UTC HE8050 NPN EPITAXIAL SILICON TRANSISTOR

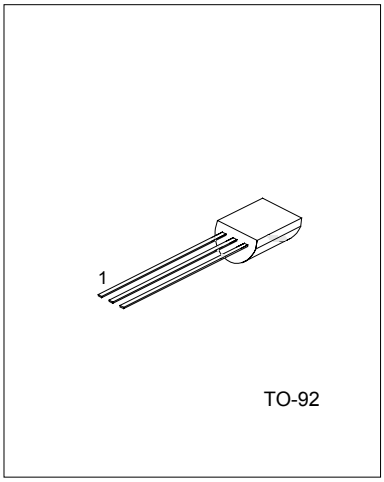
LOW VOLTAGE HIGH CURRENT SMALL SIGNAL NPN TRANSISTOR

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



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1:EMITTER 2:COLLECTOR 3: BASE

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

PARAMETER	SYMBOL	VALUE	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)	Pc	1	W
Collector Current	Ic	1.5	A
Junction Temperature	T_j	150	°C
Storage Temperature	T_{STG}	-65 ~ +150	°C

ELECTRICAL CHARACTERISTICS (Ta=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	40			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=2mA,I_B=0	25			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=100μA,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	Cob	V_{CB}=10V,I_E=0 f=1MHz		9.0		pF

CLASSIFICATION OF hFE

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

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Static characteristics

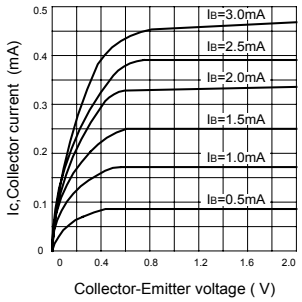

Fig.2 DC current Gain

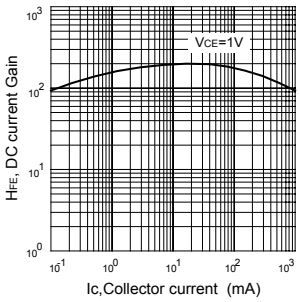

Fig.3 Base-Emitter on Voltage

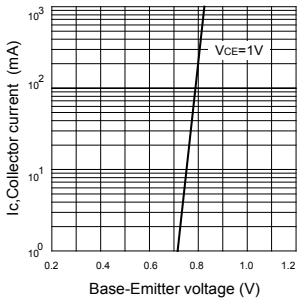

Fig.4 Saturation voltage

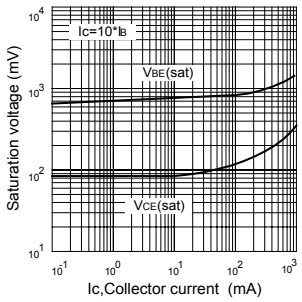

Fig.5 Current gain-bandwidth product

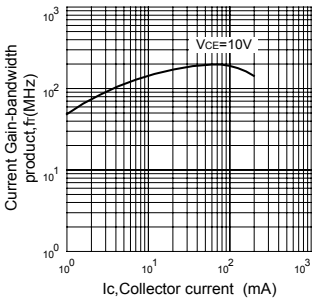

Fig.6 Collector output Capacitance