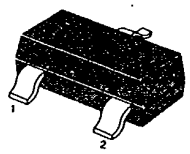
KSC3120 NPN EPITAXIAL SILICON TRANSISTOR

MIXER FOR UHF TV TUNER

G_{CE}=17dB (TYP)
C_{re}=0.6pF (TYP)

SOT-23



1. Base 2. Emitter 3. Collector

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

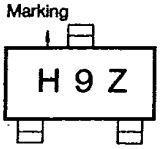
Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	3	V
Collector Current	I_C	50	mA
Base Current (DC)	I_B	25	mA
Collector Dissipation (T_c=25°C)	P_C	150	mW
Junction Temperature	Tj	125	°C
Storage Temperature	Tstg	−55~125	°C

3

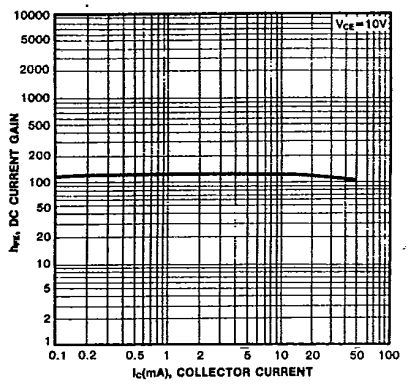
ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA, I_B=0	15			V
Collector Cutoff Current	I_{CBO}	V_{CB}=30V, I_E=0			0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=2V, I_C=0			1	μA
DC Current Gain	h_{FE}	V_{CE}=10V, I_C=5mA	40	100	200	
Current Gain Bandwidth Product	f_T	V_{CE}=10V, I_C=2mA	1500	2400		MHz
Reverse Transfer Capacitance	C_{re}	V_{CB}=10V, I_E=0, f=1MHz		0.6	0.9	pF
Conversion Gain	G_{ce}	V_{CC}=10V, I_C=2mA f=800MHz, f_L=830MHz	12	17		dB
Noise Figure	NF	V_{CC}=10V, I_C=2mA f=800MHz, f_L=830MHz		8		dB

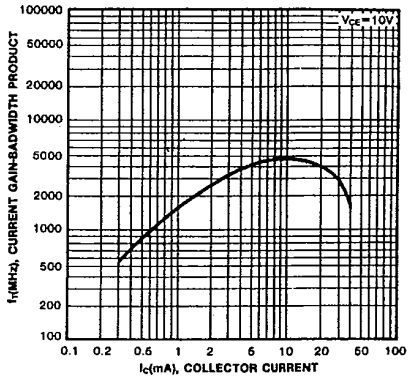
Marking



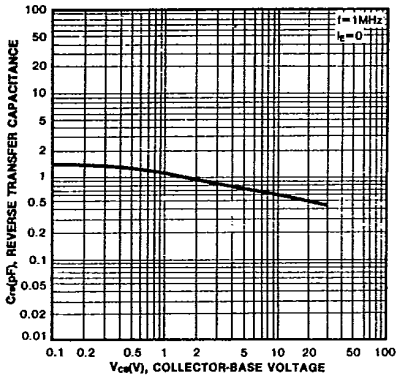
DC CURRENT GAIN



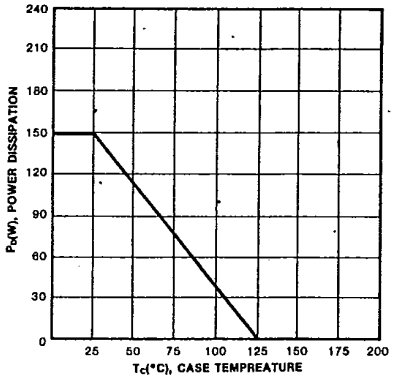
CURRENT GAIN BANDWIDTH PRODUCT



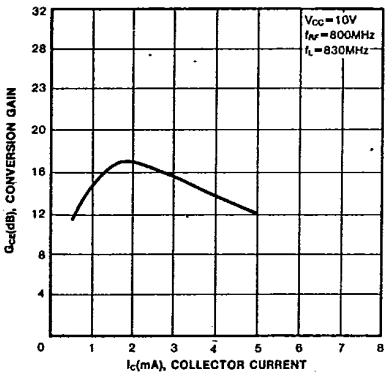
Cre-Vcb CHARACTERISTIC



POWER DERATING



Gce-Ic CHARACTERSTIC



OSC LEVEL