

UTC HE8050 NPN EPITAXIAL SILICON TRANSISTOR

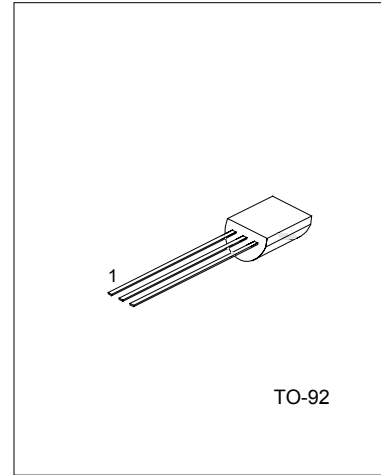
LOW VOLTAGE HIGH CURRENT SMALL SIGNAL NPN TRANSISTOR

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



1:EMITTER 2:COLLECTOR 3:BASE

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 hFE

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

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Static characteristics

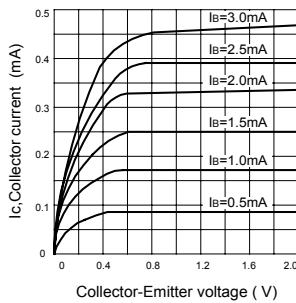


Fig.2 DC current Gain

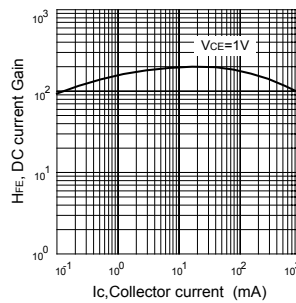


Fig.3 Base-Emitter on Voltage

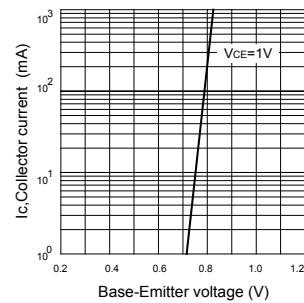


Fig.4 Saturation voltage

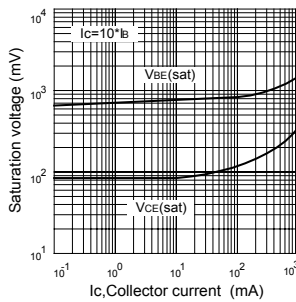


Fig.5 Current gain-bandwidth product

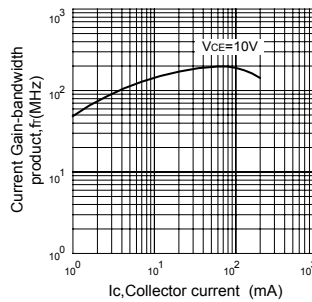
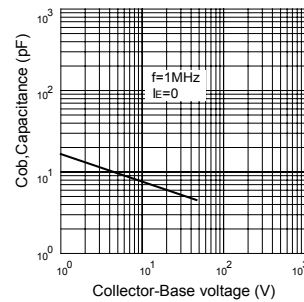


Fig.6 Collector output Capacitance



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