



HE8050

NPN SILICON TRANSISTOR

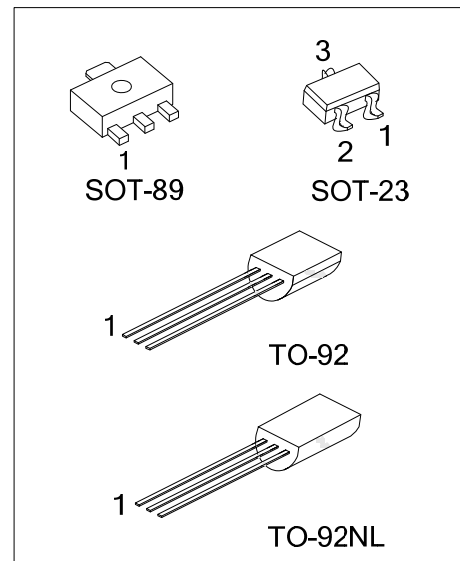
LOW VOLTAGE HIGH CURRENT SMALL SIGNAL NPN TRANSISTOR

DESCRIPTION

The UTC **HE8050** is a low voltage high current small signal NPN transistor, designed for Class B push-pull 2W audio amplifier for portable radio and general purpose applications.

FEATURES

- *Collector current up to 1.5A
- *Collector-Emitter voltage up to 25 V
- *Complimentary to UTC HE8550

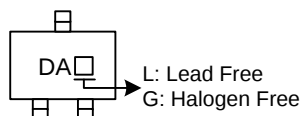


ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free Plating	Halogen Free		1	2	3	
HE8050-x-AB3-R	HE8050L-x-AB3-R	HE8050G-x-AB3-R	SOT-89	B	C	E	Tape Reel
HE8050-x-AE3-R	HE8050L-x-AE3-R	HE8050G-x-AE3-R	SOT-23	E	B	C	Tape Reel
HE8050-x-T92-B	HE8050L-x-T92-B	HE8050G-x-T92-B	TO-92	E	C	B	Tape Box
HE8050-x-T92-K	HE8050L-x-T92-K	HE8050G-x-T92-K	TO-92	E	C	B	Bulk
HE8050-x-T9N-B	HE8050L-x-T9N-B	HE8050G-x-T9N-B	TO-92NL	E	C	B	Tape Box
HE8050-x-T9N-K	HE8050L-x-T9N-K	HE8050G-x-T9N-K	TO-92NL	E	C	B	Bulk

HE8050L-x-AE3-R (1)Packing Type (2)Package Type (3)Rank (4)Lead Plating	(1) B: Tape Box, K: Bulk, R: Tape Reel (2) AB3: SOT-89, AE3: SOT-23, T92: TO-92, T9N: TO-92NL (3) x: refer to Classification of h_{FE2} (4) G: Halogen Free, L: Lead Free, Blank: Pb/Sn
--	--

MARKING (For SOT-23 Package)



■ ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V_{CBO}	40	V
Collector-Emitter Voltage		V_{CEO}	25	V
Emitter-Base Voltage		V_{EBO}	6	V
Collector Dissipation	SOT-23	P_c	350	mW
	SOT-89		500	mW
	TO-92/TO-92NL		1	W
Collector Current		I_C	1.5	A
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 (Ta= 25°C, unless otherwise specified.)

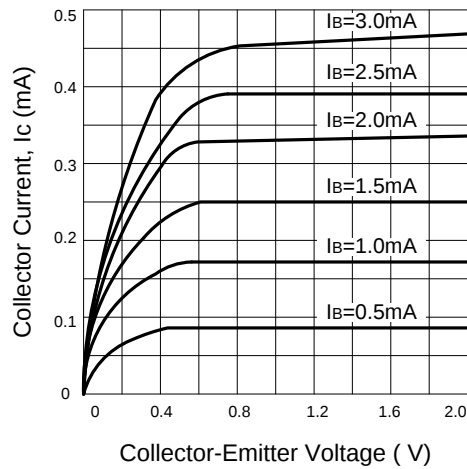
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu A, I_E=0$	40			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=2mA, I_B=0$	25			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu A, I_C=0$	6			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=35V, I_E=0$			100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=6V, I_C=0$			100	nA
DC Current Gain	h_{FE1}	$V_{CE}=1V, I_C=5mA$	45	135		
	h_{FE2}	$V_{CE}=1V, I_C=100mA$	85	160	500	
	h_{FE3}	$V_{CE}=1V, I_C=800mA$	40	110		
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=800mA, I_B=80mA$			0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=800mA, I_B=80mA$			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}

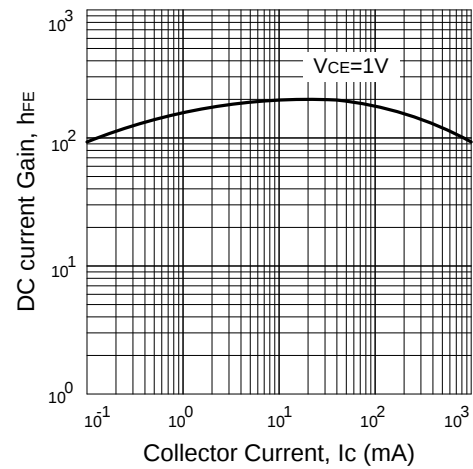
RANK	C	D	E
RANGE	120-200	160-300	250-500

■ TYPICAL CHARACTERISTICS

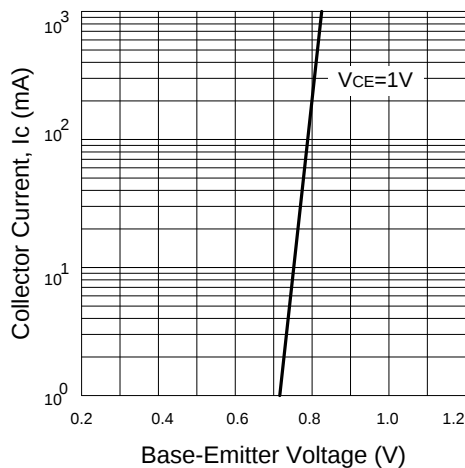
Static Characteristics



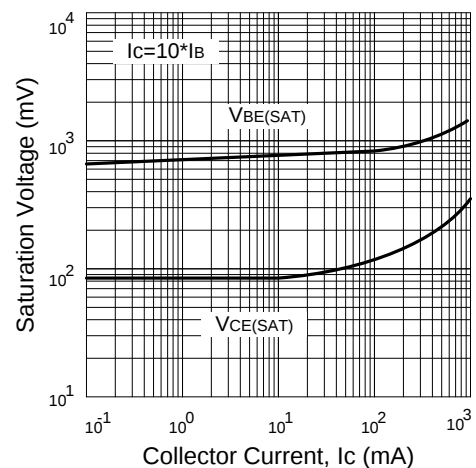
DC Current Gain



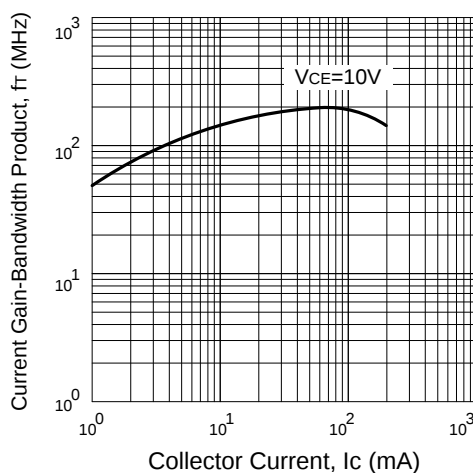
Base-Emitter on Voltage



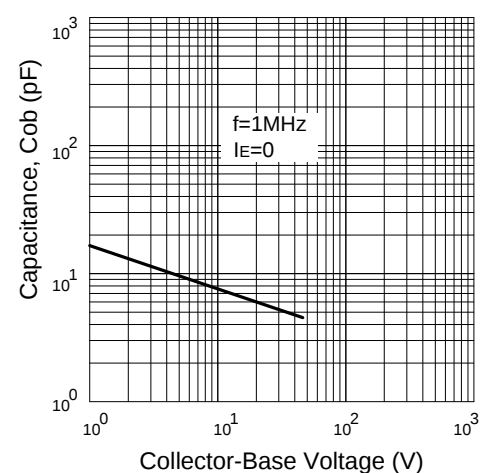
Saturation Voltage



Current Gain-Bandwidth Product



Collector Output Capacitance



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.