

**KSC945**

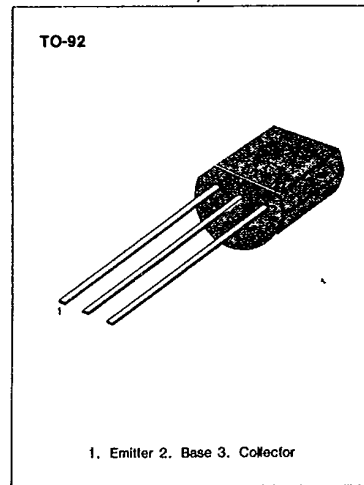
**NPN EPITAXIAL SILICON TRANSISTOR**

**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	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 3V, I_C = 0$			0.1	$\mu A$
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**

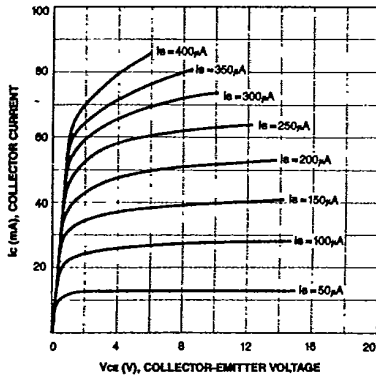
Classification	O	Y	G	L
$h_{FE}$	70-140	120-240	200-400	350-700

KSC945

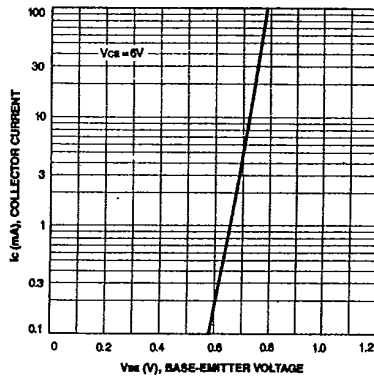
NPN EPITAXIAL SILICON TRANSISTOR

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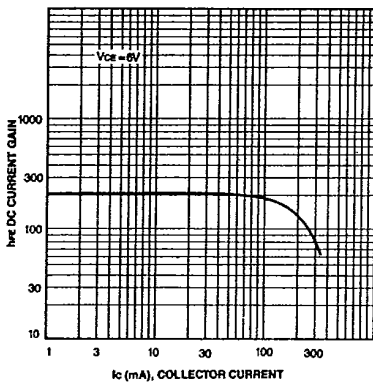
STATIC CHARACTERISTIC



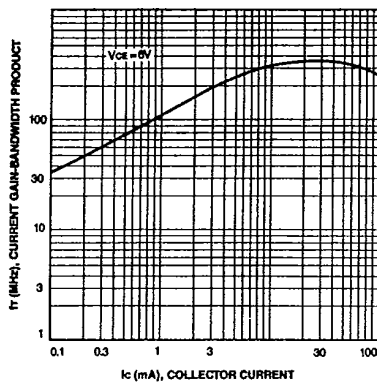
TRANSFER CHARACTERISTIC



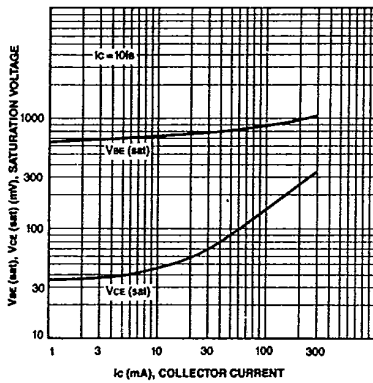
DC CURRENT GAIN



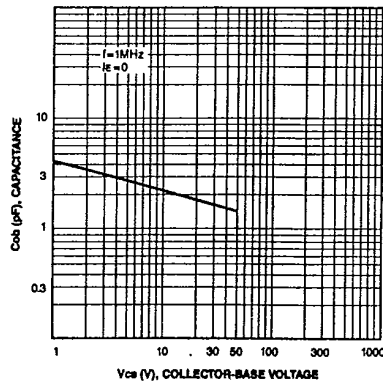
CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE



3