



2SC945

NPN SILICON TRANSISTOR

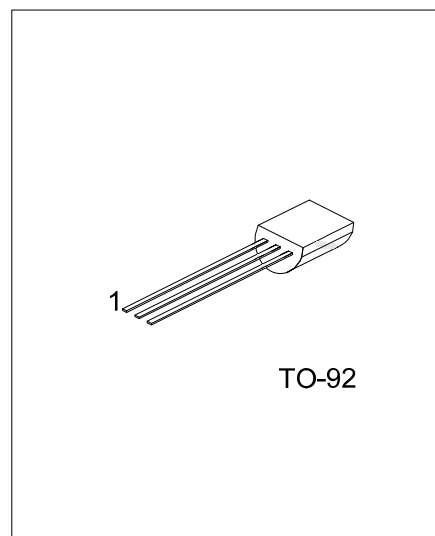
AUDIO FREQUENCY
AMPLIFIER HIGH FREQUENCY
OSC NPN TRANSISTOR

DESCRIPTION

The UTC **2SC945** is an audio frequency amplifier high frequency OSC NPN transistor.

FEATURES

- * Collector-Emitter voltage:
 $BV_{CE0}=50V$
- * Collector current up to 150mA
- * High h_{FE} linearity
- * Complimentary to UTC 2SA733



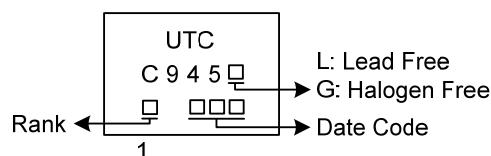
ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free Plating	Halogen Free		1	2	3	
2SC945L-x-T92-B	2SC945G-x-T92-B	TO-92	E	C	B	Tape Box
2SC945L-x-T92-K	2SC945G-x-T92-K	TO-92	E	C	B	Bulk

Note: Pin Assignment: E: Emitter C: Collector B: Base

<p>2SC945G-x-T92-B</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Green Package</p>	<p>(1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) x: refer to Classification of h_{FE} (4) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	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 Power Dissipation ($T_C=25^{\circ}\text{C}$)	P_C	750	mW
Collector Current	I_C	150	mA
Base Current	I_B	50	mA
Junction Temperature	T_J	+125	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

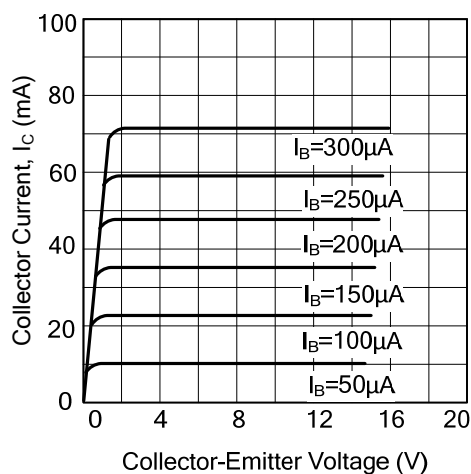
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu\text{A}$, $I_E=0$	60			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=10\text{mA}$, $I_B=0$	50			V
Collector Cut-Off Current	I_{CBO}	$V_{\text{CB}}=40\text{V}$, $I_E=0$			100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{\text{EB}}=3\text{V}$, $I_C=0$			100	nA
DC Current Gain	h_{FE}	$V_{\text{CE}}=6\text{V}$, $I_C=1\text{mA}$	90		600	
Collector-Emitter Saturation Voltage	$V_{\text{CE(SAT)}}$	$I_C=100\text{mA}$, $I_B=10\text{mA}$		0.1	0.3	V
Current Gain Bandwidth Product	f_T	$V_{\text{CE}}=10\text{V}$, $I_C=50\text{mA}$	100	190		MHz
Output Capacitance	C_{ob}	$V_{\text{CB}}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$		2.0	3.0	pF
Noise Figure	NF	$I_C=-0.1\text{mA}$, $V_{\text{CE}}=6\text{V}$ $R_G=10\text{k}\Omega$, $f=100\text{Hz}$		4.0	6.0	dB

■ CLASSIFICATION OF h_{FE}

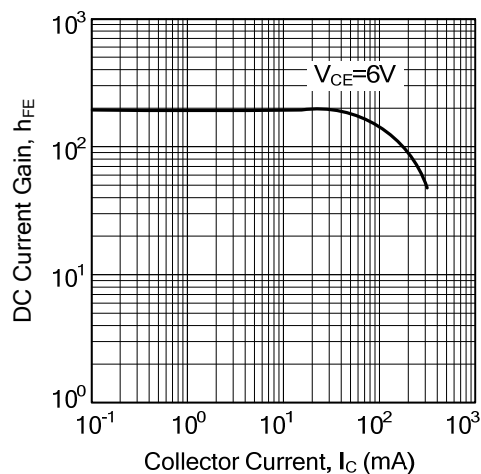
RANK	R	Q	P	K
RANGE	90-180	135-270	200-400	300-600

■ TYPICAL CHARACTERISTICS

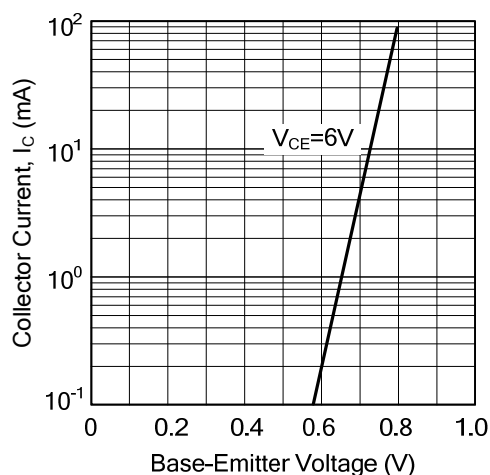
Static Characteristics



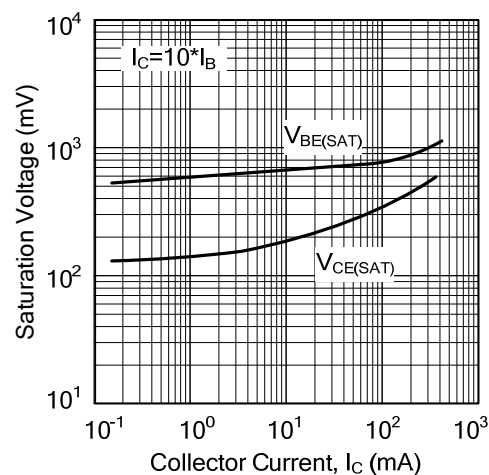
DC Current Gain



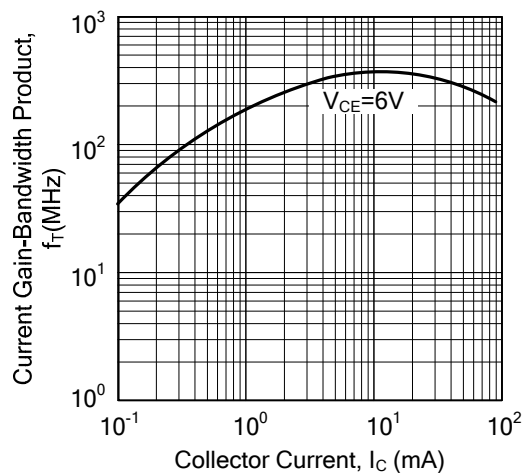
Base-Emitter on Voltage



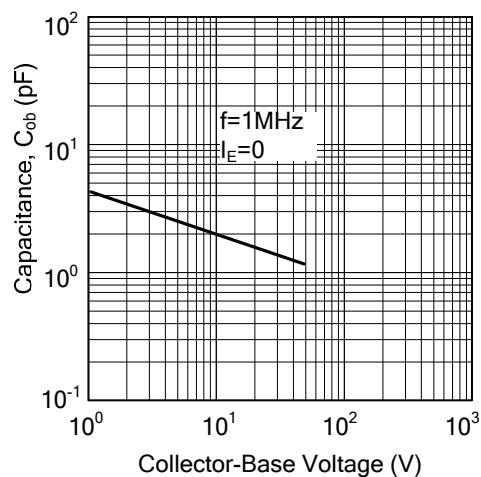
Saturation Voltage



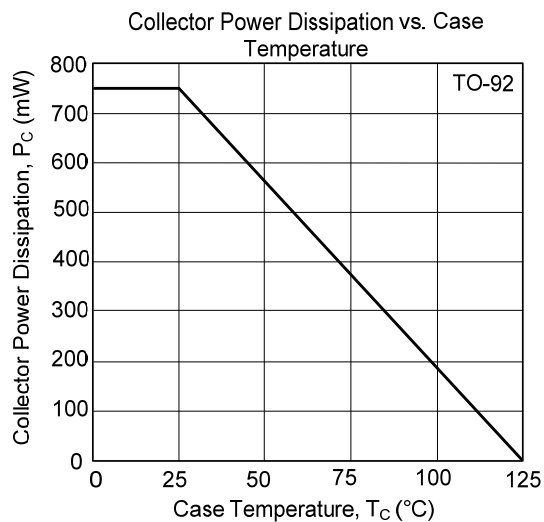
Current Gain-Bandwidth Product



Collector Output Capacitance



■ TYPICAL CHARACTERISTICS (Cont.)



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