



# HPN2369A

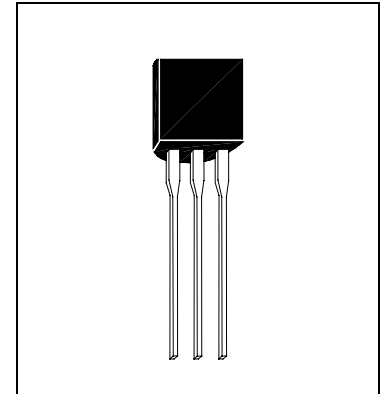
NPN EPITAXIAL PLANAR TRANSISTOR

## Description

The HPN2369A is designed for general purpose switching and amplifier applications.

## Features

- Low Collector Saturation Voltage
- High Speed Switching Transistor



## Absolute Maximum Ratings

- Maximum Temperatures  
 Storage Temperature ..... -55 ~ +150 °C  
 Junction Temperature ..... +150 °C Maximum
- Maximum Power Dissipation  
 Total Power Dissipation (Ta=25°C) ..... 625 mW
- Maximum Voltages and Currents (Ta=25°C)  
 VCBO Collector to Base Voltage ..... 40 V  
 VCES Collector to Emitter Voltage..... 40 V  
 VCEO Collector to Emitter Voltage ..... 15 V  
 VEBO Emitter to Base Voltage ..... 4.5 V  
 IC Collector Current ..... 200 mA  
 ICM Peak Collector Current ..... 300 mA

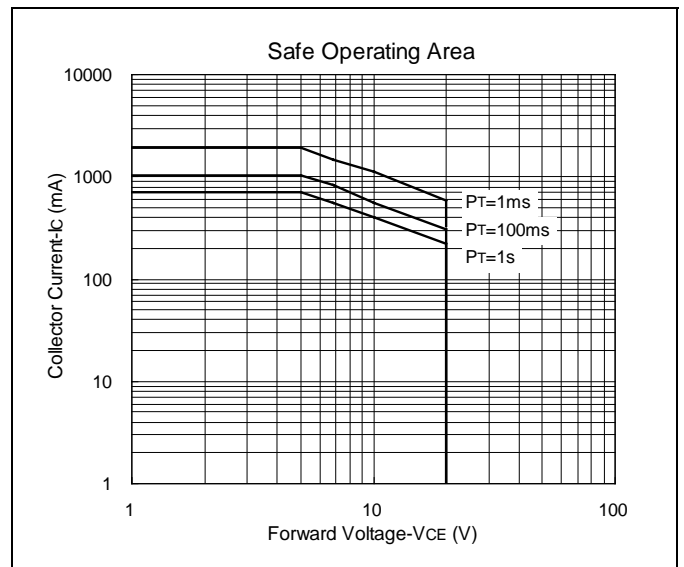
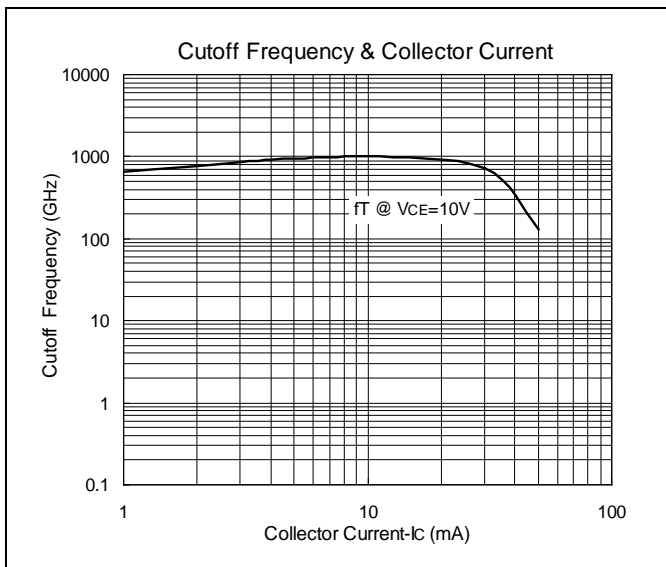
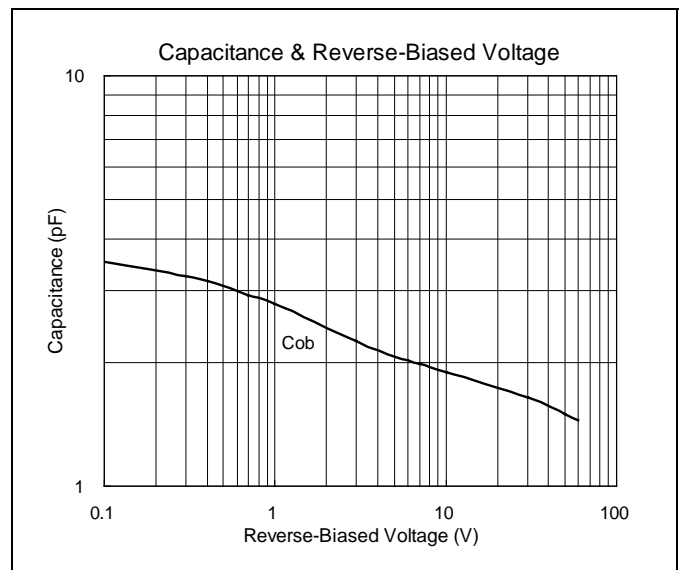
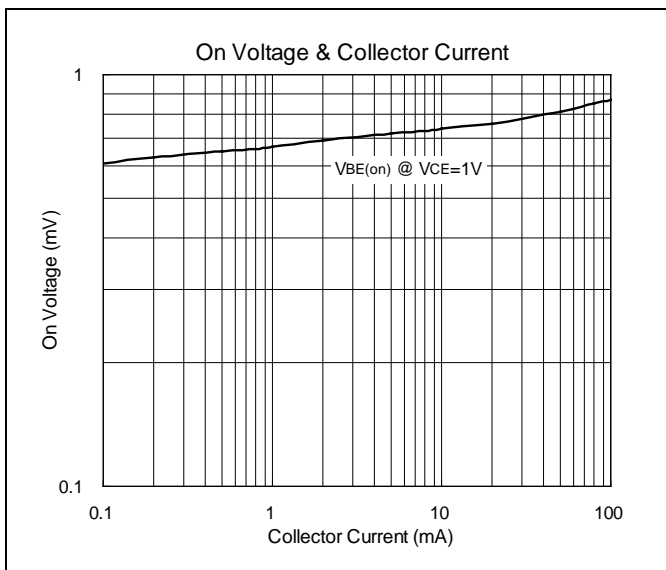
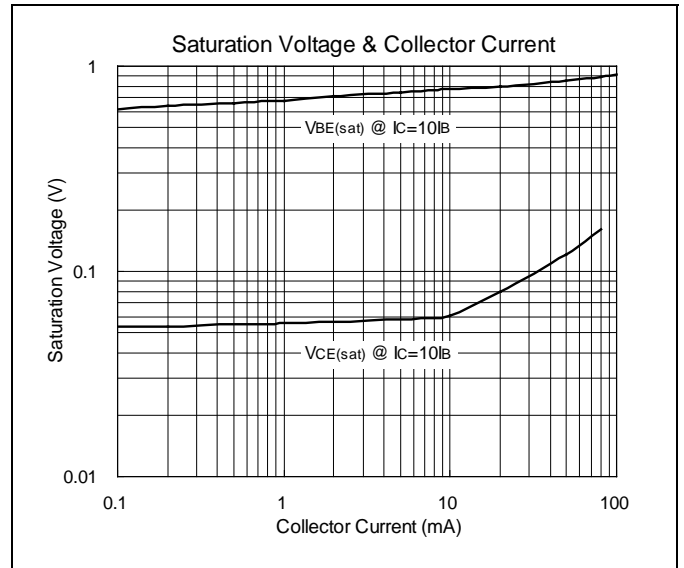
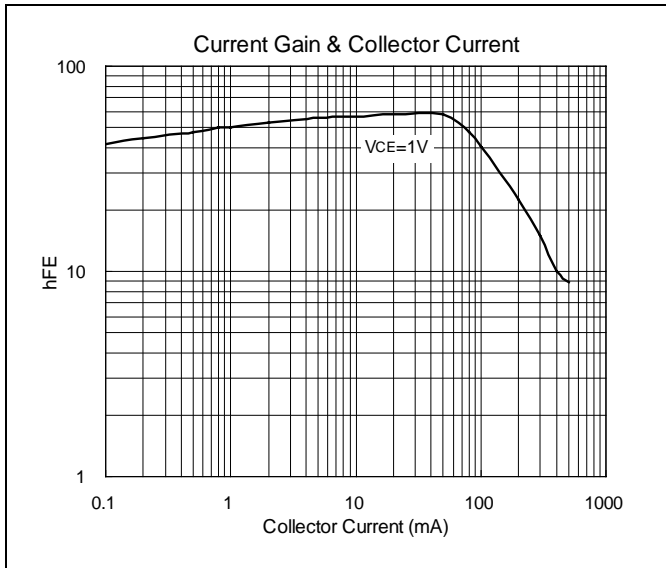
## Characteristics (Ta=25°C)

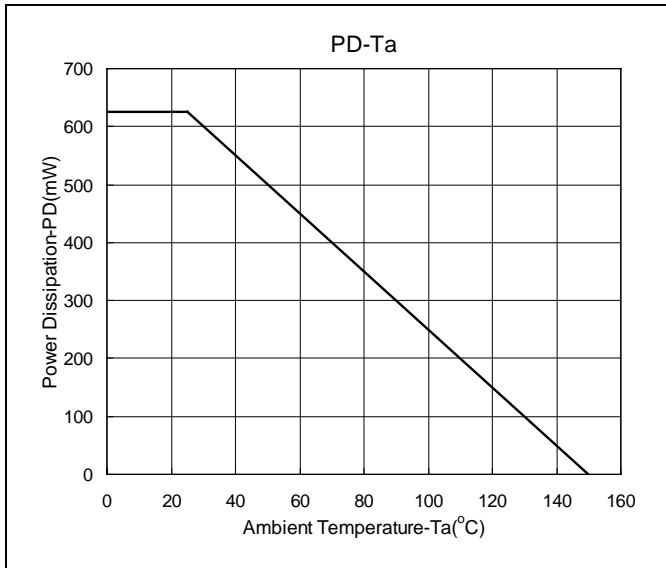
| Symbol     | Min. | Typ. | Max. | Unit | Test Conditions            |
|------------|------|------|------|------|----------------------------|
| BVCBO      | 40   | -    | -    | V    | IC=10uA, IE=0              |
| BVCES      | 40   | -    | -    | V    | IC=10uA, VBE=0             |
| BVEBO      | 4.5  | -    | -    | V    | IE=10uA, IC=0              |
| IEBO       | -    | -    | 100  | nA   | VEB=4V, IC=0               |
| ICBO       | -    | -    | 400  | nA   | VCB=20V, IE=0              |
| ICES       | -    | -    | 400  | nA   | VCE=40V, VBE=0             |
| *VCE(sat)1 | -    | -    | 200  | mV   | IC=10mA, IB=1mA            |
| *VCE(sat)2 | -    | -    | 250  | mV   | IC=30mA, IB=3mA            |
| *VCE(sat)3 | -    | -    | 300  | mV   | IC=10mA, IB=10mA           |
| *VCE(sat)4 | -    | -    | 500  | mV   | IC=100mA, IB=10mA          |
| *VBE(sat)  | 700  | -    | 850  | mV   | IC=10mA, IB=1mA            |
| *hFE1      | 40   | -    | 120  |      | IC=10mA, VCE=0.35V         |
| *hFE2      | 30   | -    | -    |      | IC=30mA, VCE=0.4V          |
| *hFE3      | 20   | -    | -    |      | IC=100mA, VCE=1V           |
| fT         | 500  | -    | -    | MHz  | IC=10mA, VCE=10V, f=100MHz |
| Cob        | -    | -    | 4    | pF   | VCB=5V, f=1MHz             |

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



### Characteristics Curve







### TO-92 Dimension

3-Lead TO-92 Plastic Package  
 HSMC Package Code : A

**Marking:**

HSMC Logo → □ □ □ □ ← Product Series  
 Part Number → □ □ □ □ □  
 Date Code → □ □ □ □ □ ← Rank

Laser Mark

HSMC Logo  
 Product Series  
 Part Number → □ □ □ □ □

Ink Mark

Style: Pin 1. Emitter 2. Base 3. Collector

\*: Typical

| DIM | Inches |         | Millimeters |       | DIM        | Inches |         | Millimeters |       |
|-----|--------|---------|-------------|-------|------------|--------|---------|-------------|-------|
|     | Min.   | Max.    | Min.        | Max.  |            | Min.   | Max.    | Min.        | Max.  |
| A   | 0.1704 | 0.1902  | 4.33        | 4.83  | G          | 0.0142 | 0.0220  | 0.36        | 0.56  |
| B   | 0.1704 | 0.1902  | 4.33        | 4.83  | H          | -      | *0.1000 | -           | *2.54 |
| C   | 0.5000 | -       | 12.70       | -     | I          | -      | *0.0500 | -           | *1.27 |
| D   | 0.0142 | 0.0220  | 0.36        | 0.56  | $\alpha 1$ | -      | *5°     | -           | *5°   |
| E   | -      | *0.0500 | -           | *1.27 | $\alpha 2$ | -      | *2°     | -           | *2°   |
| F   | 0.1323 | 0.1480  | 3.36        | 3.76  | $\alpha 3$ | -      | *2°     | -           | *2°   |

- Notes:**
1. Dimension and tolerance based on our Spec. dated Apr. 25, 1996.
  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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