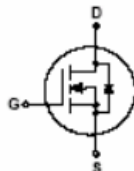


■ DESCRIPTION

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

■ FEATURES

- * Collector-Emitter voltage:
 $BV_{CEO}=50V$
- * Collector current up to 150mA
- * High h_{FE} linearity



SOT-23

1. GATE
2. SOURCE
3. DRAIN



■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free Plating	Halogen Free		1	2	3	
2SC945L-x-T92-B	2SC945G-x-T92-B	SOT-23	E	C	B	Tape Box
2SC945L-x-T92-K	2SC945G-x-T92-K	SOT-23	E	C	B	Bulk

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

2SC945G-x-T92-B	(1)Packing Type	(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
	(2)Package Type	
	(3)Rank	
	(4)Green Package	

■ 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)

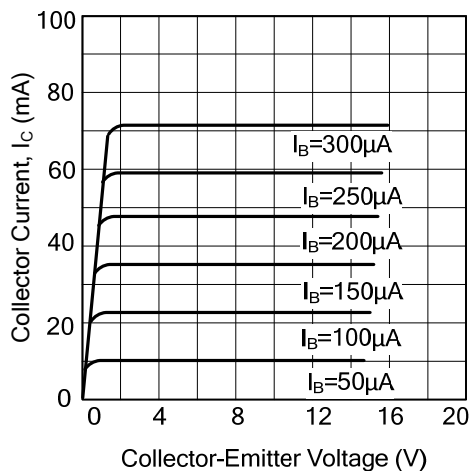
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu\text{A}$, $I_E=0$	60			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=10\text{mA}$, $I_B=0$	50			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=40\text{V}$, $I_E=0$			100	nA
Emitter Cut-Off Current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

■ CLASSIFICATION OF h_{FE}

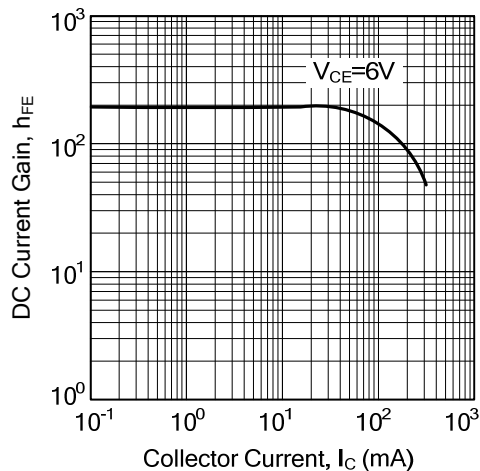
RANK	R	Q	P	K
RANGE	90-180	135-270	200-400	300-600

■ **TYPICAL CHARACTERISTICS**

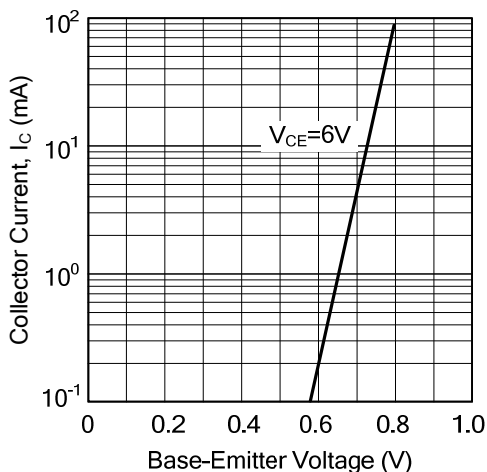
Static Characteristics



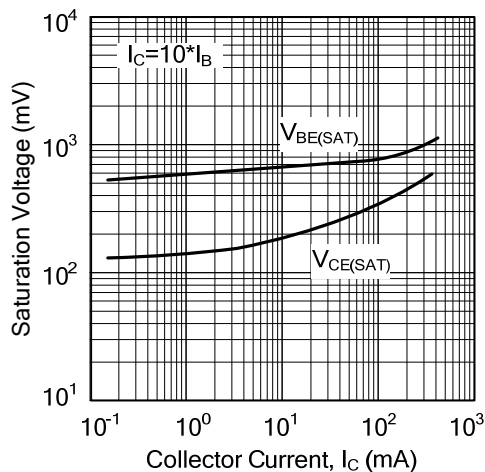
DC Current Gain



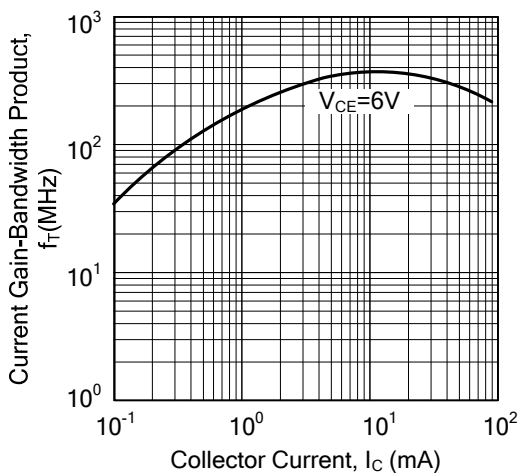
Base-Emitter on Voltage



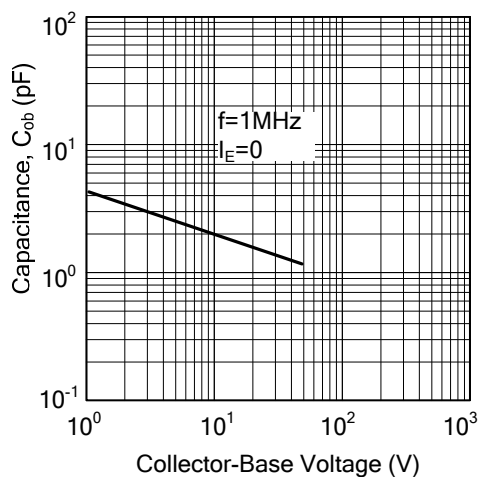
Saturation Voltage



Current Gain-Bandwidth Product

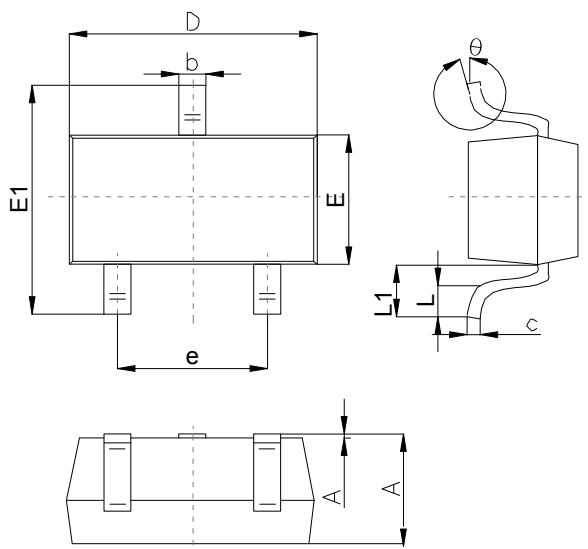


Collector Output Capacitance



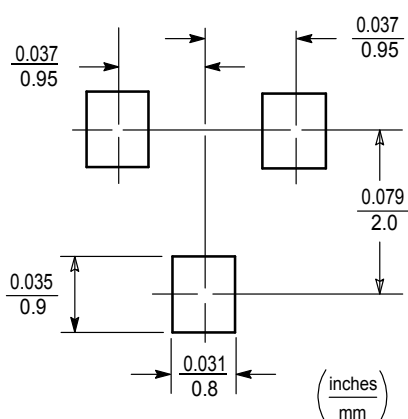
Outline Drawing

SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	1.00		1.40
A1			0.10
b	0.35		0.50
c	0.10		0.20
D	2.70	2.90	3.10
E	1.40		1.60
E1	2.4		2.80
e		1.90	
L	0.10		0.30
L1	0.4		
θ	0°		10°

Suggested Pad Layout



Note:

1. Controlling dimension:in/millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purposes only.