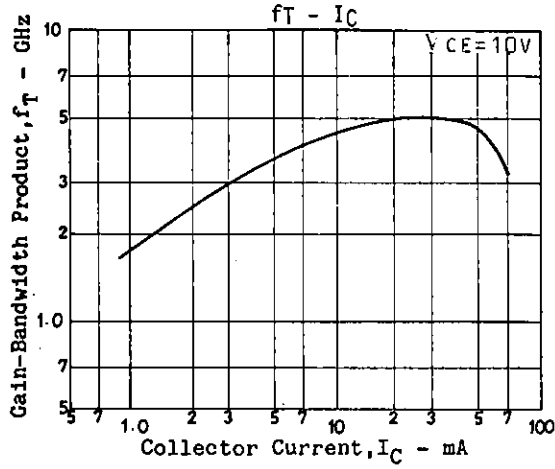
See specified Test Circuit.

*: The 2SC3779 is classified by 20mA h_{FE} as follows:

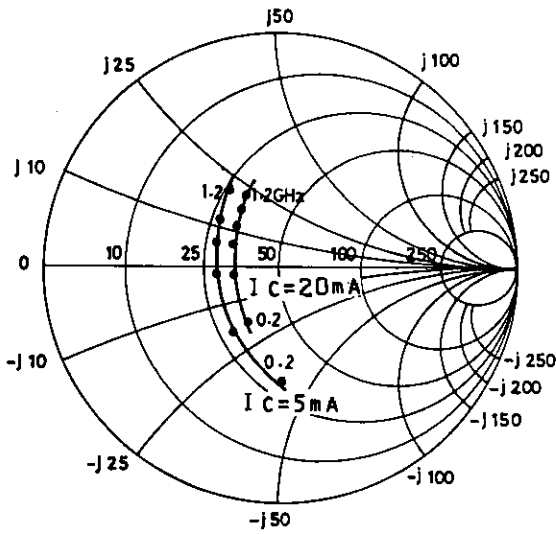
40	C	80	60	D	120	100	E	200
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Package Dimensions 2004A
(unit: mm)

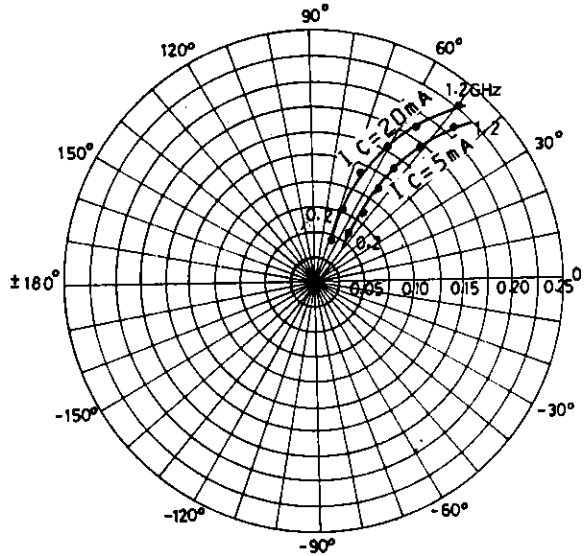




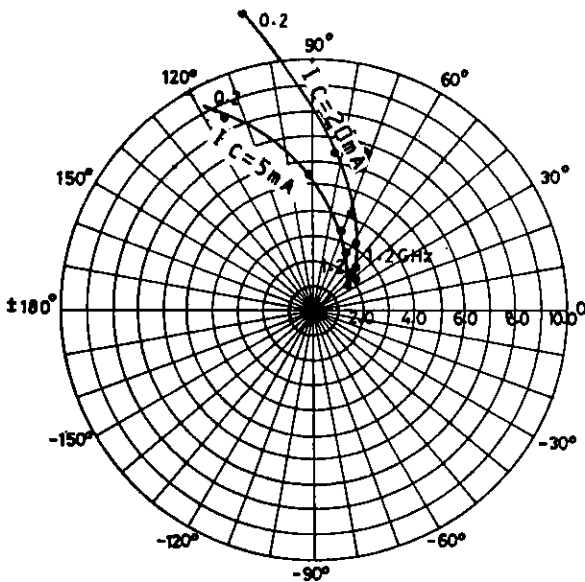
S11e : $V_{CE}=10V$
f=200MHz step



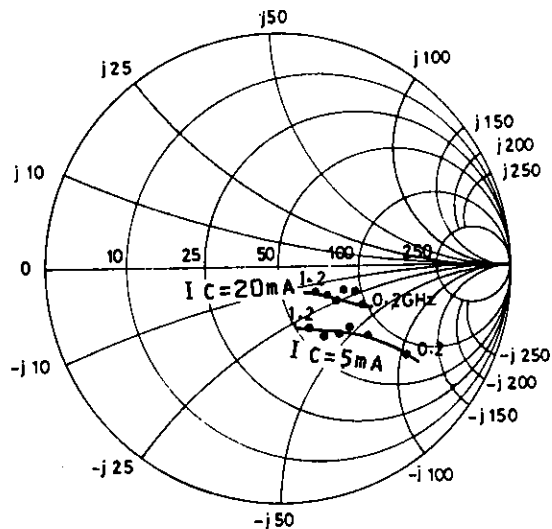
S12e : $V_{CE}=10V$
f=200MHz step



S21e : $V_{CE}=10V$
f=200MHz step



S22e : $V_{CE}=10V$
f=200MHz step



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