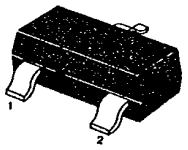
KSC2758 NPN EPITAXIAL SILICON TRANSISTOR

T-31-15

RF. MIXER FOR UHF TUNER

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

SOT-23



1. Base 2. Emitter 3. Collector

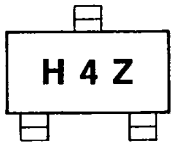
ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current (DC)	I_C	20	mA
Collector Dissipation	P_C	150	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55−150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB}=25V, I_E=0			0.1	μA
DC Current Gain	h_{FE}	V_{CE}=10V, I_C=3mA	60	120	240	
Current Gain Bandwidth Product	f_T	V_{CE}=10V, I_E=−3mA	750	1000		MHz
Output Capacitance	Cob	f=1MHz, V_{CB}=10V, I_E=0		0.6	0.8	pF
Noise Figure	NF	V_{CB}=10V, I_E=−3mA f=900MHz		2.8	4.5	dB
Power Gain	Gpb	V_{CB}=10V, I_E=−3mA, f=900MHz	14	17		dB
AGC Current	I_{AGC}	Gpb AGC=I_E of G_{Pb}−30dB		−8	−11	mA

Marking



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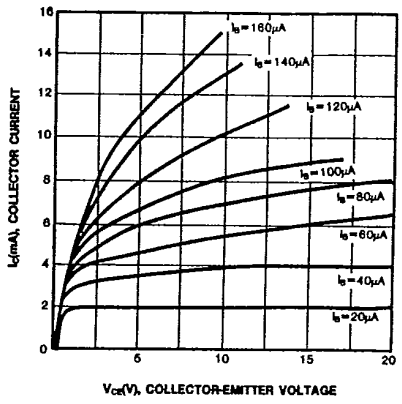
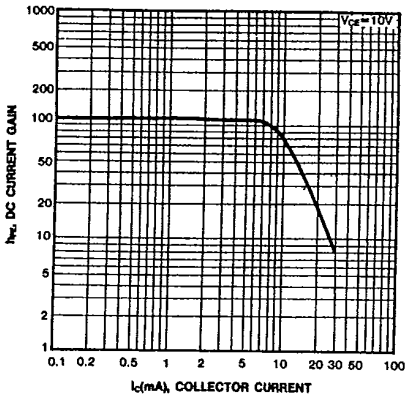
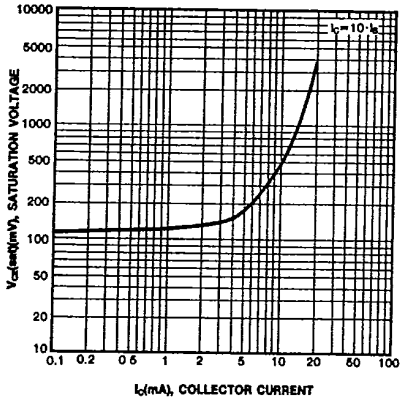
I_C-V_{CE} CHARACTERISTIC



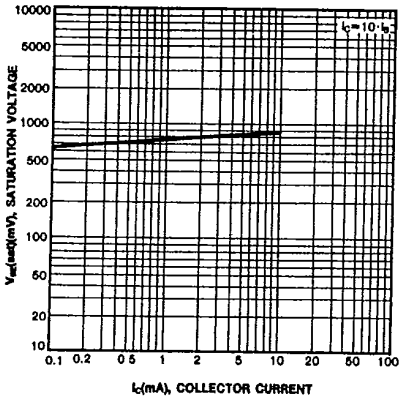
h_{FE}-I_C CHARACTERISTIC



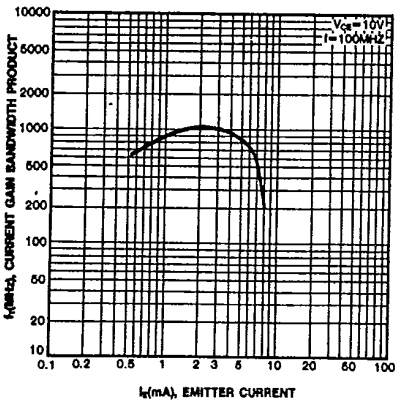
V_{CE}(sat)-I_C CHARACTERISTIC



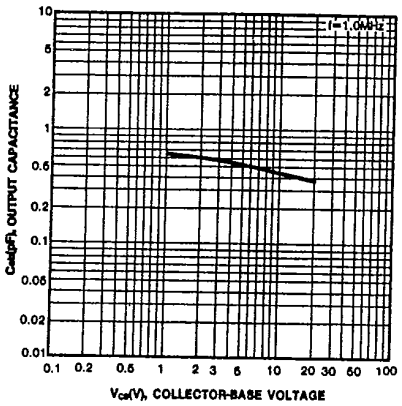
V_{BE}(sat)-I_C CHARACTERISTIC



f_T-I_E CHARACTERISTIC



Cob-V_{CB} CHARACTERISTIC



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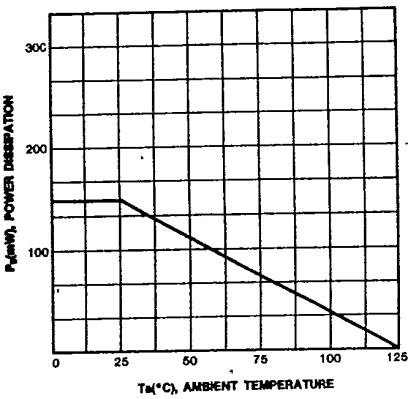
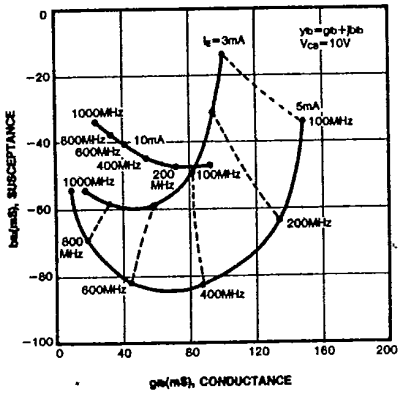
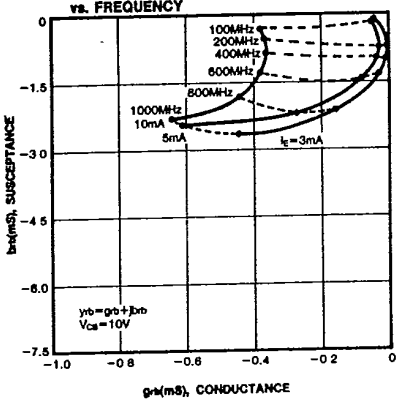
P_C-T_a CHARACTERISTIC



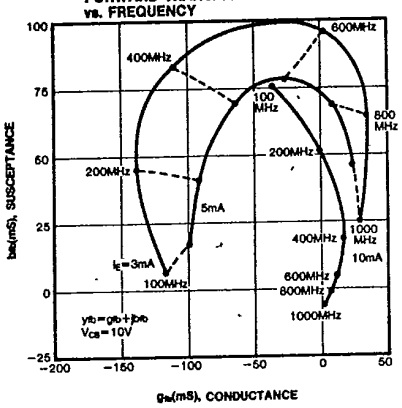
INPUT ADMITTANCE vs. FREQUENCY



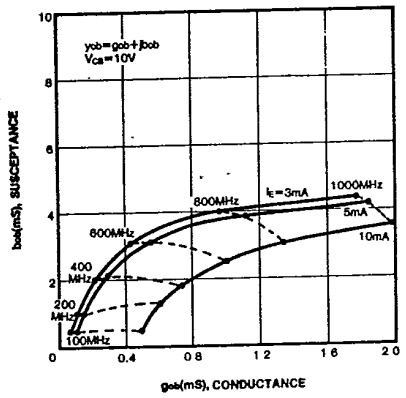
REVERSE TRANSFER ADMITTANCE vs. FREQUENCY



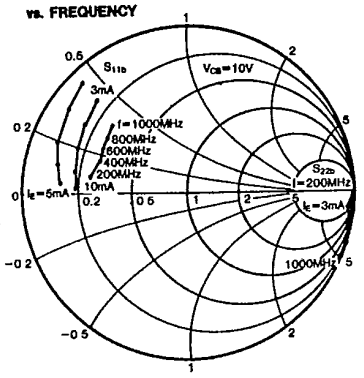
FORWARD TRANSFER ADMITTANCE vs. FREQUENCY



OUTPUT ADMITTANCE vs. FREQUENCY



INPUT AND OUTPUT REFLECTION COEFFICIENT vs. FREQUENCY



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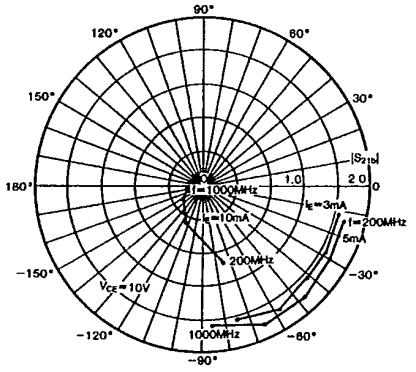
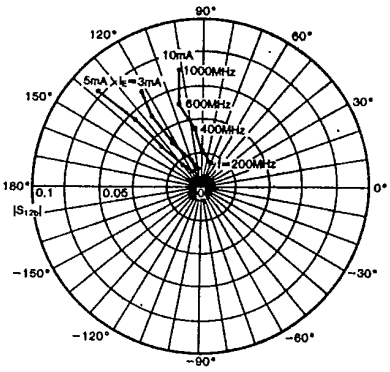
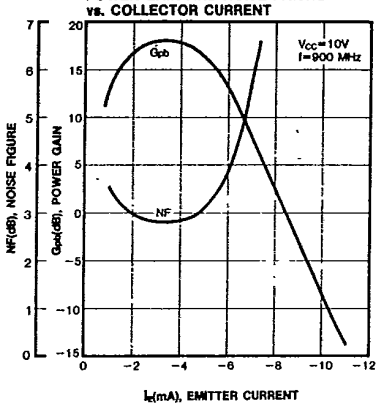
FORWARD INSERTION GAIN vs. FREQUENCY



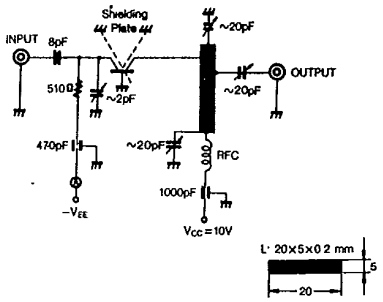
REVERSE INSERTION GAIN vs. FREQUENCY



POWER GAIN AND NOISE FIGURE vs. COLLECTOR CURRENT



900 MHz Gpb, NF TEST CIRCUIT



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