

KSC2759**NPN EPITAXIAL SILICON TRANSISTOR**

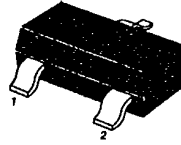
T-31-15

MIXER, OSCILLATOR FOR UHF TUNER

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}	14	V
Emitter-Base Voltage	V_{EB0}	3	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

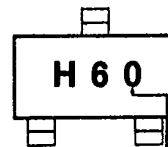
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 15\text{V}, I_E = 0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}, I_C = 5\text{mA}$	40	100	180	
Current Gain Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = -5\text{mA}$	1.5	2		GHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$		1	1.3	pF
Conversion Gain	G_{cb}	$V_{CB} = 10\text{V}, I_E = -5\text{mA}$ $f_{RF} = 900\text{MHz}, f_{osc} = 935\text{MHz}$ 115dB μ	10	12.5		dB

 h_{FE} CLASSIFICATION

Classification	R	O	Y
h_{FE}	40-80	80-120	90-180

Marking

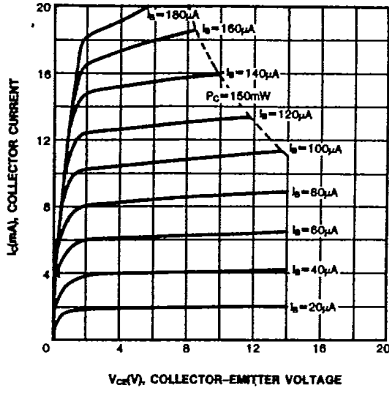
 h_{FE} grade

KSC2759

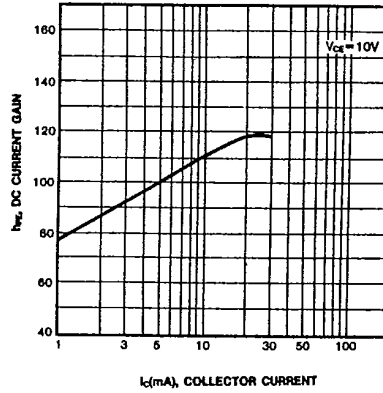
NPN EPITAXIAL SILICON TRANSISTOR

T-31-15

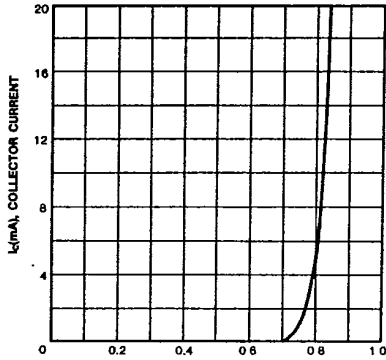
STATIC CHARACTERISTIC



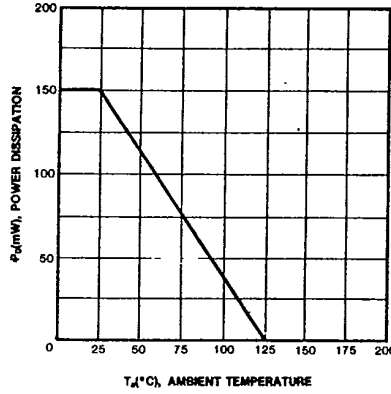
DC CURRENT GAIN



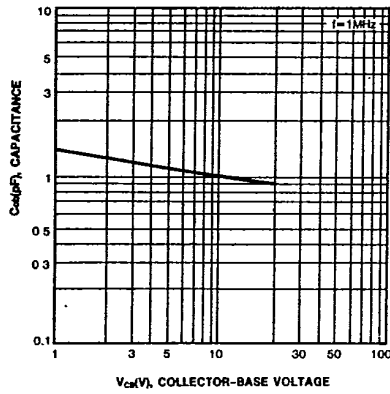
BASE-EMITTER ON VOLTAGE



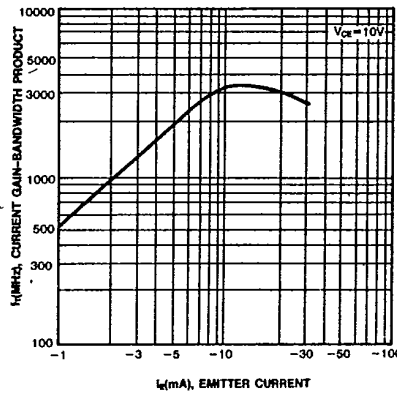
POWER DERATING



COLLECTOR OUTPUT CAPACITANCE



CURRENT GAIN - BANDWIDTH PRODUCT

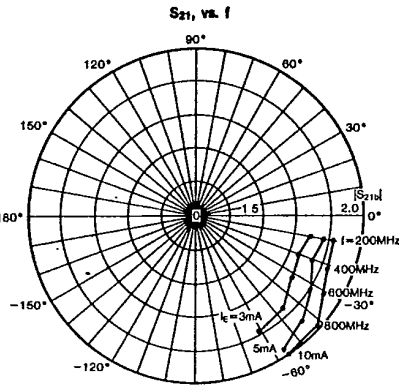
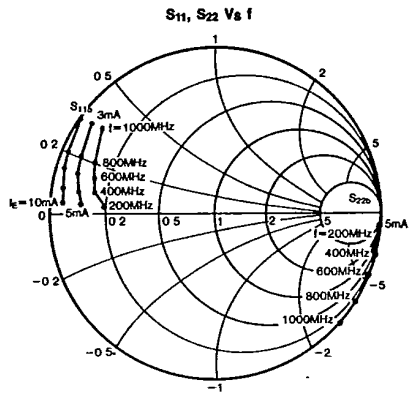
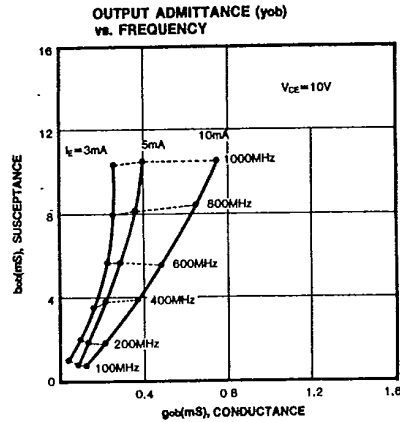
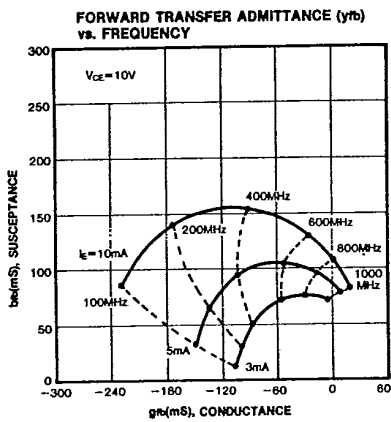
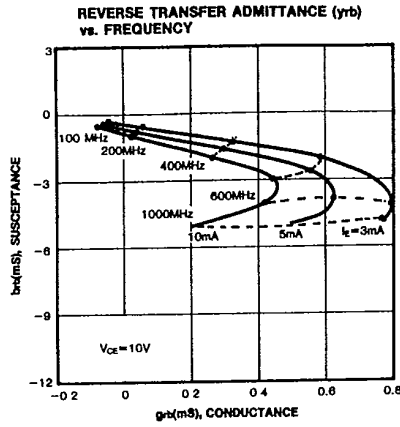
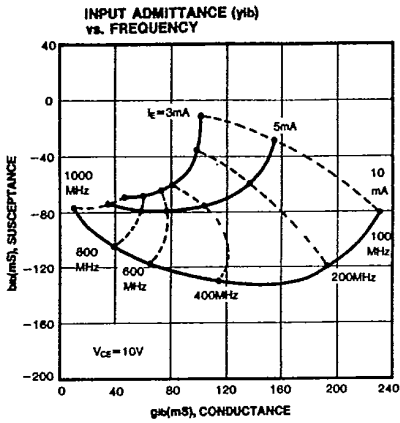


3

KSC2759

NPN EPITAXIAL SILICON TRANSISTOR

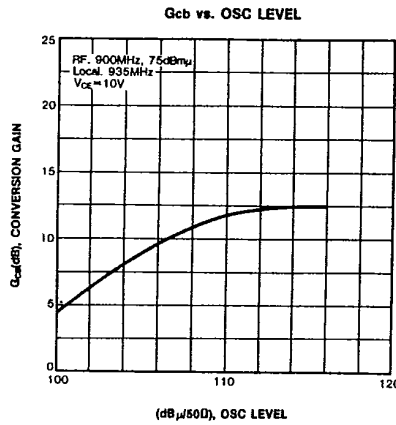
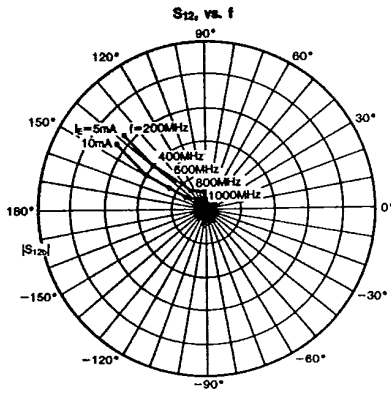
T-31-15



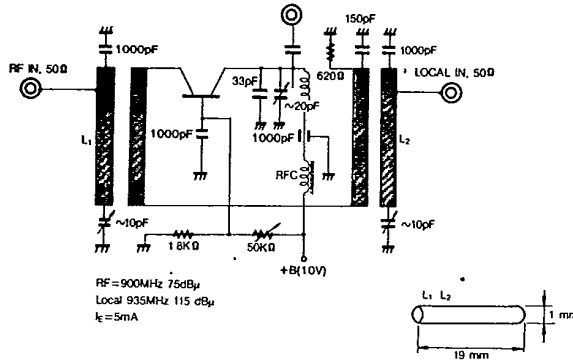
KSC2759

NPN EPITAXIAL SILICON TRANSISTOR

T-31-15



G_{cb} TEST CIRCUIT



3