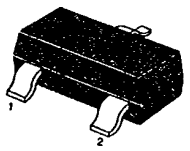
KSC2757 NPN EPITAXIAL SILICON TRANSISTOR

T-31-15

MIXER OSCILLATOR FOR VHF TUNER

HIGH f_T (f_T=1100MHz Typ.)

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}	15	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	50	mA
Collector Dissipation	P_C	150	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~150	°C

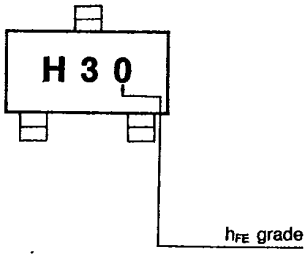
ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB}=12V, I_E=0			0.1	μA
DC Current Gain	h_{FE}	V_{CE}=10V, I_C=5mA	60	120	240	
Collector Emitter Saturation Voltage	V_{CE} (sat)	I_C=10mA, I_B=1mA			0.5	V
Current Gain Bandwidth Product	f_T	V_{CE}=10V, I_E=−5mA	800	1100		MHz
Output Capacitance	Cob	f=1MHz, V_{CB}=10V I_E=0			1.5	pF
Collector Base Time Constant	Cc·rbb'	f=31.9MHz, V_{CE}=10V I_E=−5mA		10	15	ps

h_{FE} CLASSIFICATION

Classification	R	O	Y
h_{FE}	60-120	90-180	120-240

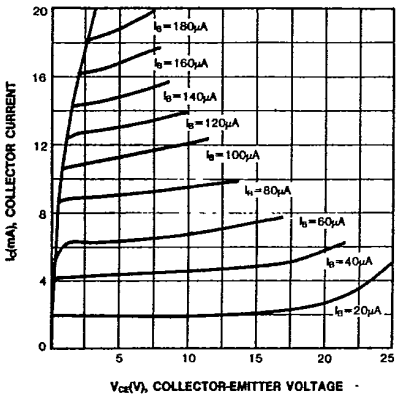
Marking



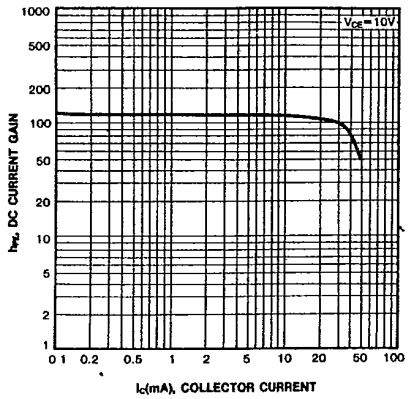
KSC2757 NPN EPITAXIAL SILICON TRANSISTOR

T-31-15

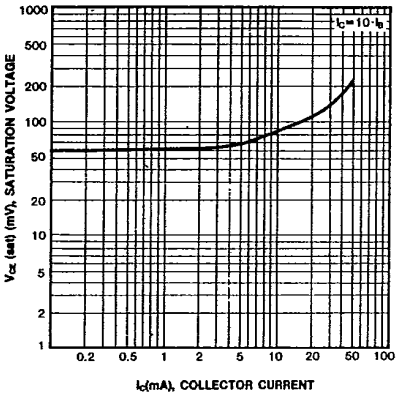
I_C-V_{CE} CHARACTERISTIC



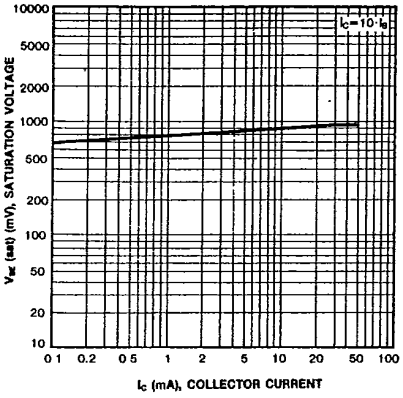
h_{FE}-I_C CHARACTERISTIC



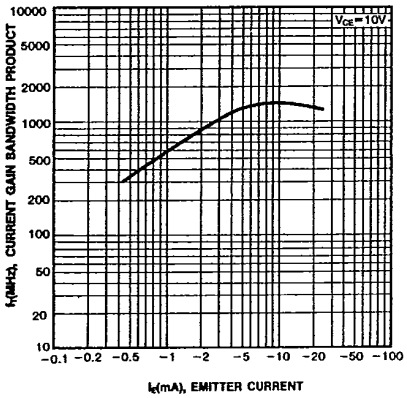
V_{CE} (sat)-I_C CHARACTERISTIC



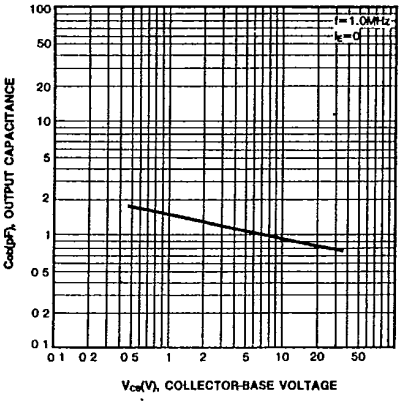
V_{BE} (sat)-I_C CHARACTERISTIC



f_T-I_E CHARACTERISTIC



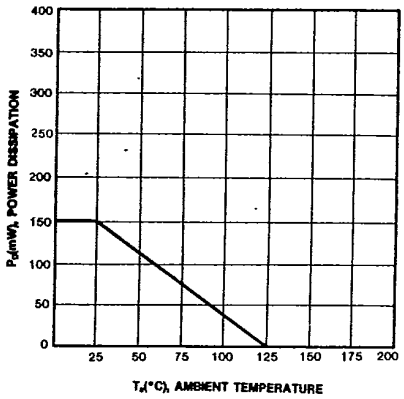
Cob-V_{CB} CHARACTERISTIC



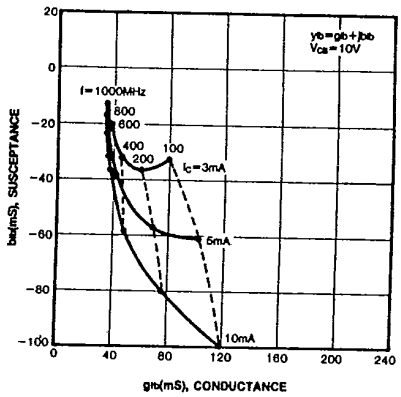
KSC2757 NPN EPITAXIAL SILICON TRANSISTOR

T-31-15

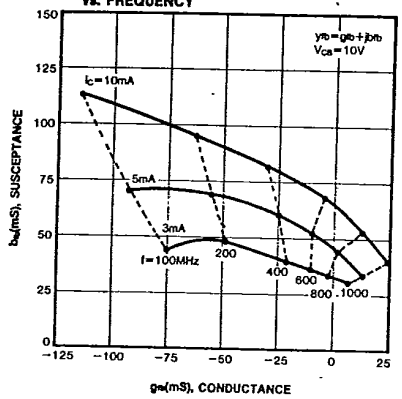
P_C-T_a CHARACTERISTIC



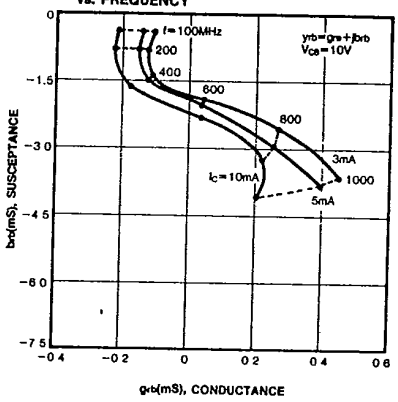
INPUT ADMITTANCE (yib) vs. FREQUENCY



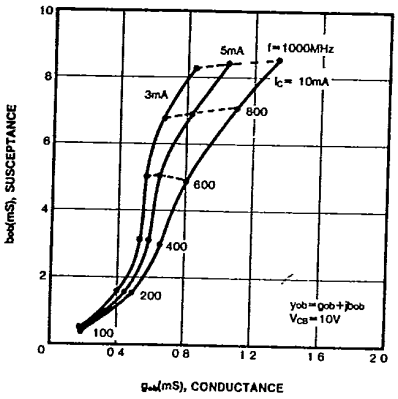
FORWARD TRANSFER ADMITTANCE (yfb) vs. FREQUENCY



REVERSE TRANSFER ADMITTANCE (yrb) vs. FREQUENCY



OUTPUT ADMITTANCE (yob) vs. FREQUENCY



3