

**KSC2758**

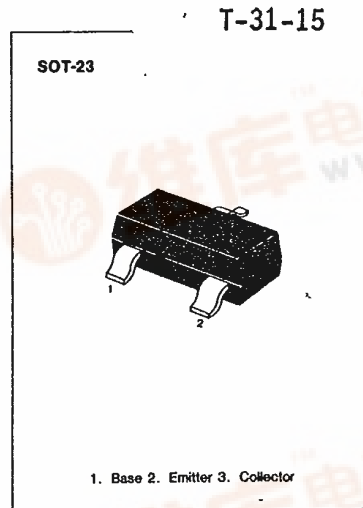
**NPN EPITAXIAL SILICON TRANSISTOR**

**RF. MIXER FOR UHF TUNER**

- HIGH POWER GAIN TYP. 17dB
- LOW NF TYP. 2.8dB

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	30	V
Collector-Emitter Voltage	V <sub>CE0</sub>	25	V
Emitter-Base Voltage	V <sub>EB0</sub>	4	V
Collector Current (DC)	I <sub>c</sub>	20	mA
Collector Dissipation	P <sub>c</sub>	150	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 - 150	°C



**ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = 25V, I <sub>E</sub> = 0			0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 3mA	60	120	240	
Current Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>E</sub> = -3mA	750	1000		MHz
Output Capacitance	C <sub>ob</sub>	f = 1MHz, V <sub>CB</sub> = 10V, I <sub>E</sub> = 0		0.6	0.8	pF
Noise Figure	NF	V <sub>CB</sub> = 10V, I <sub>E</sub> = -3mA f = 900MHz		2.8	4.5	dB
Power Gain	G <sub>pb</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = -3mA, f = 900MHz	14	17		dB
AGC Current	I <sub>AGC</sub>	G <sub>pb</sub> AGC = I <sub>E</sub> of G <sub>pb</sub> - 30dB		-8	-11	mA

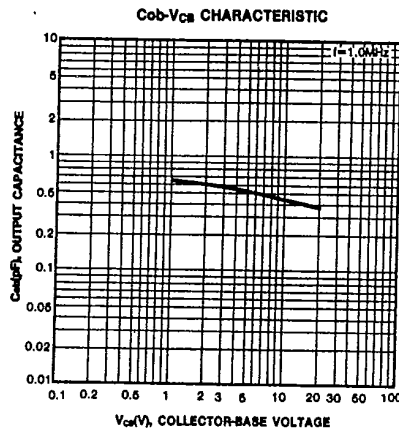
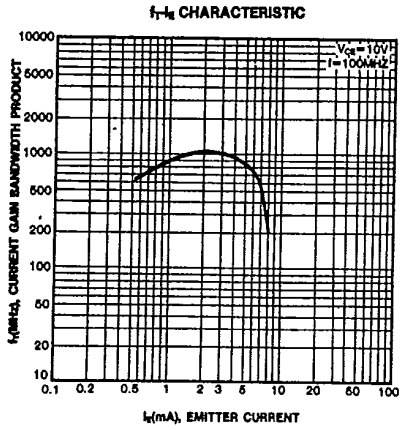
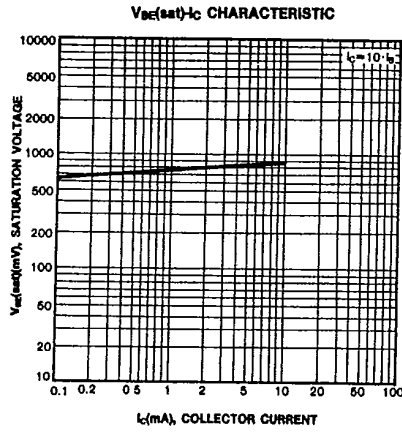
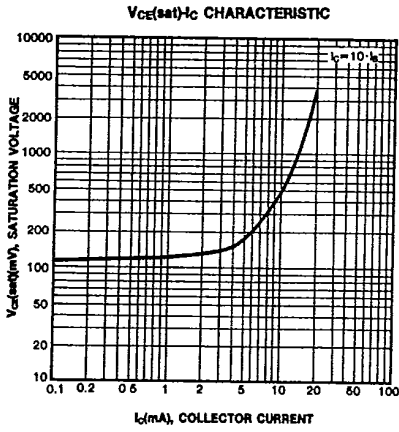
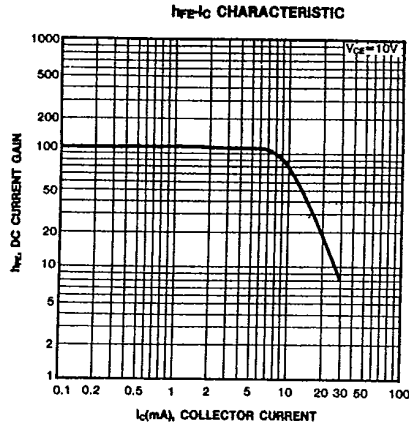
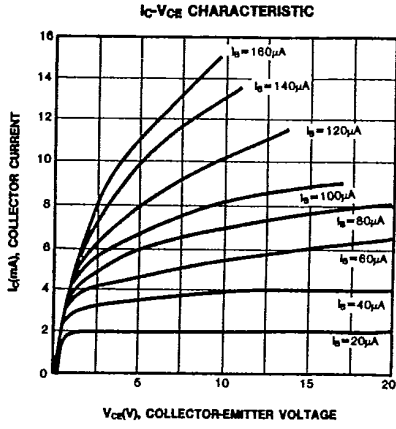
Marking



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**NPN EPITAXIAL SILICON TRANSISTOR**

T-31-15



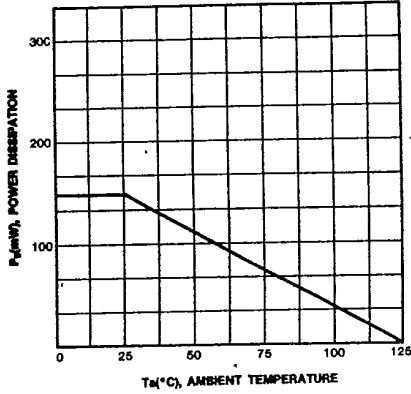
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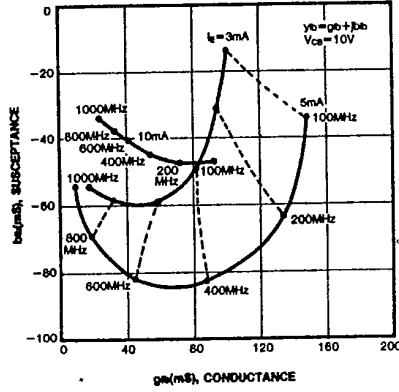
**NPN EPTAXIAL SILICON TRANSISTOR**

T-31-15

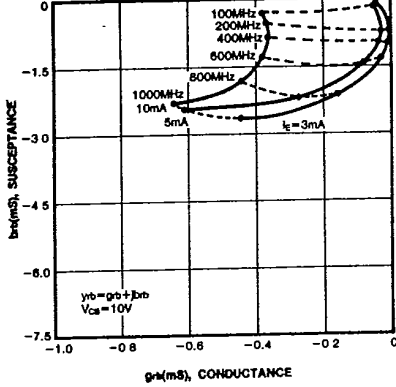
**P<sub>tot</sub> CHARACTERISTIC**



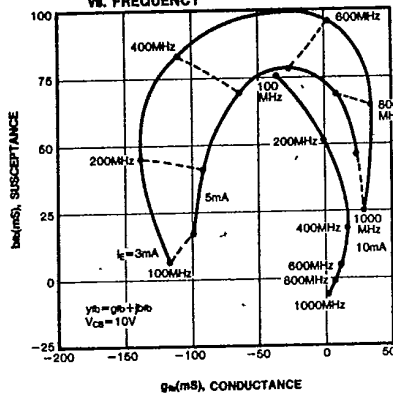
**INPUT ADMITTANCE vs. FREQUENCY**



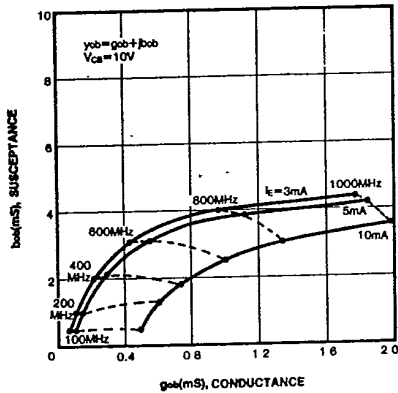
**REVERSE TRANSFER ADMITTANCE vs. FREQUENCY**



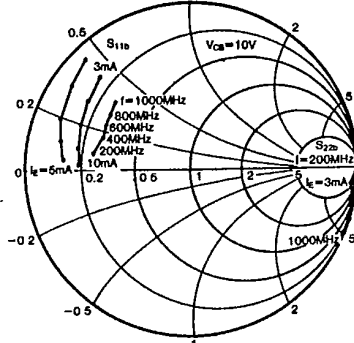
**FORWARD TRANSFER ADMITTANCE vs. FREQUENCY**



**OUTPUT ADMITTANCE vs. FREQUENCY**



**INPUT AND OUTPUT REFLECTION COEFFICIENT vs. FREQUENCY**

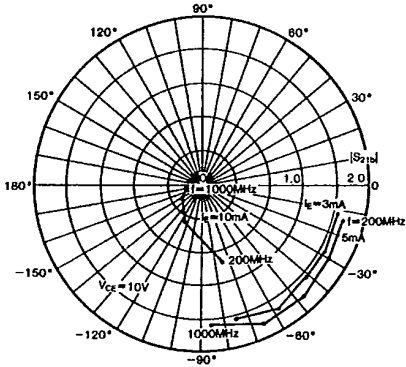


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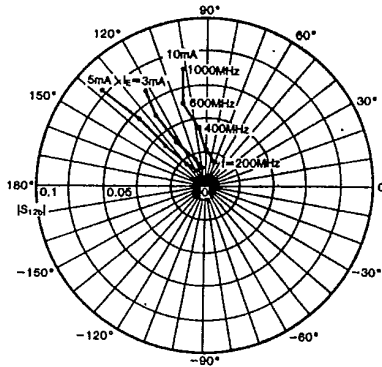
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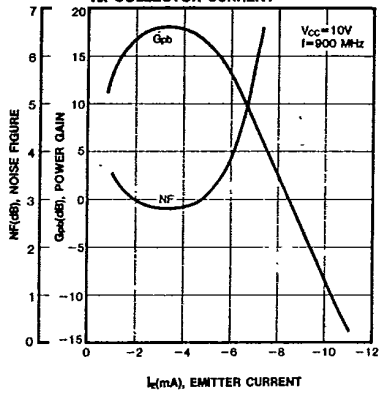
FORWARD INSERTION GAIN vs. FREQUENCY



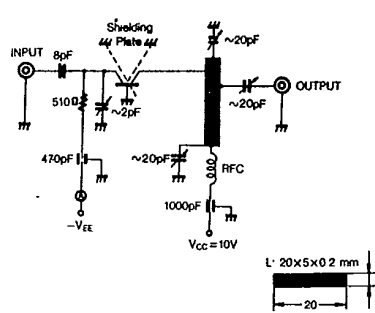
REVERSE INSERTION GAIN vs. FREQUENCY



POWER GAIN AND NOISE FIGURE vs. COLLECTOR CURRENT



900 MHz Gpb, NF TEST CIRCUIT



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