



S8550

PNP SILICON TRANSISTOR

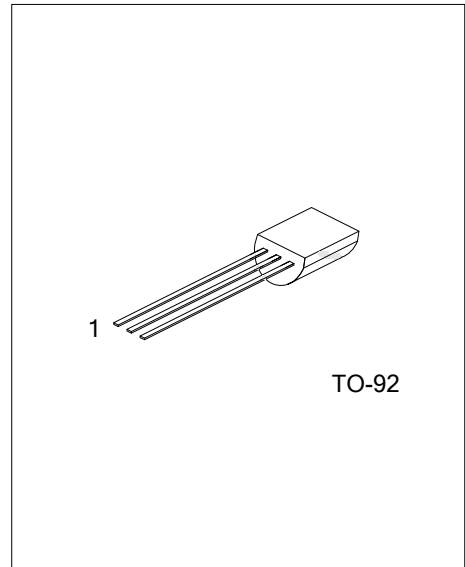
LOW VOLTAGE HIGH CURRENT SMALL SIGNAL PNP TRANSISTOR

DESCRIPTION

The UTC **S8550** is a low voltage high current small signal PNP transistor, designed for Class B push-pull audio amplifier and general purpose applications.

FEATURES

- * Collector current up to 700mA
- * Collector-Emitter voltage up to 20 V
- * Complementary to UTC S8050

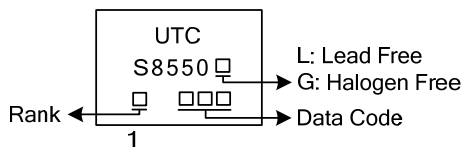


ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free Plating	Halogen Free		1	2	3	
S8550L-x-T92-B	S8550G-x-T92-B	TO-92	E	B	C	Tape Box
S8550L-x-T92-K	S8550G-x-T92-K	TO-92	E	B	C	Bulk

<p>S8550L-x-T92-B</p> <p>(1)Packing Type (2)Package Type (3)Rank (4)Lead Plating</p>	<p>(1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) x: refer to Classification of h_{FE2} (4) L: Lead Free, G: Halogen Free</p>
--	---

MARKING



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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CEO}	-20	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-700	mA
Collector Dissipation ($T_A=25^\circ\text{C}$)	P_C	1	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 ~ +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.

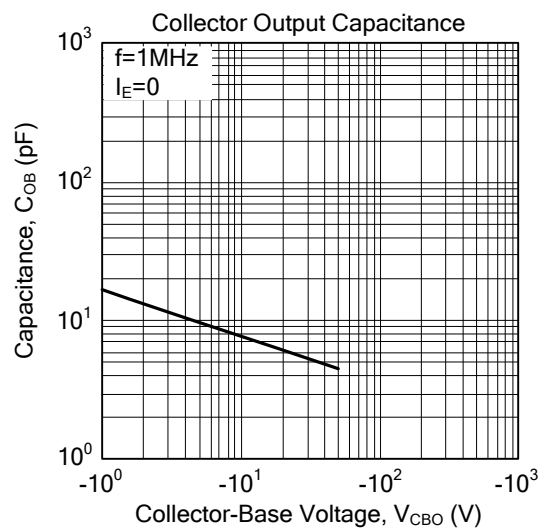
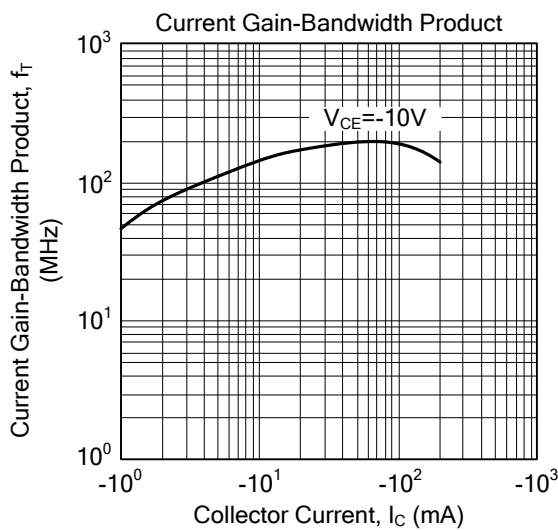
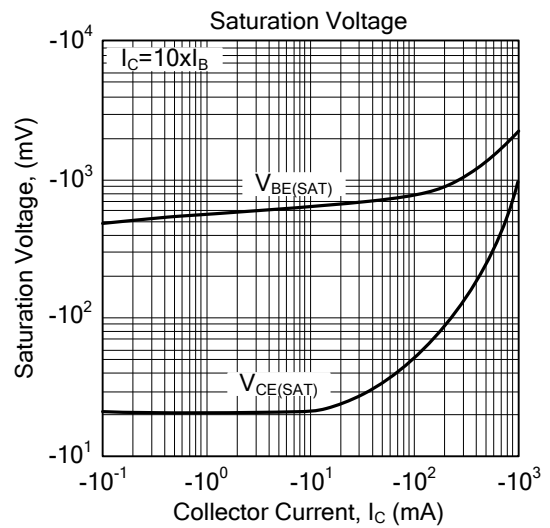
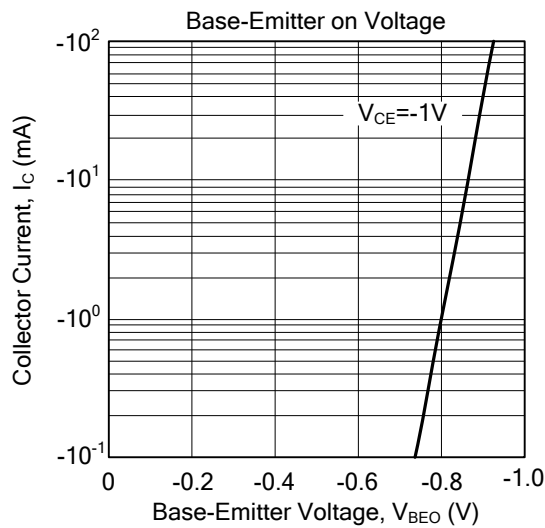
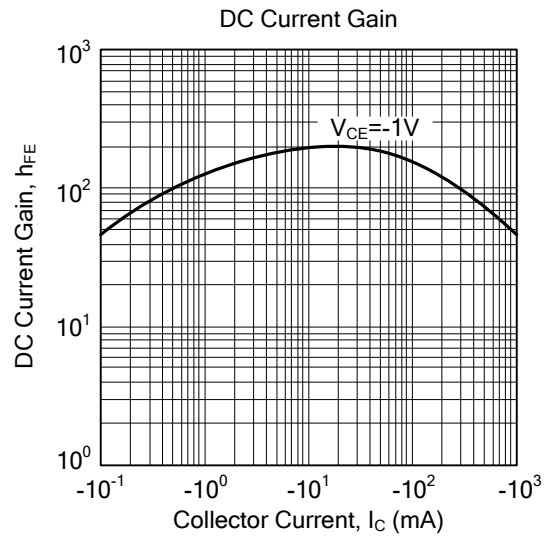
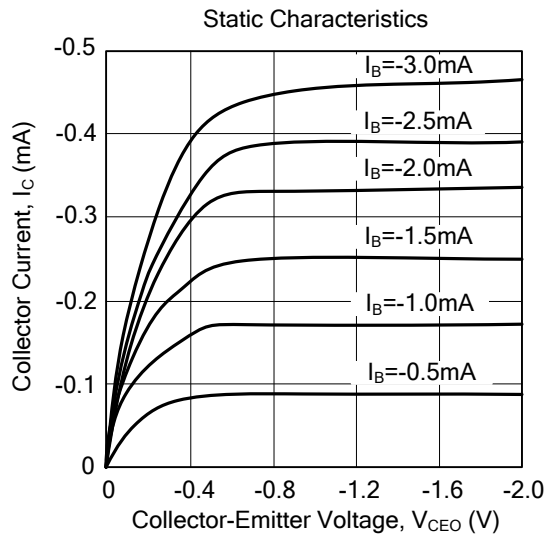
■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -100\mu\text{A}$, $I_E = 0$	-30			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -1\text{mA}$, $I_B = 0$	-20			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -100\mu\text{A}$, $I_C = 0$	-5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = -30\text{V}$, $I_E = 0$			-1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = -5\text{V}$, $I_C = 0$			-100	nA
DC Current Gain	h_{FE1}	$V_{CE} = -1\text{V}$, $I_C = -1\text{mA}$	100			
	h_{FE2}	$V_{CE} = -1\text{V}$, $I_C = -150\text{mA}$	120		400	
	h_{FE3}	$V_{CE} = -1\text{V}$, $I_C = -500\text{mA}$	40			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = -500\text{mA}$, $I_B = -50\text{mA}$			-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 500\text{mA}$, $I_B = -50\text{mA}$			-1.2	V
Base-Emitter Saturation Voltage	V_{BE}	$V_{CE} = -1\text{V}$, $I_C = -10\text{mA}$			-1.0	V
Current Gain Bandwidth Product	f_T	$V_{CE} = -10\text{V}$, $I_C = -50\text{mA}$	100			MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$		9.0		pF

■ CLASSIFICATION OF h_{FE2}

RANK	C	D	E
RANGE	120-200	160-300	280-400

■ TYPICAL CHARACTERISTICS



PNP EPITAXIAL SILICON TRANSISTOR (Version C1.0)

S8550

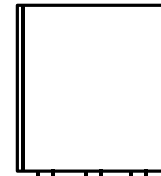
High Current Application

- ◇ High Collector current $I_c = -700\text{ mA}$
- ◇ High Collector Power Dissipation $P_c = 1\text{ W}$
- ◇ Complementary to S8050

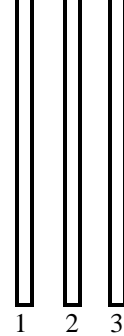
ABSOLUTE MAXIMUM RATINGS

($T_a = 25^\circ\text{C}$)

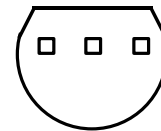
Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	-40	V
Collector-Emitter Voltage	V_{CE0}	-25	V
Emitter-Base voltage	V_{EB0}	-6	V
Collector Current	I_C	-700	mA
Collector Power Dissipation	P_C	1	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$



TO-92



1. Emitter
2. Base
3. Collector



ELECTRICAL CHARACTERISTICS

($T_a = 25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	BV_{CB0}	$I_C = -100\ \mu\text{A}$	-40			V
Collector-emitter breakdown voltage	BV_{CE0}	$I_C = -10\text{ mA}$	-25			V
Emitter-base breakdown voltage	BV_{EB0}	$I_E = -100\ \mu\text{A}$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB} = -35\text{ V}$			-100	nA
DC current gain	h_{FE}	$I_C = -100\text{ mA}$ $V_{CE} = -1\text{ V}$	85		300	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -800\text{ mA}$ $I_B = -80\text{ mA}$		-0.28	-0.5	V

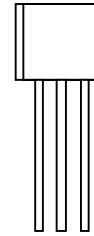
* h_{FE} Classification: B:85~160 , C:120~200 , D:160~300



S8550

TRANSISTOR (PNP)

TO-92



- 1. EMITTER
- 2. BASE
- 3. COLLECTOR

1 2 3

FEATURES

Power dissipation

$$P_{CM} : 0.625 \text{ W (} T_{amb}=25^{\circ}\text{C)}$$

Collector current

$$I_{CM} : - 0.5 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : - 40 \text{ V}$$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100 \mu\text{A}, I_E=0$	- 40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.1 \text{ mA}, I_B=0$	- 25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100 \mu\text{A}, I_C=0$	- 5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-40 \text{ V}, I_E=0$			- 0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=-20 \text{ V}, I_B=0$			- 0.2	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=- 3 \text{ V}, I_C=0$			- 0.1	μA
DC current gain(note)	$H_{FE(1)}$	$V_{CE}=-1 \text{ V}, I_C= 50\text{mA}$	85		300	
	$H_{FE(2)}$	$V_{CE}=-1 \text{ V}, I_C= 500\text{mA}$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}, I_B= 50 \text{ mA}$			- 0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-500\text{mA}, I_B= 50 \text{ mA}$			- 1.2	V
Base-emitter voltage	V_{BE}	$I_E=-100\text{mA}$			- 1.4	V
Transition frequency	f_T	$V_{CE}=6 \text{ V}, I_C=-20\text{mA}$ $f = 30\text{MHz}$	150			MHz

CLASSIFICATION OF $H_{FE(1)}$

Rank	B	C	D
Range	85-160	120-200	160-300