

UTC S8050 NPN EPITAXIAL SILICON TRANSISTOR

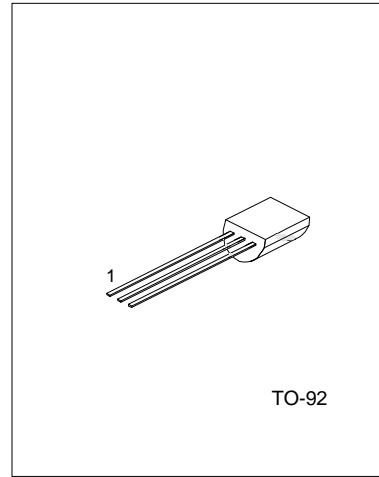
LOW VOLTAGE HIGH CURRENT SMALL SIGNAL NPN TRANSISTOR

DESCRIPTION

The UTC S8050 is a low voltage high current small signal NPN transistor, designed for Class B push-pull audio amplifier and general purpose applications.

FEATURES

- *Collector current up to 800mA
- *Collector-Emitter voltage up to 20 V
- *Complementary to S8550



1:EMITTER 2:BASE 3: COLLECTOR

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

| PARAMETER | SYMBOL | VALUE | UNIT |
|--------------------------------|------------------|------------|------|
| Collector-Base Voltage | V _{CB0} | 30 | V |
| Collector-Emitter Voltage | V _{CEO} | 20 | V |
| Emitter-Base Voltage | V _{EB0} | 5 | V |
| Collector Dissipation(Ta=25°C) | P _c | 1 | W |
| Collector Current | I _c | 800 | mA |
| 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 _{CB0} | I _c =100μA, I _E =0 | 30 | | | V |
| Collector-Emitter Breakdown Voltage | BV _{CEO} | I _c =1mA, I _B =0 | 20 | | | V |
| Emitter-Base Breakdown Voltage | BV _{EB0} | I _E =100μA, I _c =0 | 5 | | | V |
| Collector Cut-Off Current | I _{CB0} | V _{CB} =30V, I _E =0 | | | 1 | μA |
| Emitter Cut-Off Current | I _{EB0} | V _{EB} =5V, I _c =0 | | | 100 | nA |
| DC Current Gain(note) | h _{FE} | V _{CE} =1V, I _c =1mA V _{CE} =1V, I _c =150 mA V _{CE} =1V, I _c =500mA | 100 120 40 | 110 | 400 | |
| Collector-Emitter Saturation Voltage | V _{CE(sat)} | I _c =500mA, I _B =50mA | | | 0.5 | V |
| Base-Emitter Saturation Voltage | V _{BE(sat)} | I _c =500mA, I _B =50mA | | | 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 | 280-400 |

TYPICAL PERFORMANCE CHARACTERISTICS

Fig.1 Static characteristics

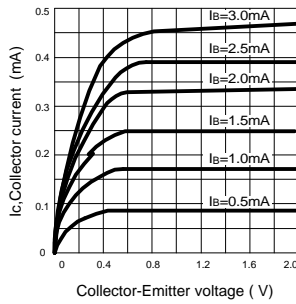


Fig.2 DC current Gain

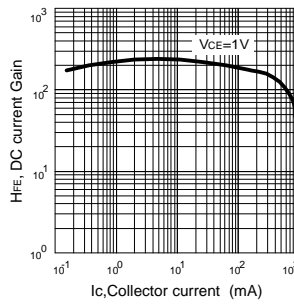


Fig.3 Base-Emitter on Voltage

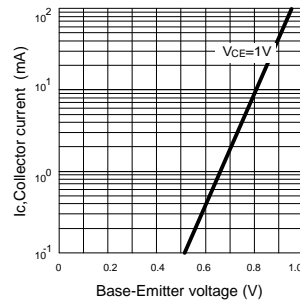


Fig.4 Saturation voltage

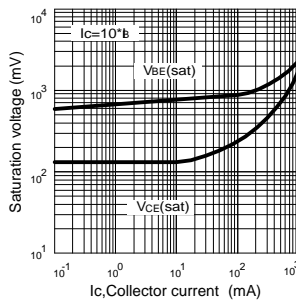


Fig.5 Current gain-bandwidth product

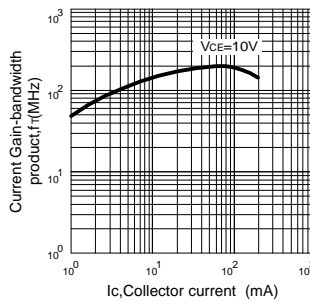


Fig.6 Collector output Capacitance

