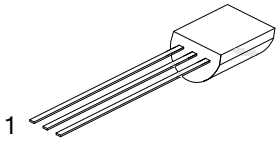
S8050

NPN SILICON TRANSISTOR

LOW VOLTAGE HIGH CURRENT SMALL SIGNAL NPN TRANSISTOR



TO-92

■ DESCRIPTION

The UTC **S8050** is a low voltage high current small signal NPN 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 S8550

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free Plating	Halogen Free		1	2	3	
S8050L-x-T92-B	S8050G-x-T92-B	TO-92	E	B	C	Tape Box
S8050L-x-T92-K	S8050G-x-T92-K	TO-92	E	B	C	Bulk

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

S8050L-x-T92-B

(1)Packing Type
(2)Package Type
(3)Rank
(4)Lead Plating

(1) B: Tape Box, K: Bulk
(2) T92: TO-92
(3) x: refer to Classification of h_{FE_2}
(4) L: Lead Free, G: Halogen Free

■ MARKING INFORMATION

PACKAGE	MARKING
TO-92	UTC S8050 □ □□□ 1 L: Lead Free G: Halogen Free Data Code

■ ABSOLUTE MAXIMUM RATING (T_A=25°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°C)	P_C	1	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-65 ~ +150	°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)

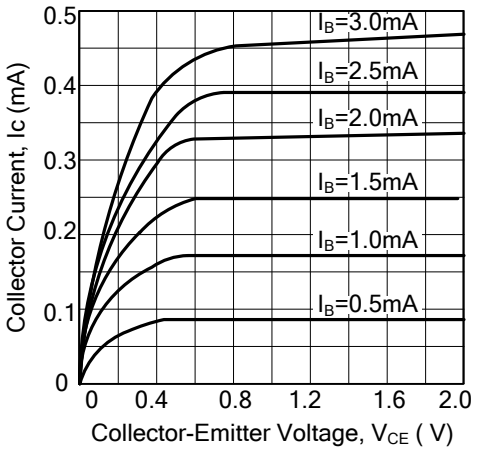
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=100μA, I_E=0	30			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA, I_B=0	20			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=100μA, Ic=0	5			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=30V, I_E=0			1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

■ CLASSIFICATION OF h_{FE2}

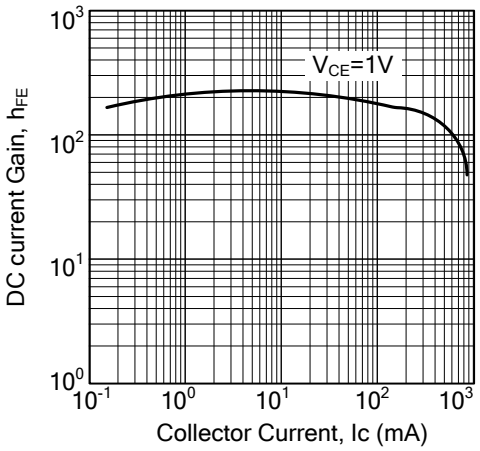
RANK	C	D	E
RANGE	120-200	160-300	280-400

■ TYPICAL CHARACTERISTICS

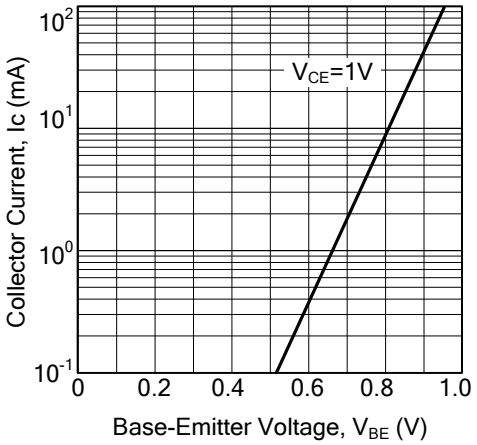
Static Characteristics



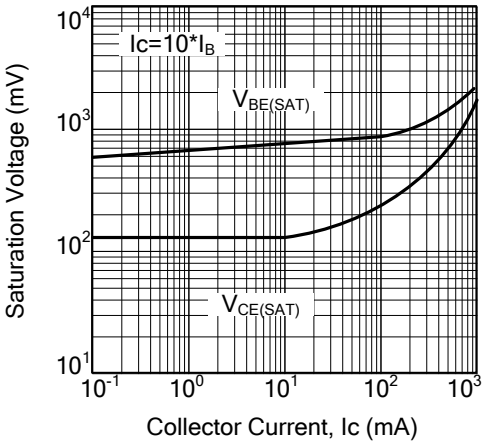
DC Current Gain



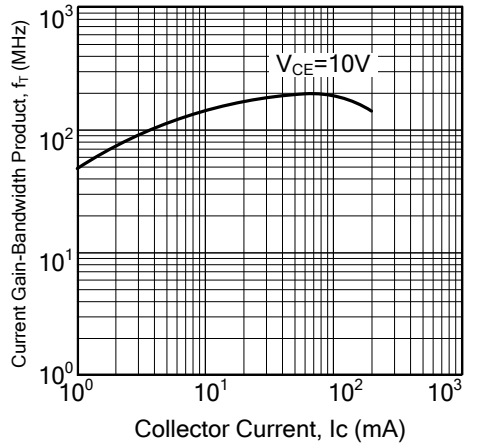
Base-Emitter on Voltage



Saturation Voltage



Current Gain-Bandwidth Product



Collector Output Capacitance