



HE8051

NPN SILICON TRANSISTOR

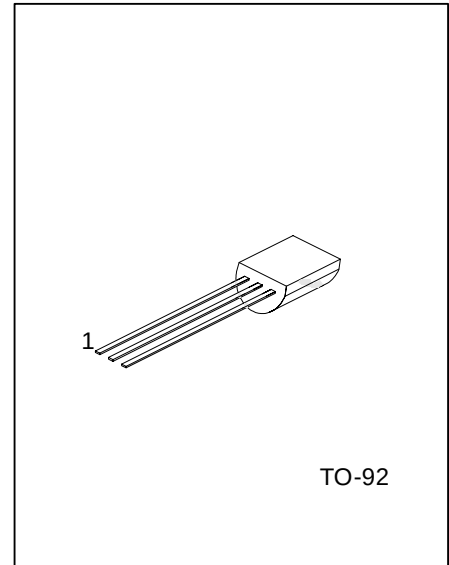
LOW VOLTAGE HIGH CURRENT SMALL SIGNAL NPN TRANSISTOR

DESCRIPTION

The UTC **HE8051** 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 **HE8551**



*Pb-free plating product number: HE8051L

ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
HE8051-x-T92-B	HE8051L-x-T92-B	TO-92	E	B	C	Tape Box
HE8051-x-T92-K	HE8051L-x-T92-K	TO-92	E	B	C	Bulk

HE8051L-x-T92-B	(1)Packing Type	(1) B: Tape Box, K: Bulk
	(2)Package Type	(2) T92: TO-92
	(3)Rank	(3) x: refer to Classification of h_{FE2}
	(4)Lead Plating	(4) L: Lead Free Plating, Blank: Pb/Sn

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise specified)

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 (Ta=25°C)	P_C	1	W
Collector Current	I_C	1.5	A
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-40 ~ +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.

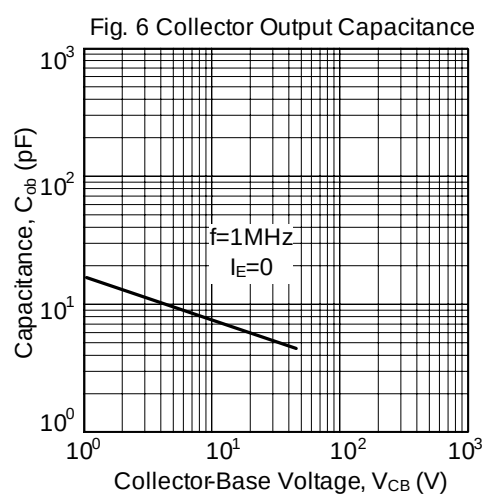
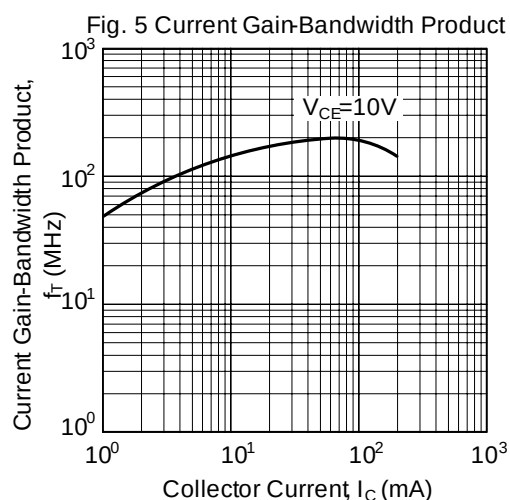
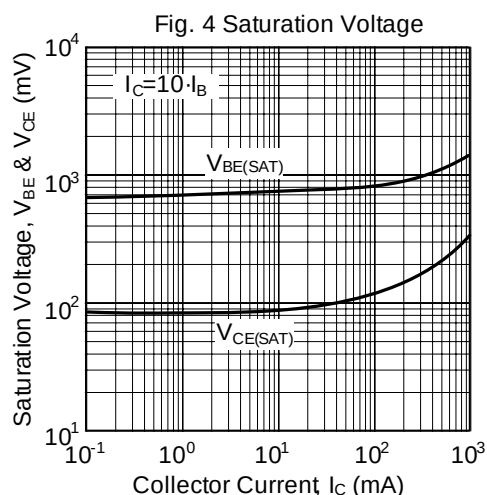
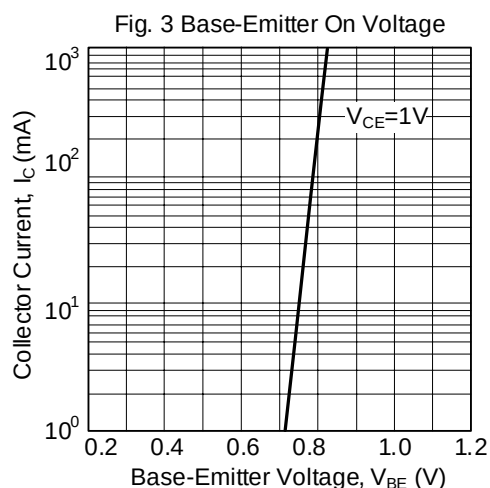
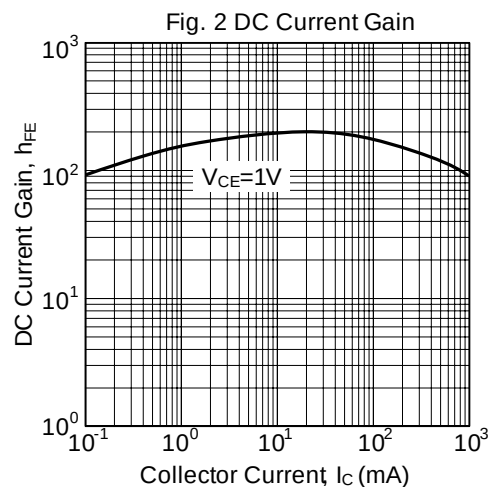
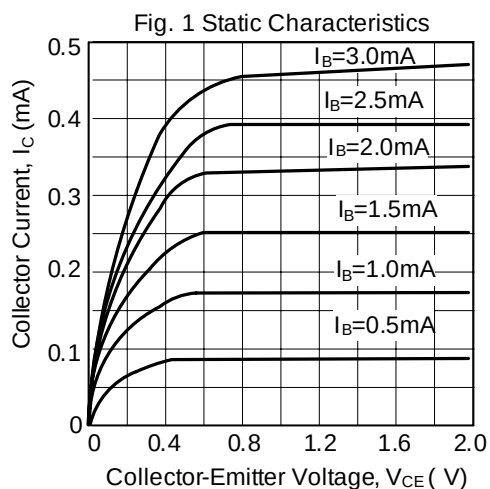
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

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 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



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