

# UTCKSC945

# NPNEPITAXIAL SILICON TRANSISTOR

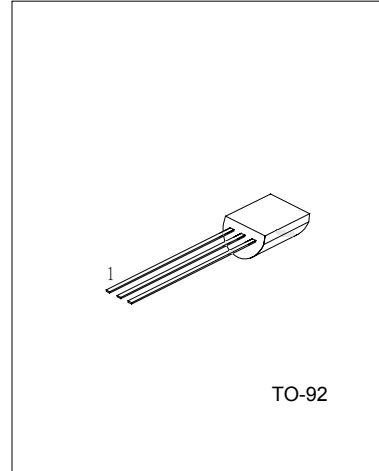
## AUDIO FREQUENCY AMPLIFIER HIGH FREQUENCY OSC NPN TRANSISTOR

### DESCRIPTION

The UTC KSC945 is an audio frequency amplifier high frequency OSC NPN transistor.

### FEATURES

- \*Collector-Base voltage:  
BV<sub>CBO</sub>=60V
- \*Collector current up to 150mA
- \*High hFE linearity
- \*Complimentary to KSA733



1:EMITTER 2: BASE 3: COLLECTOR

### ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise specified )

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	50	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Dissipation(Ta=25°C)	P <sub>c</sub>	250	mW
Collector Current	I <sub>c</sub>	150	mA
Base Current	I <sub>B</sub>	50	mA
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +150	°C

### ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV <sub>CBO</sub>	I <sub>c</sub> =100μA, I <sub>E</sub> =0	60			V
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	I <sub>c</sub> =10mA, I <sub>B</sub> =0	50			V
Collector Cut-Off Current	I <sub>cBO</sub>	V <sub>CB</sub> =40V, I <sub>E</sub> =0			100	nA
Emitter Cut-Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =3V, I <sub>c</sub> =0			100	nA
DC Current Gain(note)	h <sub>FE</sub>	V <sub>CE</sub> =6V, I <sub>c</sub> =1mA	40		700	
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =100mA, I <sub>B</sub> =10mA		0.1	0.3	V
Current Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>c</sub> =50mA	100	190		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz		2.0	3.0	pF
Noise Figure	NF	I <sub>c</sub> =0.1mA, V <sub>CE</sub> =6V R <sub>G</sub> =10kΩ, f=100Hz		4.0	6.0	dB

CLASSIFICATION OF hFE

RANK	R	O	Y	G	L
RANGE	40-80	70-140	120-240	200-400	350-700

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Static characteristics

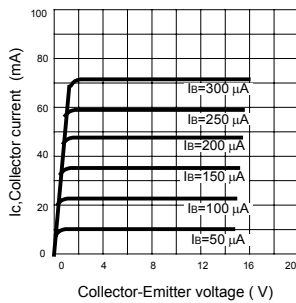


Fig.2 DC current Gain

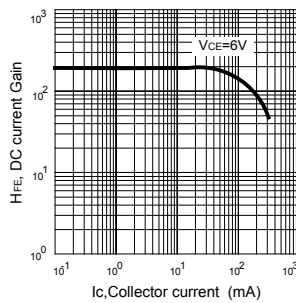


Fig.3 Base-Emitter on Voltage

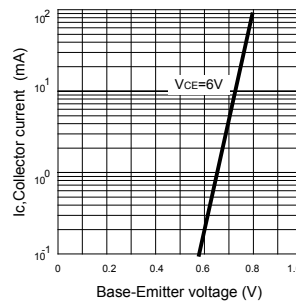


Fig.4 Saturation voltage

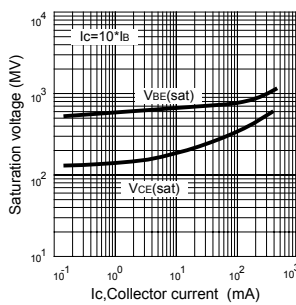


Fig.5 Current gain-bandwidth product

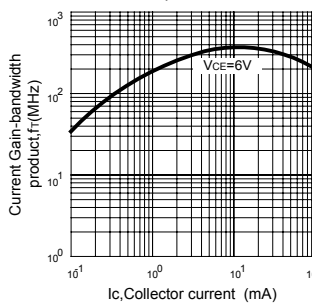
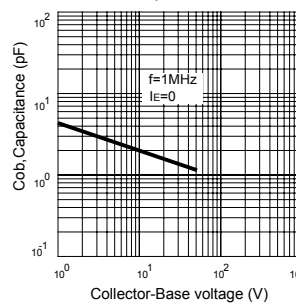


Fig.6 Collector output Capacitance



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