

KSC945

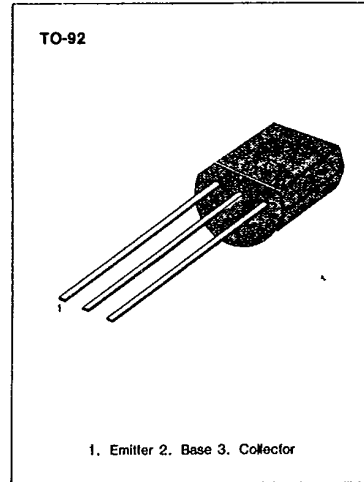
NPN EPITAXIAL SILICON TRANSISTOR

**AUDIO FREQUENCY AMPLIFIER
HIGH FREQUENCY OSC.**

- Complement to KSA733
- Collector-Base Voltage $V_{CBO} = 60V$
- High Current Gain Bandwidth Product $f_T = 300MHz$ (Typ)

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ C$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA
Collector Dissipation	P_C	250	mW
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ C$



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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 100\mu A, I_E = 0$	60			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 10mA, I_B = 0$	50			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -10\mu A, I_C = 0$	5			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 40V, I_E = 0$			0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 6V, I_C = 1.0mA$	70		700	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 10mA$		0.15	0.3	V
Current-Gain-Bandwidth Product	f_T	$V_{CE} = 6V, I_C = 10mA$		300		MHz
Output Capacitance	C_{ob}	$V_{CB} = 6V, I_E = 0$ $f = 1MHz$		2.5		pF
Noise Figure	NF	$V_{CE} = 6V, I_E = -0.5mA$ $f = 1KHz, R_s = 500\Omega$		4.0		dB

h_{FE} CLASSIFICATION

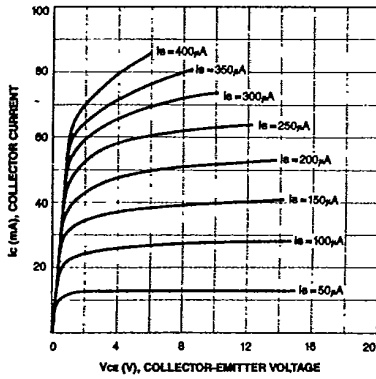
Classification	O	Y	G	L
h_{FE}	70-140	120-240	200-400	350-700

KSC945

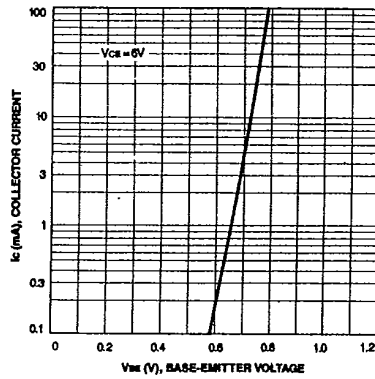
NPN EPITAXIAL SILICON TRANSISTOR

T-29-17

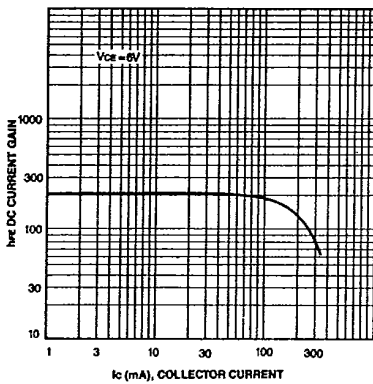
STATIC CHARACTERISTIC



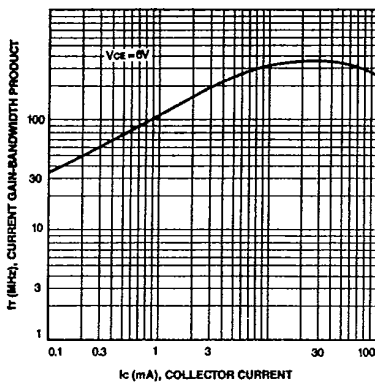
TRANSFER CHARACTERISTIC



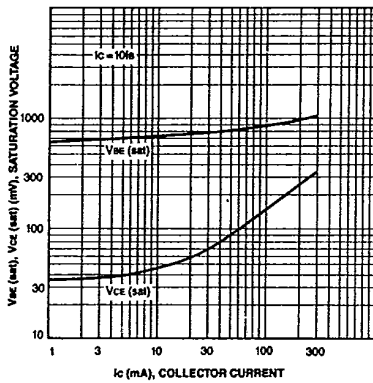
DC CURRENT GAIN



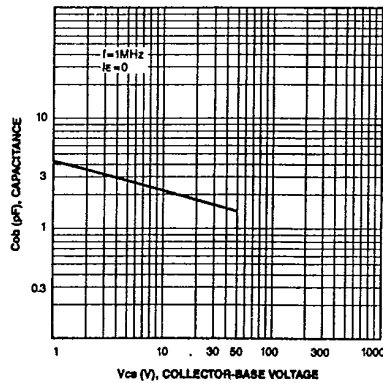
CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE



3