

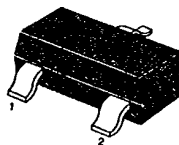
KSC2757**NPN EPITAXIAL SILICON TRANSISTOR**

T-31-15

MIXER OSCILLATOR FOR VHF TUNERHIGH f_T ($f_T=1100\text{MHz Typ}$)**ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	30	V
Collector-Emitter Voltage	V_{CE0}	15	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	50	mA
Collector Dissipation	P_C	150	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ\text{C}$

SOT-23



1. Base 2. Emitter 3. Collector

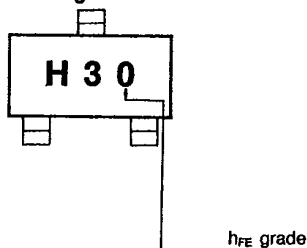
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ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

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

 h_{FE} CLASSIFICATION

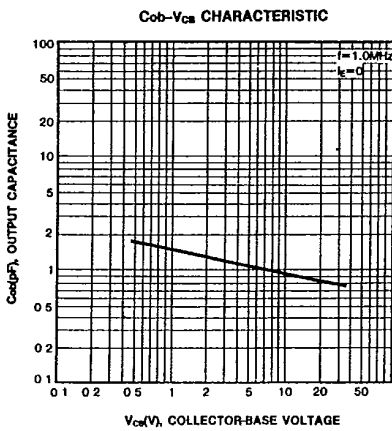
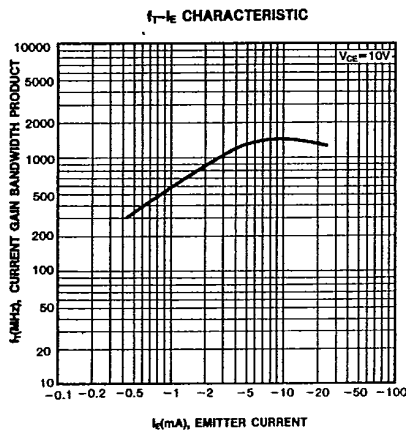
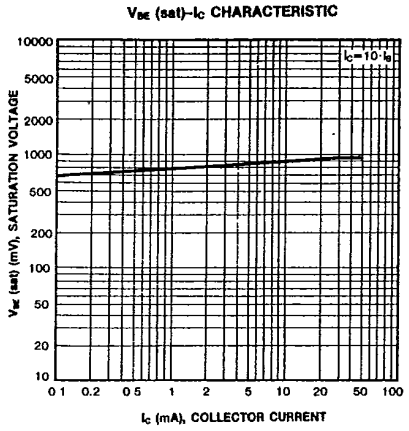
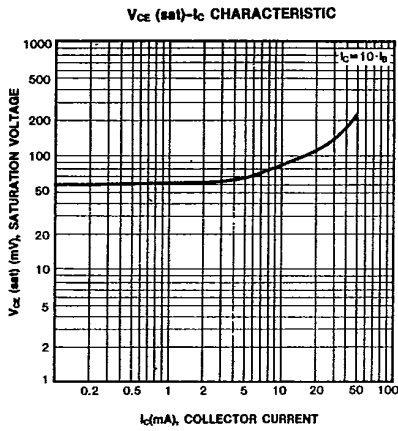
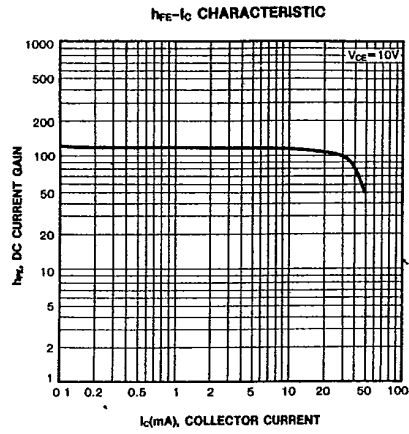
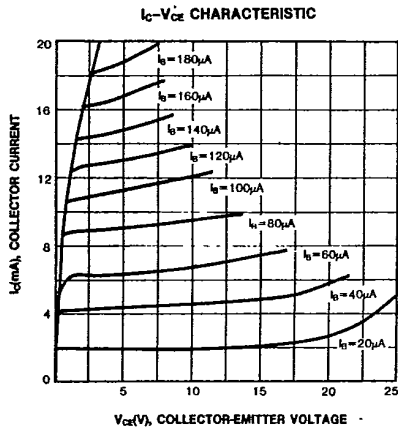
Classification	R	O	Y
h_{FE}	60-120	90-180	120-240

Marking h_{FE} grade

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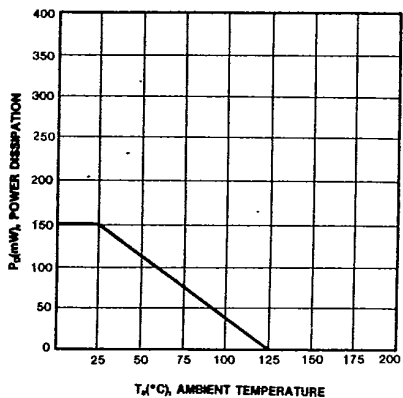


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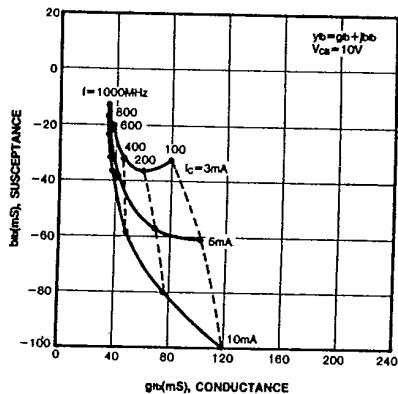
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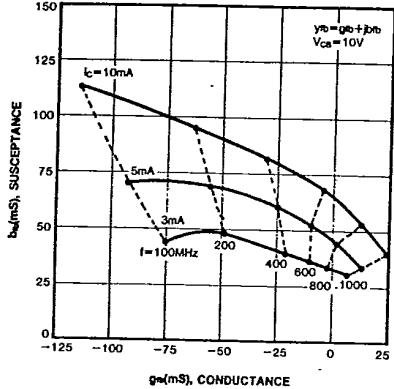
P_D - T_A CHARACTERISTIC



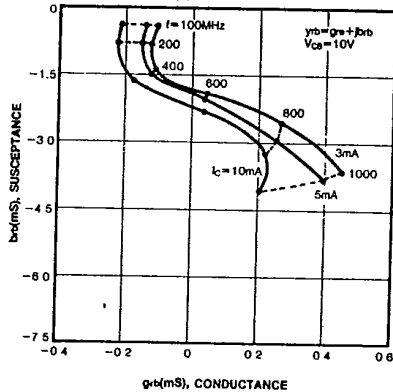
INPUT ADMITTANCE (y_{ib}) vs. FREQUENCY



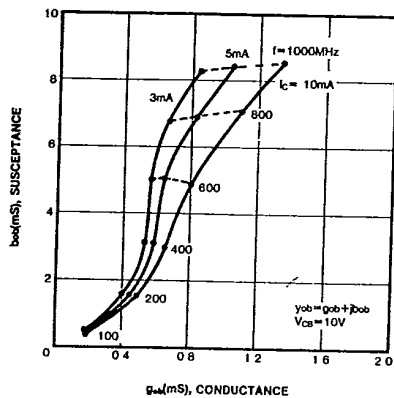
FORWARD TRANSFER ADMITTANCE (y_{fb}) vs. FREQUENCY



REVERSE TRANSFER ADMITTANCE (y_{rb}) vs. FREQUENCY



OUTPUT ADMITTANCE (y_{ob}) vs. FREQUENCY



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