

UTC HE8051 NPN EPITAXIAL SILICON TRANSISTOR

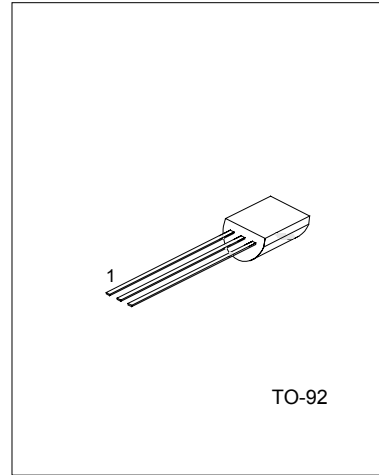
LOW VOLTAGE HIGH CURRENT SMALL SIGNAL NPN TRANSISTOR

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



1:EMITTER 2:BASE 3:COLLECTOR

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

PARAMETER	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 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}	-65 ~ +150	°C

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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	V _{CB0}	I _c =100μA, I _E =0	40			V
Collector-Emitter Breakdown Voltage	V _{CE0}	I _c =2mA, I _B =0	25			V
Emitter-Base Breakdown Voltage	V _{EB0}	I _E =100μA, I _c =0	6			V
Collector Cut-Off Current	I _{CB0}	V _{CB} =35V, I _E =0			100	nA
Emitter Cut-Off Current	I _{EB0}	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

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CLASSIFICATION OF h_{FE2}

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

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Static characteristics

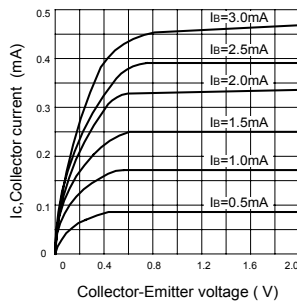


Fig.2 DC current Gain

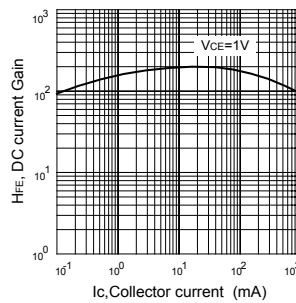


Fig.3 Base-Emitter on Voltage

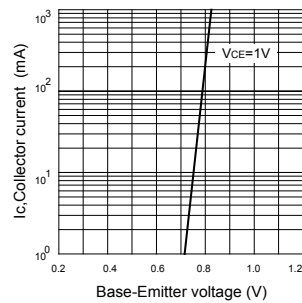


Fig.4 Saturation voltage

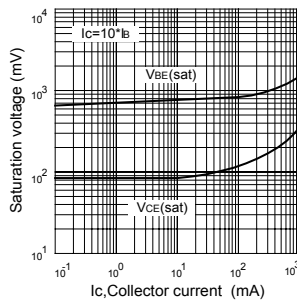


Fig.5 Current gain-bandwidth product

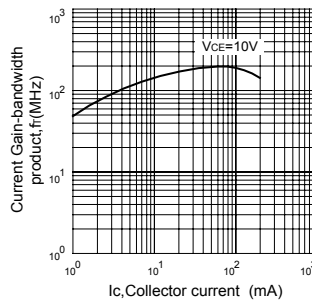
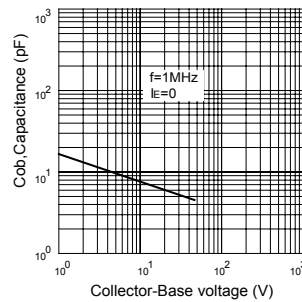


Fig.6 Collector output Capacitance



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