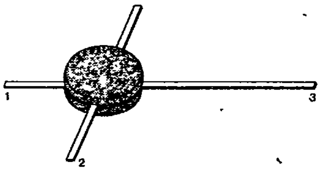
KSC1070 (1)/1070 (2) NPN EPITAXIAL SILICON TRANSISTOR

UHF TV TUNER RF AMPLIFIERLIFIER, MIXER

DISK MOLD

HIGH PG, LOW NF (PG: 18dB, NF: 2.8dB, @900MHz)

DISK TR



1. Emitter 2. Base 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}	3.0	V
Collector Current	I_C	20	mA
Collector Dissipation	P_C	200	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

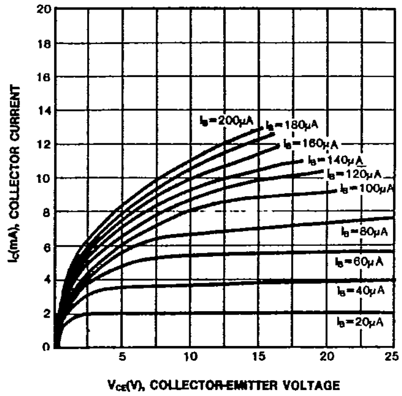
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB}=25V, I_E=0			0.1	μA
DC Current Gain	h_{FE}	V_{CE}=10V, I_C=3mA	40	80	200	
Current Gain-Bandwidth Product	f_T	V_{CE}=10V, I_E=−3mA	750	1000		MHz
Output Capacitance	Cob	f=1MHz, V_{CB}=10V, I_E=0		0.55	0.8	pF
Noise Figure	NF	V_{CB}=10V, I_E=−3mA f=900MHz		2.8	4.0	dB
Power Gain	PG	V_{CB}=10V, I_E=−3mA f=900MHz	14	18		dB
AGC Current: Only to C1070 (1)	I_{AGC}	I_E of PG −30dB f=900MHz	−8		−11	mA

KSC1070 (1): I_{AGC} Classification P: −9~−11mA
Q: −8~−10mA
KSC1070 (2): H_{FE} Classification F: 40~200

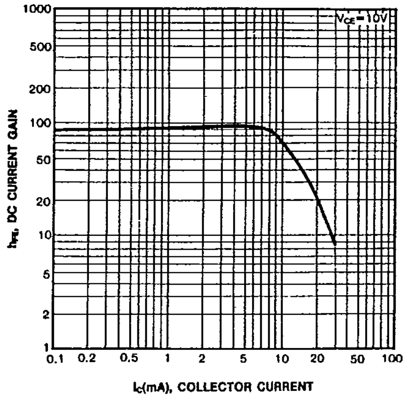
KSC1070 (1)/1070 (2) NPN EPITAXIAL SILICON TRANSISTOR

T-31-15

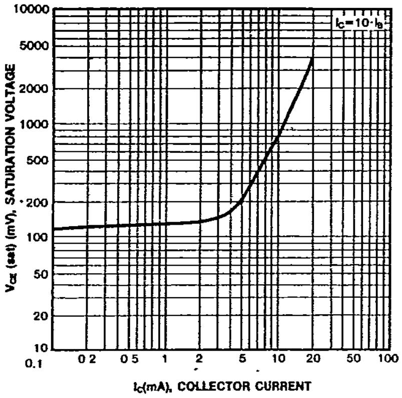
I_C-V_{CE} CHARACTERISTIC



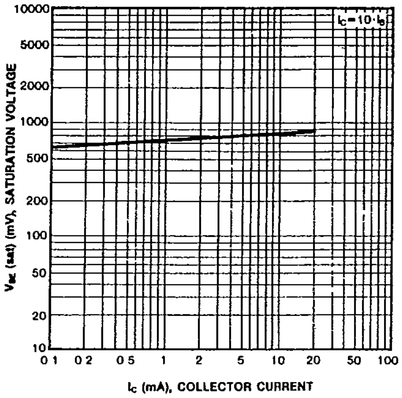
h_{FE}-I_C CHARACTERISTIC



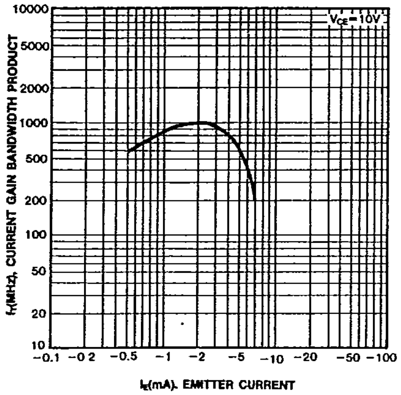
V_{CE} (sat)-I_C CHARACTERISTIC



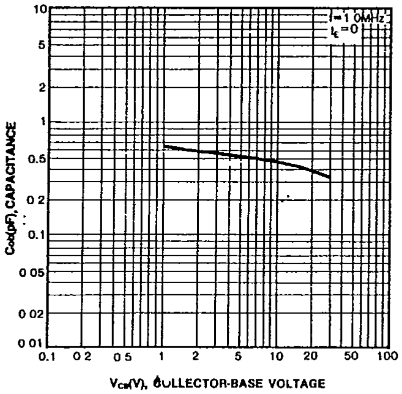
V_{BE} (sat)-I_C CHARACTERISTIC



f_T-I_E CHARACTERISTIC



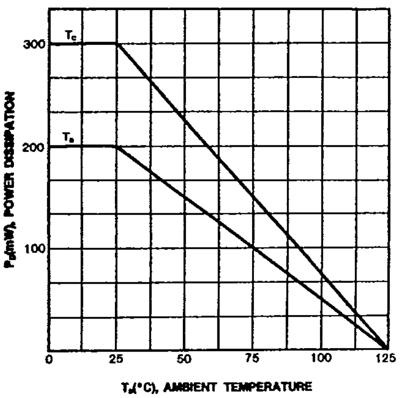
Cob-V_{CB} CHARACTERISTIC



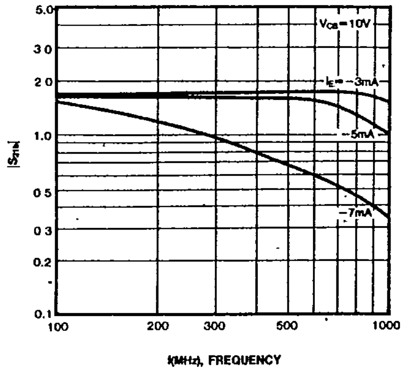
3

T-31-15

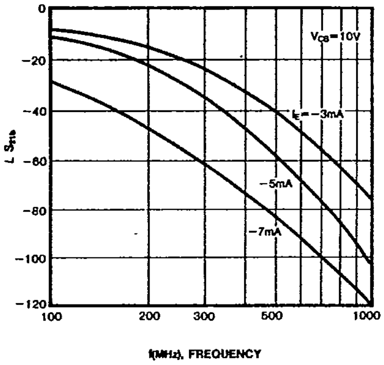
P_D-T_a CHARACTERISTIC



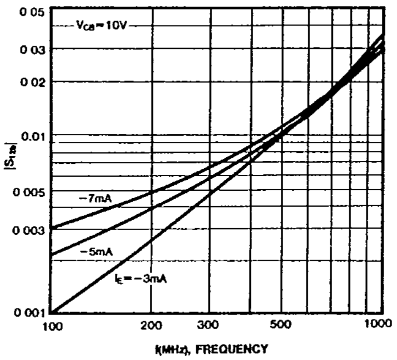
$|S_{21b}|$ - f CHARACTERISTIC



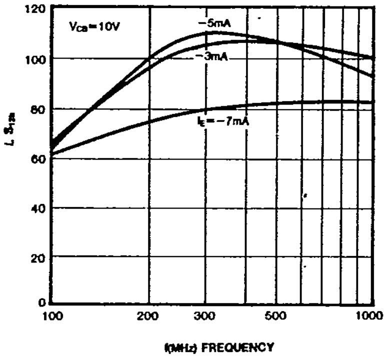
$\angle S_{21b}$ - f CHRACTERISTIC



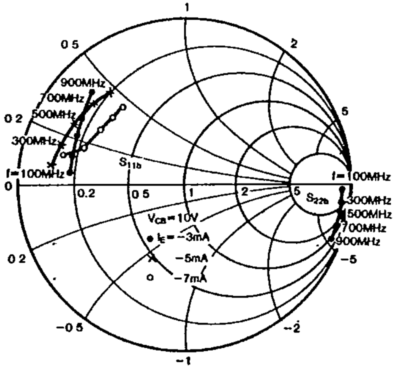
S_{12b} - f CHRACTERISTIC



$\angle S_{12b}$ - f CHRACTERISTIC



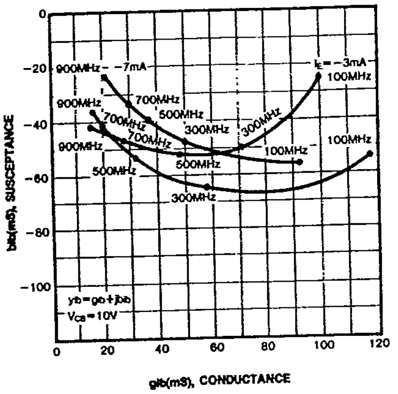
S_{11}-f, S_{22}-f



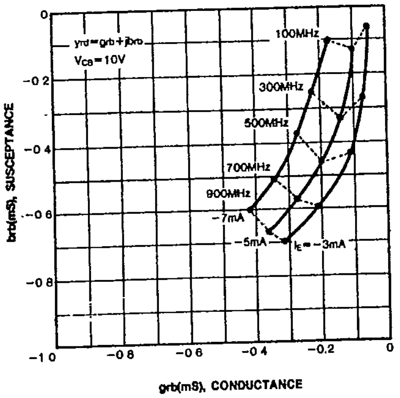
KSC1070 (1)/1070 (2) NPN EPITAXIAL SILICON TRANSISTOR

T-31-15

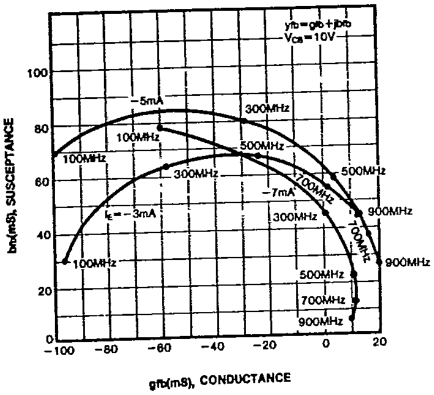
yib-f CHARACTERISTIC



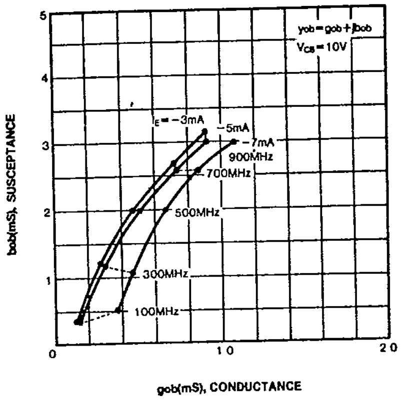
yrb-f CHARACTERISTIC



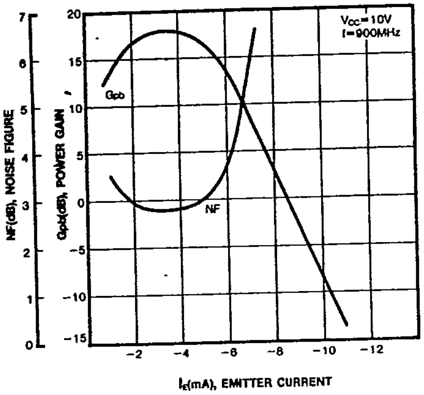
yfb-f CHARACTERISTIC



yob-f CHARACTERISTIC



Gpb-IE, NF-IE CHARACTERISTIC



900 MHz PG, NF TEST CIRCUIT