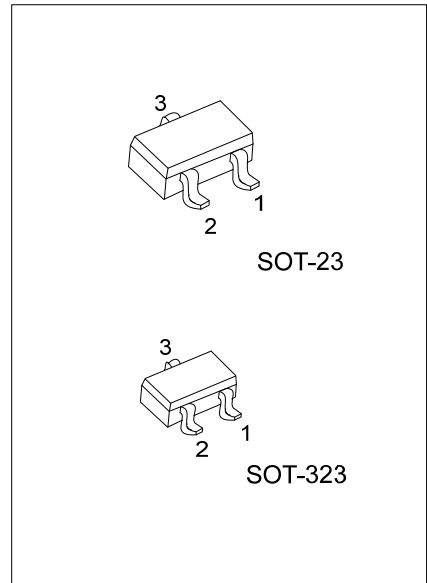




MMBT945

NPN SILICON TRANSISTOR

AUDIO FREQUENCY
AMPLIFIER HIGH FREQUENCY
OSC NPN TRANSISTOR



DESCRIPTION

The UTC **MMBT945** is an audio frequency amplifier high frequency OSC NPN transistor.

FEATURES

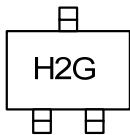
- * Collector-Emitter Voltage: $BV_{CBO}=50V$
- * Collector Current up to 150mA
- * High h_{FE} Linearity
- * Complimentary to UTC MMBT733

ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
MMBT945G-x-AE3-R	SOT-23	E	B	C	Tape Reel
MMBT945G-x-AL3-R	SOT-323	E	B	C	Tape Reel

<p>MMBT945G-x-AE3-R</p> <p>(1)Packing Type (2)Package Type (3)Rank (4)Halogen Free</p>	<p>(1) R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323 (3) x: refer to Classification of h_{FE} (4) G: Halogen Free</p>
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MARKING



MMBT945

NPN SILICON TRANSISTOR

■ ABSOLUTE MAXIMUM RATINGS (T_a=25°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 Current	I _C	150	mA
Base Current	I _B	50	mA
Collector Dissipation(T _a =25°C)	P _C	200	mW
Junction Temperature	T _J	125	°C
Storage Temperature	T _{STG}	-55 ~ +125	°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°C, unless otherwise specified)

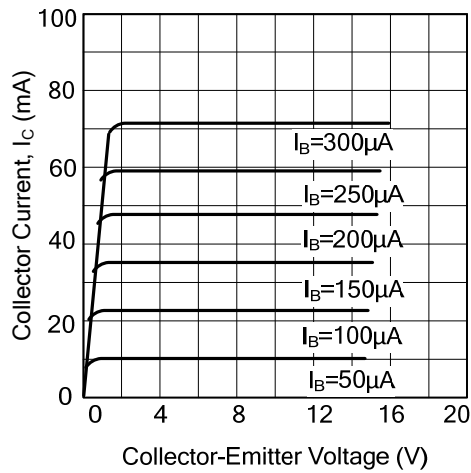
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV _{CBO}	I _C =100μA, I _E =0	60			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =10mA, I _B =0	50			V
Collector Cut-Off Current	I _{CBO}	V _{CB} =40V, I _E =0			100	nA
Emitter Cut-Off Current	I _{EBO}	V _{EB} =3V, I _C =0			100	nA
DC Current Gain	h _{FE}	V _{CE} =6V, I _C =1mA	90		600	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =100mA, I _B =10mA		0.1	0.3	V
Current Gain Bandwidth Product	f _T	V _{CE} =10V, I _C =50mA	100	190		MHz
Output Capacitance	C _{OB}	V _{CB} =10V, I _E =0, f=1MHz		2.0	3.0	pF
Noise Figure	NF	I _C =-0.1mA, V _{CE} =6V R _G =10kΩ, f=100Hz		4.0	6.0	dB

■ CLASSIFICATION OF h_{FE}

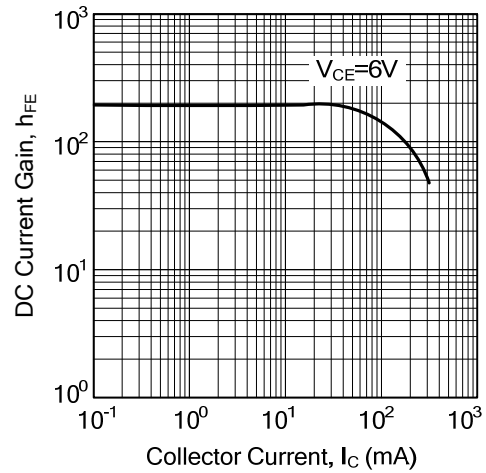
RANK	R	Q	P	K
RANGE	90-180	135-270	200-400	300-600

■ TYPICAL CHARACTERISTICS

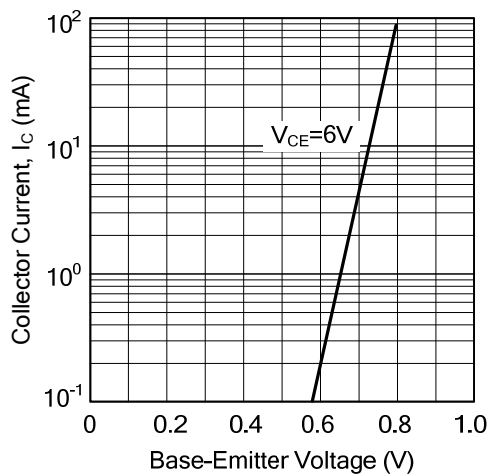
Static Characteristics



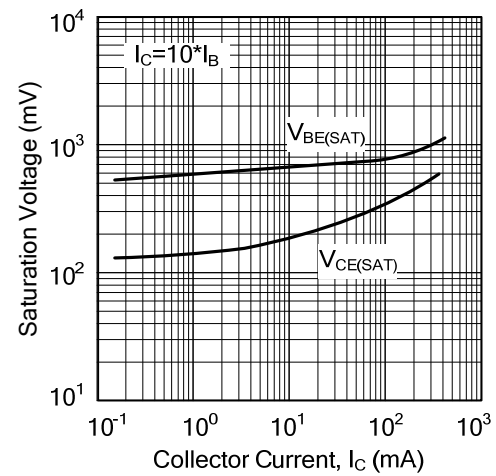
DC Current Gain



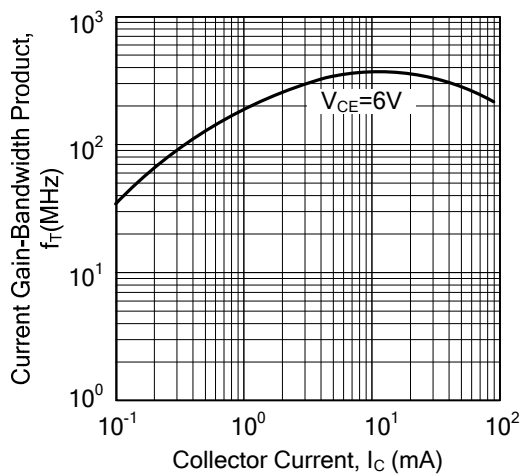
Base-Emitter on Voltage



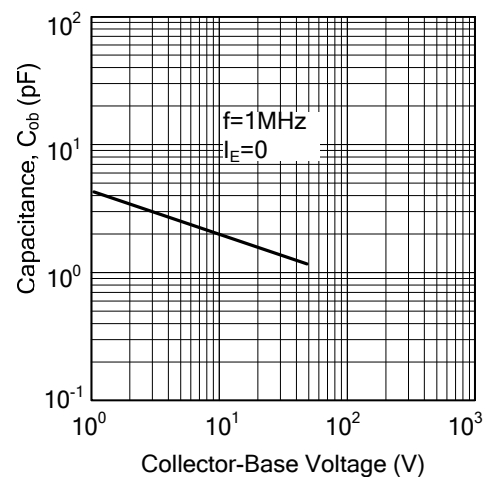
Saturation Voltage



Current Gain-Bandwidth Product



Collector Output Capacitance



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