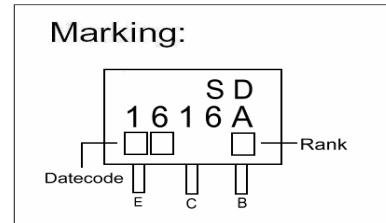
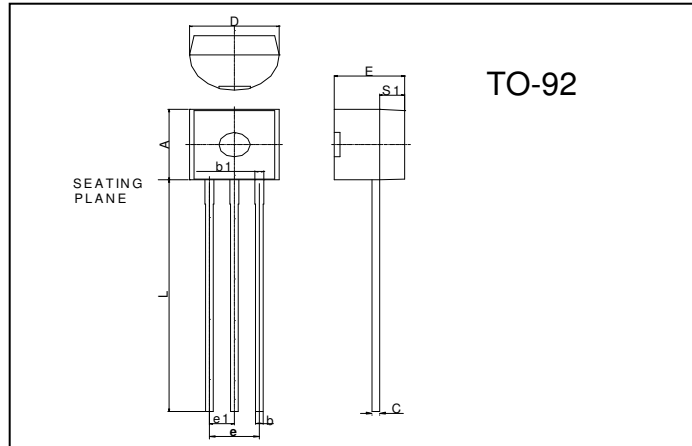


**GSD1616A****NPN EPITAXIAL PLANAR TRANSISTOR****Description**

The GSD1616A is designed for audio frequency power amplifier and medium speed switching.

**Package Dimensions**

| REF.           | Millimeter |      | REF.           | Millimeter |       |
|----------------|------------|------|----------------|------------|-------|
|                | Min.       | Max. |                | Min.       | Max.  |
| A              | 4.45       | 4.7  | D              | 4.44       | 4.7   |
| S <sub>1</sub> | 1.02       | -    | E              | 3.30       | 3.81  |
| b              | 0.36       | 0.51 | L              | 12.70      | -     |
| b <sub>1</sub> | 0.36       | 0.76 | e <sub>1</sub> | 1.150      | 1.390 |
| C              | 0.36       | 0.51 | e              | 2.42       | 2.66  |

**Absolute Maximum Ratings Ta = 25°C**

| Parameter                    |                  | Ratings    | Unit |
|------------------------------|------------------|------------|------|
| Collector to Base Voltage    | VCBO             | 120        | V    |
| Collector to Emitter Voltage | VCEO             | 60         | V    |
| Emitter to Base Voltage      | VEBO             | 6          | V    |
| Collect Current(DC)          | IC               | 1          | A    |
| Collect Current*(Pulse)      | IC               | 2          | A    |
| Junction Temperature         | T <sub>j</sub>   | +150       | °C   |
| Storage Temperature Range    | T <sub>stg</sub> | -55 ~ +150 | °C   |
| Total Power Dissipation      | PD               | 750        | mW   |

**Characteristics at Ta = 25°C**

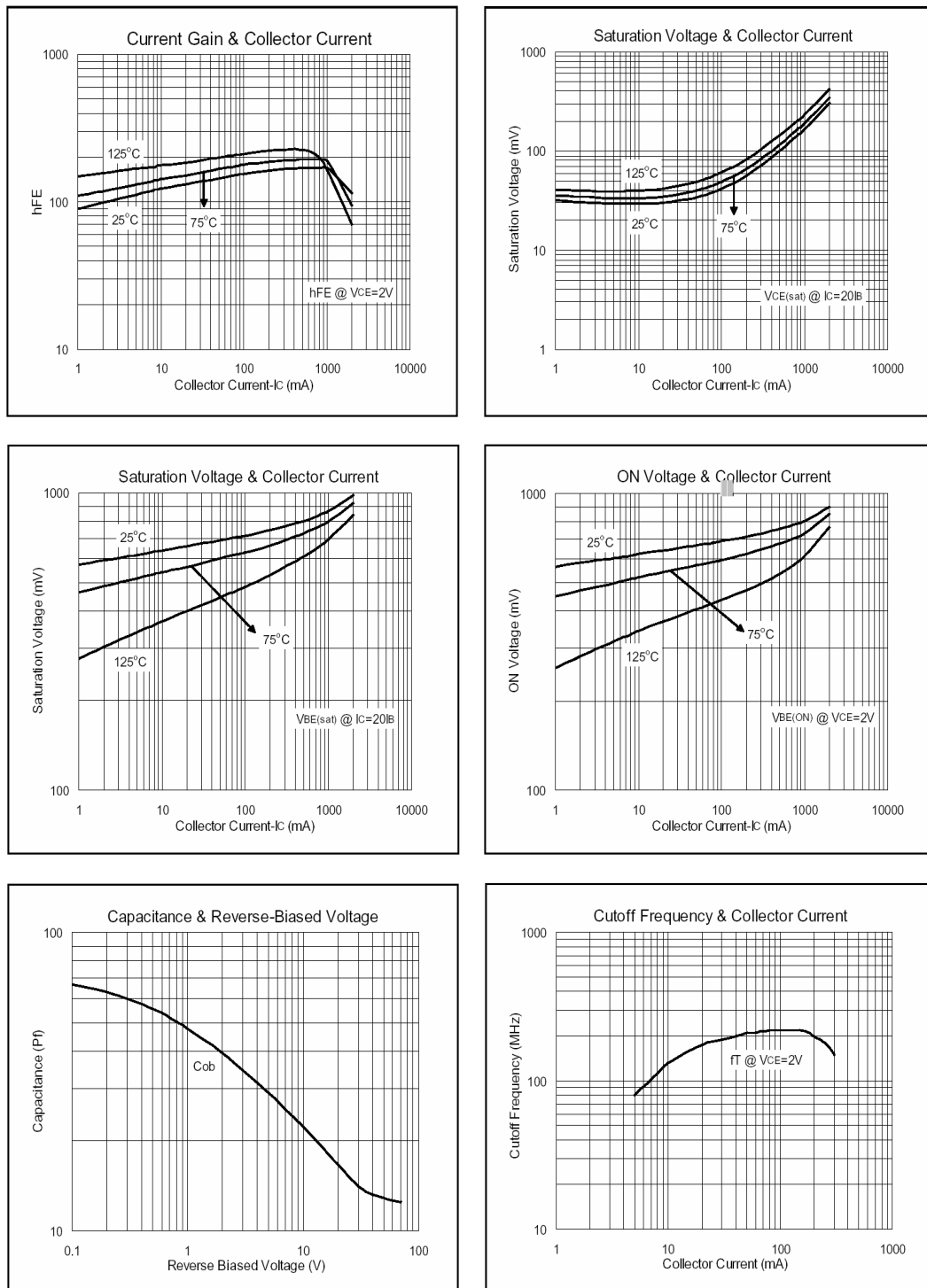
| Symbol    | Min. | Typ. | Max. | Unit | Test Conditions       |
|-----------|------|------|------|------|-----------------------|
| BVCBO     | 120  | -    | -    | V    | IC=100uA              |
| BVCEO     | 60   | -    | -    | V    | IC=1mA                |
| BVEBO     | 6    | -    | -    | V    | IE=10uA               |
| ICBO      | -    | -    | 100  | nA   | VBE=60V               |
| IEBO      | -    | -    | 100  | nA   | VBE=6V                |
| *VCE(sat) | -    | 150  | 300  | mV   | IC=1A, IB=50mA        |
| *VBE(sat) | -    | 0.9  | 1.2  | mV   | IC=1A, IB=50mA        |
| VBE(on)   | 600  | 640  | 700  | mV   | VCE=2V, IC=50mA       |
| *hFE1     | 135  | -    | 600  |      | VCE=2V, IC=100mA      |
| *hFE2     | 81   | -    | -    |      | VCE=2V, IC=1A         |
| fT        | 100  | 160  | -    | MHz  | VCE=2V, IC=100mA      |
| Cob       | -    | -    | 19   | pF   | VCB=10V, IE=0, f=1MHz |
| ton       | -    | 0.07 | -    | uS   | VCE=10V, IC=100mA     |
| ts        | -    | 0.95 | -    | uS   | IB1=-IB2=10mA         |
| tf        | -    | 0.07 | -    | uS   | VBE(off)=2~3V         |

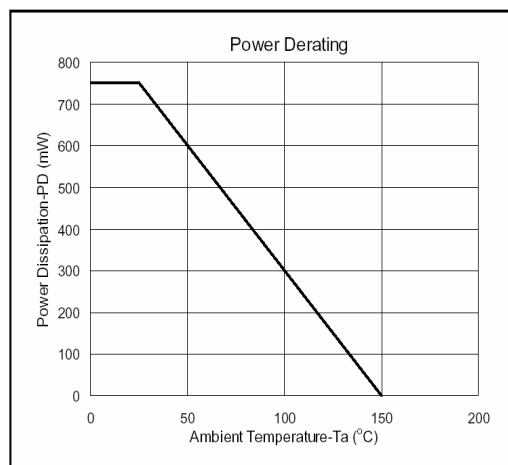
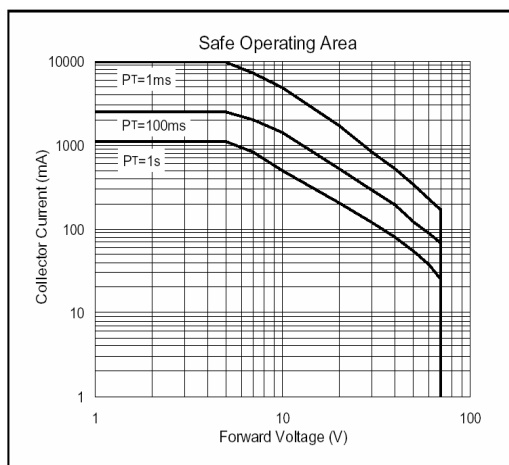
\*Pulse Test: Pulse Width ≤ 380us, Duty Cycle ≤ 2%

**Classification of hFE1**

|       |         |         |         |
|-------|---------|---------|---------|
| Rank  | Y       | G       | L       |
| Range | 135-270 | 200-400 | 300-600 |

## Characteristics Curve





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