



SB2202

PNP EPITAXIAL SILICON TRANSISTOR

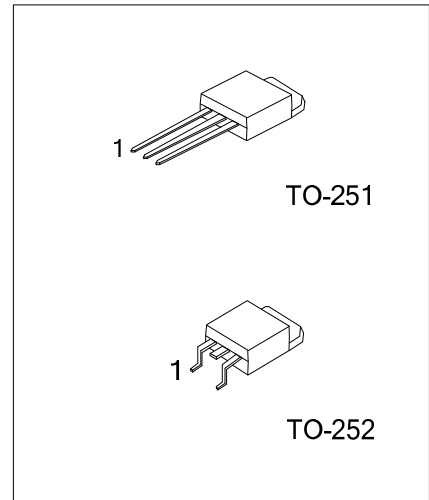
MEDIUM POWER LOW VOLTAGE TRANSISTOR

■ DESCRIPTION

The UTC **SB2202** is a medium power low voltage transistor, designed for audio power amplifier, DC-DC converter and voltage regulator.

■ FEATURES

- *High current output up to 3A
- *Low saturation voltage



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
SB2202L-x-TM3-R	SB2202G-x-TM3-R	TO-251	B	C	E	Tube
SB2202L-x-TN3-T	SB2202G-x-TN3-T	TO-252	B	C	E	Tube
SB2202L-x-TN3-R	SB2202G-x-TN3-R	TO-252	B	C	E	Tape Reel

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

<p>SB2202L-x-TN3-T</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Rank (4) Lead Free 	<ul style="list-style-type: none"> (1) T: Tube, R: Tape Reel (2) TM3: TO-251, TN3: TO-252 (3) x: refer to Classification of h_{FE} (4) L: Lead Free, G: Halogen Free
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■ MARKING INFORMATION

PACKAGE	MARKING
TO-220F	<p style="text-align: right;">L: Lead Free G: Halogen Free Data Code</p>
TO-251	<p style="text-align: right;">L: Lead Free G: Halogen Free Data Code</p>

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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V_{CBO}	-40	V
Collector-Emitter Voltage		V_{CEO}	-30	V
Emitter-Base Voltage		V_{EBO}	-5	V
Base Current		I_B	-0.6	A
Collector Current	DC	I_C	-3	A
	PULSE	I_{CM}	-7	
Collector Dissipation	$T_A=25^\circ\text{C}$	P_C	1	W
	$T_C=25^\circ\text{C}$		10	
Junction Temperature		T_J	+150	$^\circ\text{C}$
Storage Temperature		T_{STG}	-40 ~ +150	$^\circ\text{C}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -2A, I_B = -0.2A$		-0.3	-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -2A, I_B = -0.2A$		-1.0	-2.0	V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = -30V, I_E = 0$			1	mA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = -3V, I_C = 0$			1	mA
DC Current Gain(Note 1)	h_{FE1}	$V_{CE} = -2V, I_C = -20mA$	30	200		
	h_{FE2}	$V_{CE} = -2V, I_C = -1A$	100		400	
Current Gain Bandwidth Product	f_T	$V_{CE} = -5V, I_C = -0.1A$		80		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$		45		pF

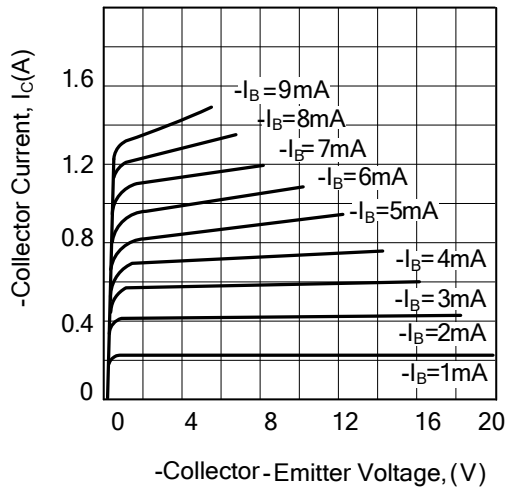
Note 1: Pulse test: $PW < 300\mu s$, Duty Cycle $< 2\%$

■ CLASSIFICATION OF h_{FE2}

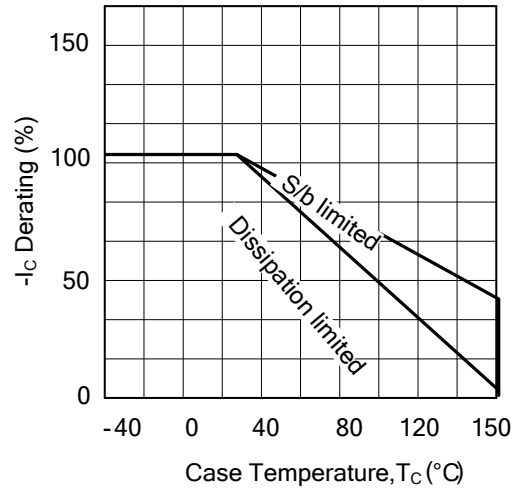
RANK	Q	P	E
RANGE	100 ~ 200	160 ~ 320	200 ~ 400

TYPICAL CHARACTERISTICS

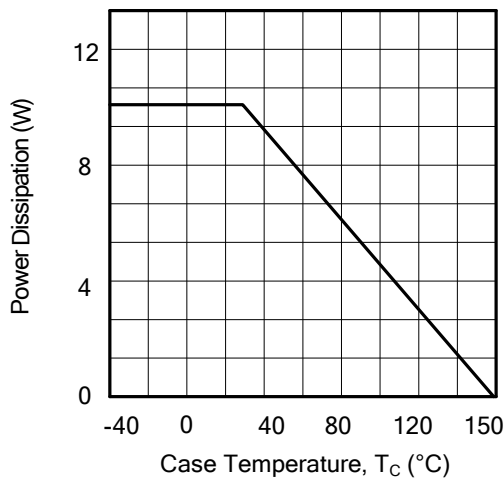
Static characteristics



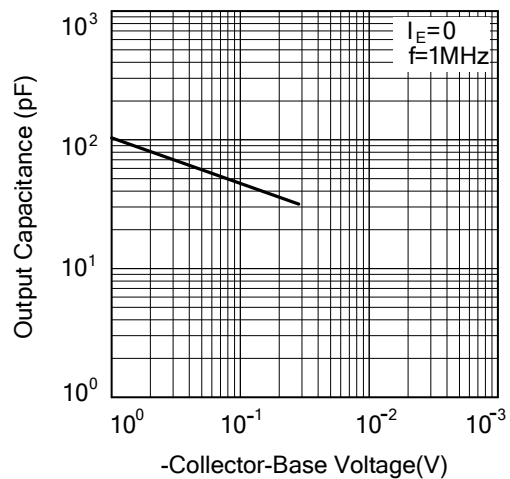
Derating curve of safe operating areas



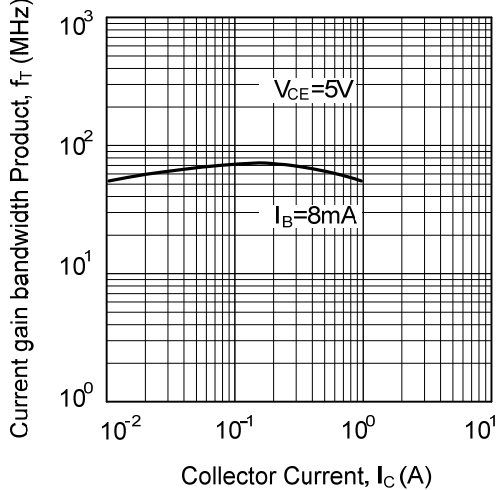
Power derating



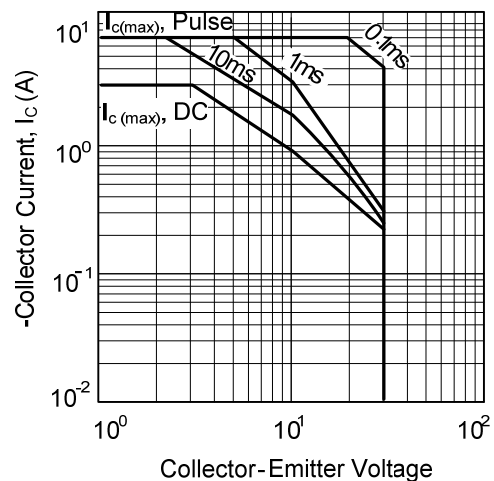
Collector output capacitance



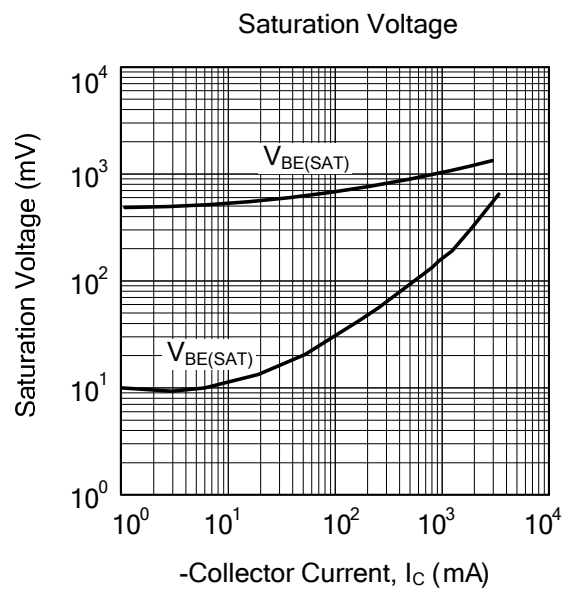
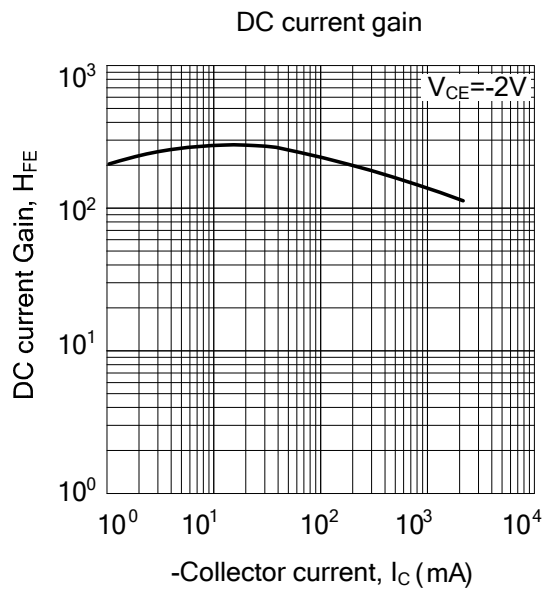
Current gain-bandwidth product



Safe operating area



■ TYPICAL CHARACTERISTICS (cont.)



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