



# HMBT6517

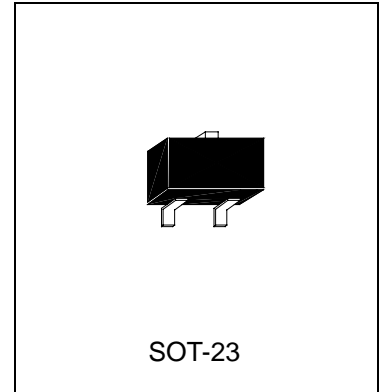
NPN EPITAXIAL PLANAR TRANSISTOR

## Description

The HMBT6517 is designed for general purpose applications requiring high breakdown voltages.

## Features

- High Collector-Emitter Breakdown Voltage
- Low Collector-Emitter Saturation Voltage
- The HMBT6517 is complementary to HMBT6520



## Absolute Maximum Ratings

- Maximum Temperatures  
Storage Temperature..... -55 ~ +150 °C  
Junction Temperature..... +150 °C Maximum
- Maximum Power Dissipation  
Total Power Dissipation (Ta=25°C)..... 225 mW
- Maximum Voltages and Currents (Ta=25°C)  
VCBO Collector to Base Voltage ..... 350 V  
VCEO Collector to Emitter Voltage ..... 350 V  
VEBO Emitter to Base Voltage ..... 5 V  
IC Collector Current ..... 500 mA  
IB Base Current ..... 250 mA

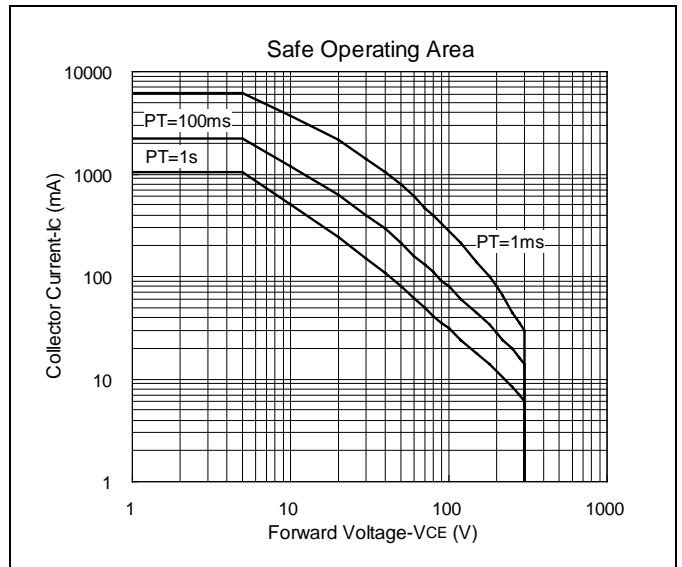
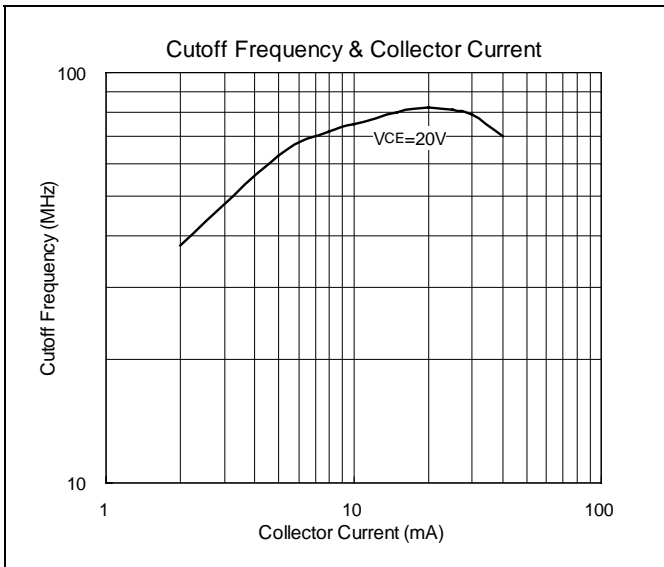
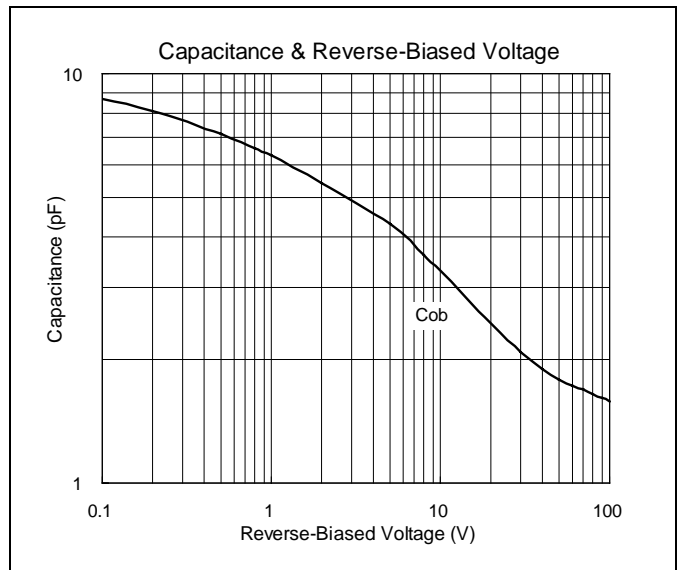
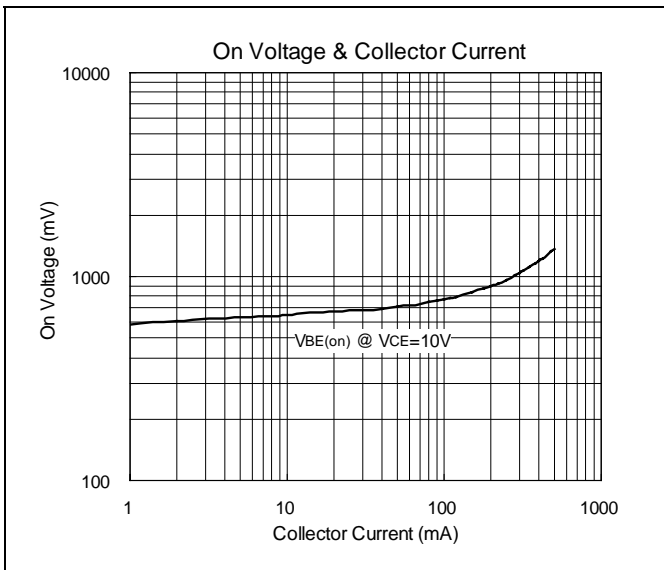
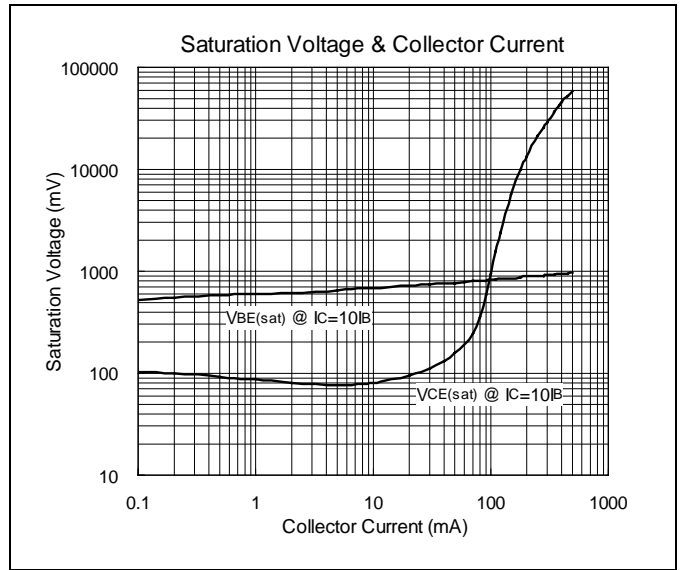
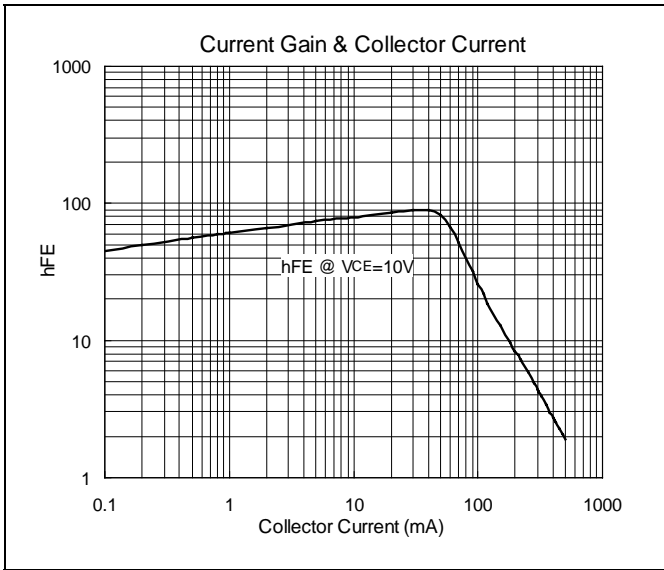
## Characteristics (Ta=25°C)

| Symbol     | Min. | Typ. | Max. | Unit | Test Conditions           |
|------------|------|------|------|------|---------------------------|
| BVCBO      | 350  | -    | -    | V    | IC=100uA                  |
| BVCEO      | 350  | -    | -    | V    | IC=1mA                    |
| BVEBO      | 5    | -    | -    | V    | IE=10uA                   |
| ICBO       | -    | -    | 50   | nA   | VCB=250V                  |
| IEBO       | -    | -    | 50   | nA   | VEB=5V                    |
| *VCE(sat)1 | -    | -    | 300  | mV   | IC=10mA, IB=1mA           |
| *VCE(sat)2 | -    | -    | 350  | mV   | IC=20mA, IB=2mA           |
| *VCE(sat)3 | -    | -    | 500  | mV   | IC=30mA, IB=3mA           |
| *VCE(sat)4 | -    | -    | 1    | V    | IC=50mA, IB=5mA           |
| VBE(on)    | -    | -    | 2    | V    | VCE=10V, IC=100mA         |
| *VBE(sat)1 | -    | -    | 750  | mV   | IB=1mA, IC=10mA           |
| *VBE(sat)2 | -    | -    | 850  | mV   | IB=2mA, IC=20mA           |
| *VBE(sat)3 | -    | -    | 900  | mV   | IB=3mA, IC=30mA           |
| *hFE1      | 20   | -    | -    |      | VCE=10V, IC=1mA           |
| *hFE2      | 30   | -    | -    |      | VCE=10V, IC=10mA          |
| *hFE3      | 30   | -    | 200  |      | VCE=10V, IC=30mA          |
| *hFE4      | 20   | -    | 200  |      | VCE=10V, IC=50mA          |
| *hFE5      | 15   | -    | -    |      | VCE=10V, IC=100mA         |
| fT         | 40   | -    | 200  | MHz  | IC=10mA, VCE=20V, f=20MHz |
| Cob        | -    | -    | 6    | pF   | VCB=20V, f=1MHz           |

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

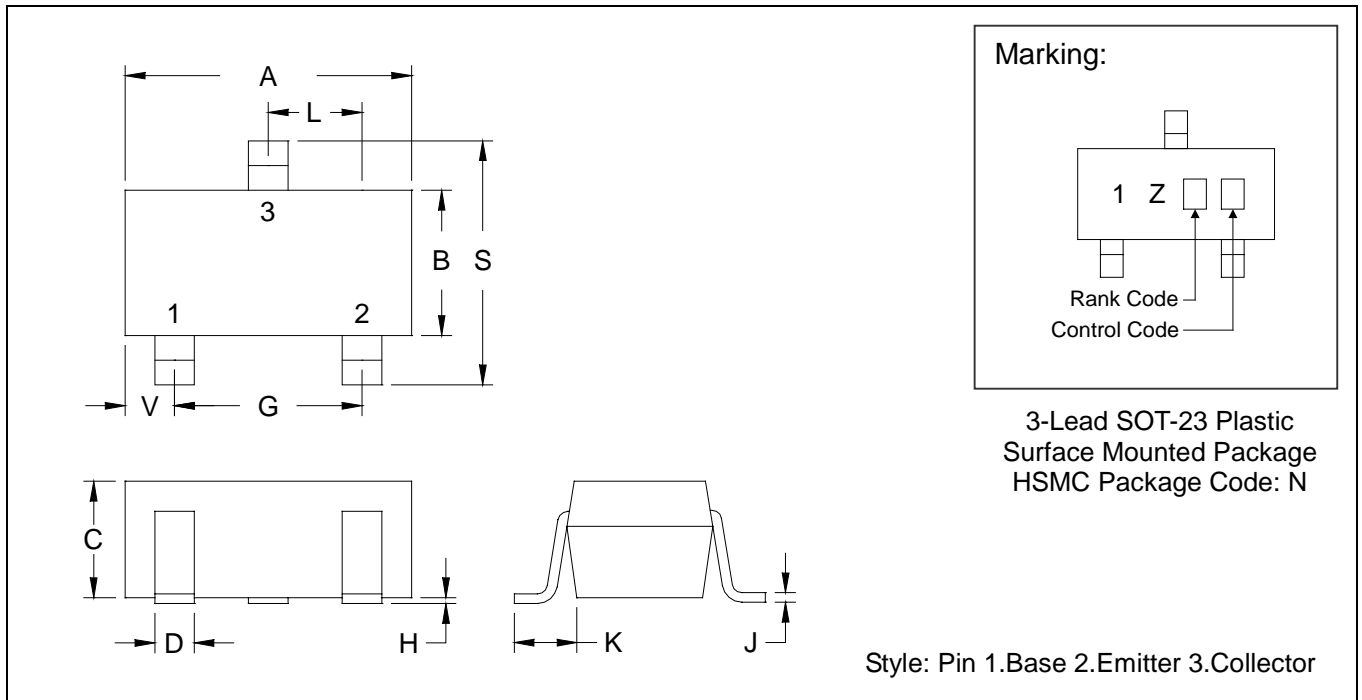


### Characteristics Curve





### 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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