



HBC847

NPN EPITAXIAL PLANAR TRANSISTOR

Description

The HBC847 is designed for switching and AF amplifier amplification suitable for automatic insertion in thick and thin-film circuits.

Absolute Maximum Ratings

- Maximum Temperatures
Storage Temperature -55 to +150 °C
Junction Temperature..... +150 °C
- Maximum Power Dissipation
Total Power Dissipation (Ta=25°C) 225 mW
- Maximum Voltages and Currents (Ta=25°C)
VCBO Collector to Base Voltage 50 V
VCEO Collector to Emitter Voltage..... 45 V
VEBO Emitter to Base Voltage..... 6 V
IC Collector Current 100 mA

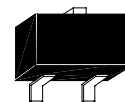
Characteristics (Ta=25°C)

| Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|------------|------|------|------|------|-----------------------|
| BVCBO | 50 | - | - | V | IC=100uA |
| BVCEO | 45 | - | - | V | IC=1mA |
| VEBO | 6 | - | - | V | IE=10uA |
| ICBO | - | - | 15 | nA | VCB=30V |
| *VCE(sat)1 | - | 90 | 250 | mV | IC=10mA, IB=0.5mA |
| *VCE(sat)2 | - | 200 | 600 | mV | IC=100mA, IB=5mA |
| *VBE(sat)1 | - | 700 | - | mV | IC=10mA, IB=0.5mA |
| *VBE(sat)2 | - | 900 | - | mV | IC=100mA, IB=5mA |
| VBE(on)1 | 580 | - | 700 | mV | VCE=5V, IC=2mA |
| VBE(on)2 | - | - | 770 | mV | VCE=5V, IC=10mA |
| *hFE | 110 | - | 800 | | VCE=5V, IC=2mA |
| fT | - | 300 | - | MHz | VCE=5V, IC=10mA |
| Cob | - | 3.5 | 6 | pF | VCB=10V, f=1MHz, IE=0 |

*Pulse Test: Pulse Width ≤380us, Duty Cycle≤2%

Classification Of hFE

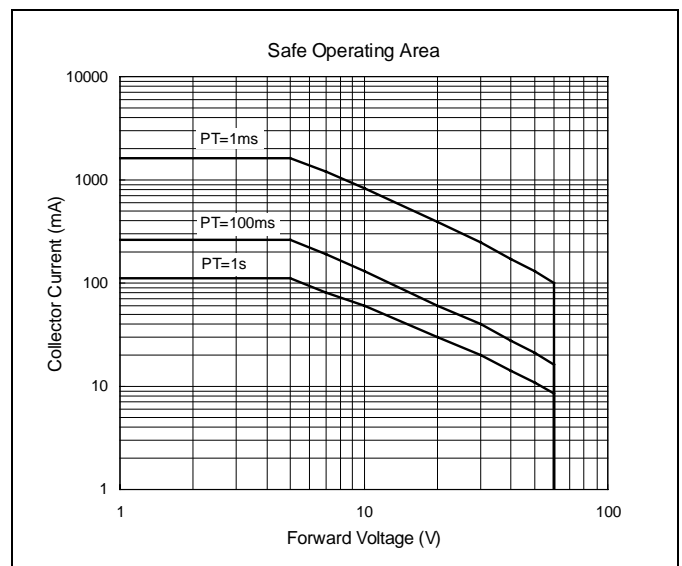
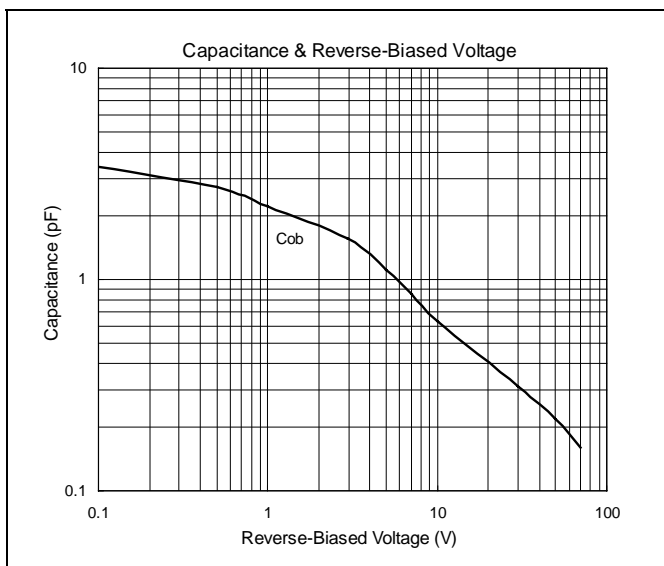
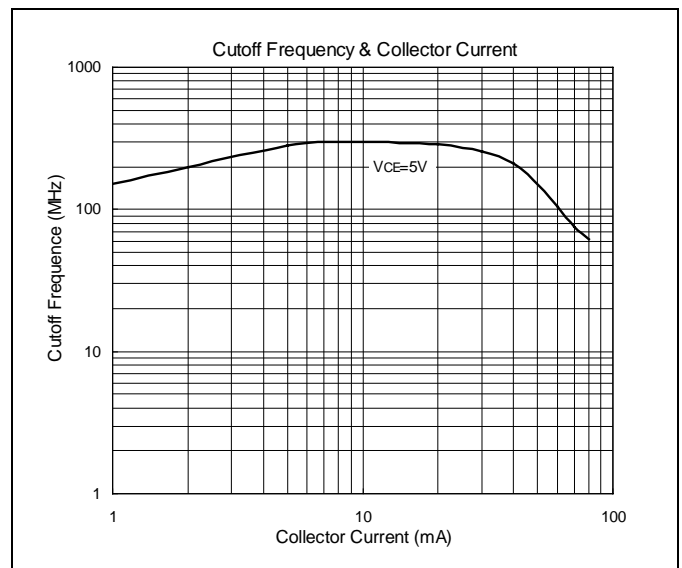
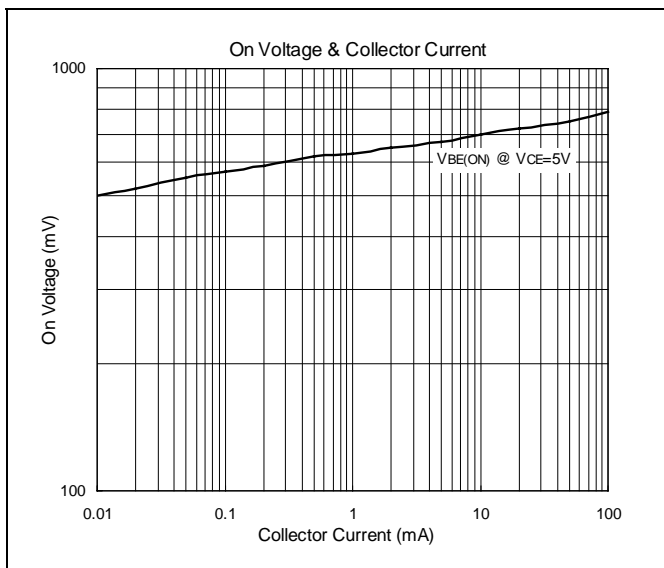
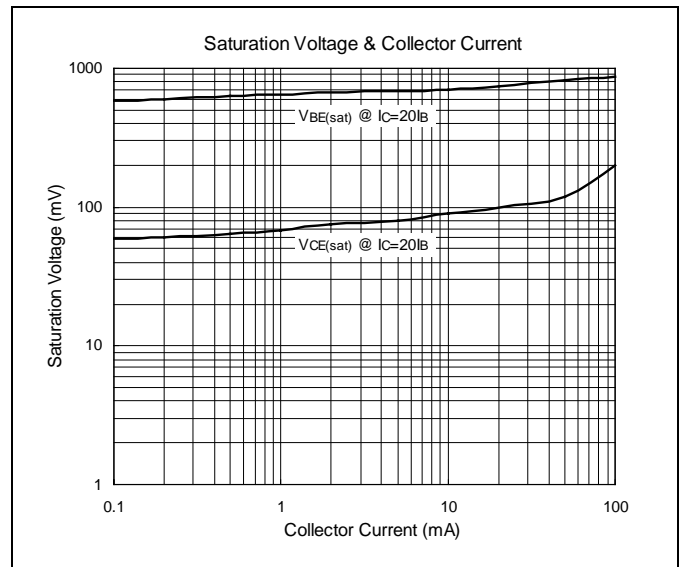
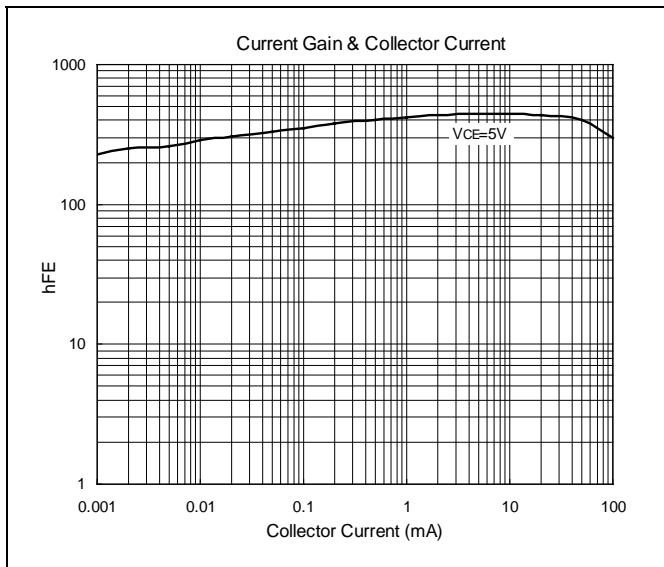
| Rank | A | B | C |
|------|---------|---------|---------|
| hFE | 110-220 | 200-450 | 420-800 |



SOT-23

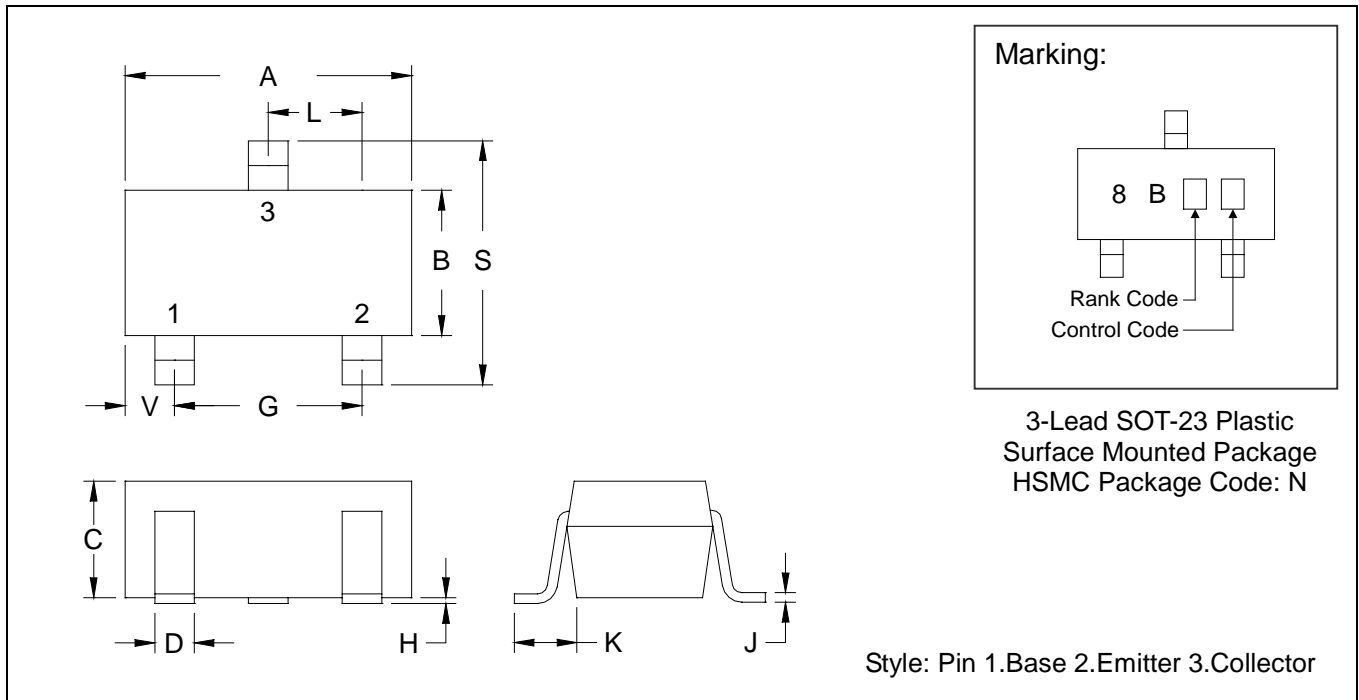


Characteristics Curve





SOT-23 Dimension



*: Typical

| DIM | Inches | | Millimeters | | DIM | Inches | | Millimeters | |
|-----|--------|--------|-------------|------|-----|--------|--------|-------------|-------|
| | Min. | Max. | Min. | Max. | | Min. | Max. | Min. | Max. |
| A | 0.1102 | 0.1204 | 2.80 | 3.04 | J | 0.0034 | 0.0070 | 0.085 | 0.177 |
| B | 0.0472 | 0.0630 | 1.20 | 1.60 | K | 0.0128 | 0.0266 | 0.32 | 0.67 |
| C | 0.0335 | 0.0512 | 0.89 | 1.30 | L | 0.0335 | 0.0453 | 0.85 | 1.15 |
| D | 0.0118 | 0.0197 | 0.30 | 0.50 | S | 0.0830 | 0.1083 | 2.10 | 2.75 |
| G | 0.0669 | 0.0910 | 1.70 | 2.30 | V | 0.0098 | 0.0256 | 0.25 | 0.65 |
| H | 0.0005 | 0.0040 | 0.013 | 0.10 | | | | | |

Notes: 1.Dimension and tolerance based on our Spec. dated Sep. 07,1997.

2.Controlling dimension: millimeters.

3.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.

4.If there is any question with packing specification or packing method, please contact your local HSMC sales office.

Material:

- Lead: 42 Alloy; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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