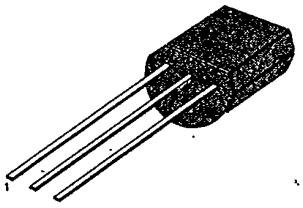
KSC1730 NPN EPITAXIAL SILICON TRANSISTOR

T-31-17

TV VHF, UHF TUNER OSCILLATOR

- High Current Gain Bandwidth Product f_T=1100MHz (Typ)
- Output Capacitance Cob=1.5pF (Max)

TO-92



1. Emitter 2. Collector 3. Base

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	250	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=10μA, I_E=0	30			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=5mA, I_B=0	15			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=−10μA, I_C=0	5			V
Collector Cut-off Current	I_{CBO}	V_{CB}=12V, I_E=0			0.1	μA
DC Current Gain	h_{FE}	V_{CE}=10V, I_C=5.0mA	40		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_C=5mA	800	1100		MHz
Output Capacitance	Cob	V_{CB}=10V, f=1MHz I_E=0			1.5	pF
Collector-Base Time Constant	Cc·rbb'	V_{CE}=10V, f=31.9MHz I_E=−0.5mA		10	20	ps

h_{FE} CLASSIFICATION

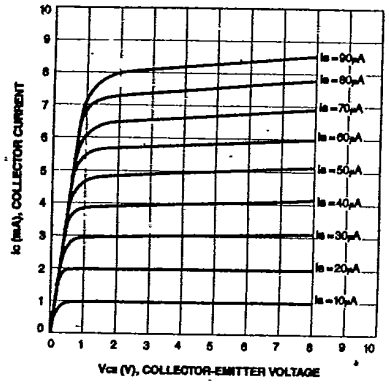
Classification	R	O	Y
h_{FE}	40-80	70-140	120-240

3

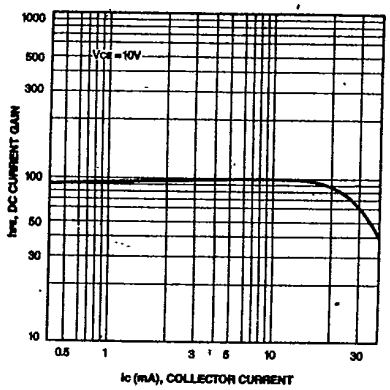
KSC1730 NPN EPITAXIAL SILICON TRANSISTOR

T-31-17

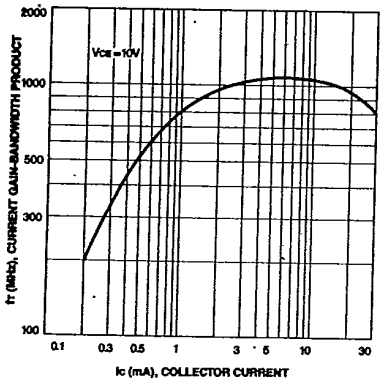
STATIC CHARACTERISTIC



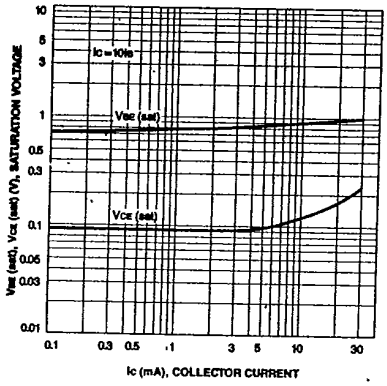
DC CURRENT GAIN



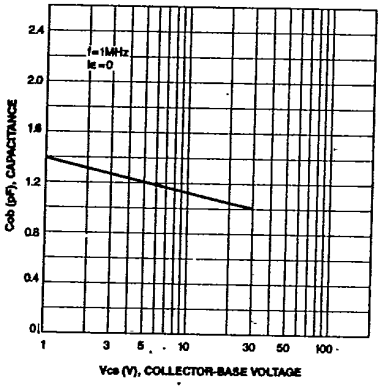
CURRENT GAIN-BANDWIDTH PRODUCT



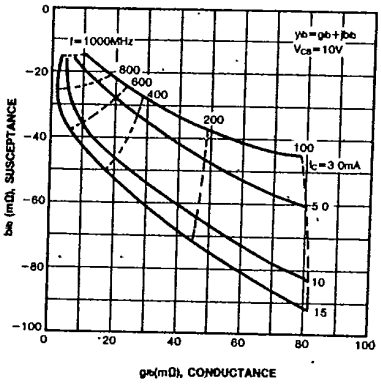
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



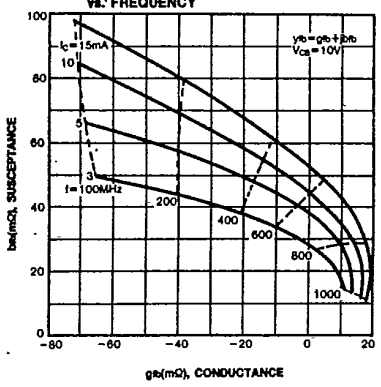
OUTPUT CAPACITANCE



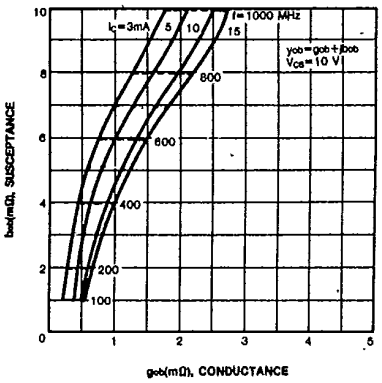
INPUT ADMITTANCE (yib) vs. FREQUENCY



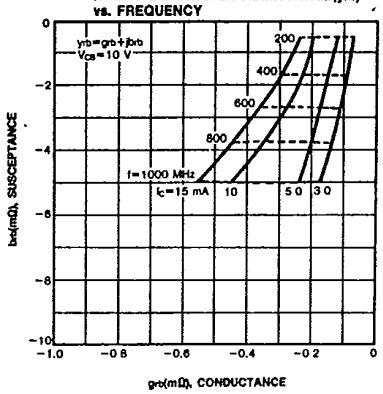
FORWARD TRANSFER ADMITTANCE (yfb) vs. FREQUENCY



OUTPUT ADMITTANCE (yob) vs. FREQUENCY



REVERSE TRANSFER ADMITTANCE(yrb) vs. FREQUENCY



3