



HE9014

NPN EPITAXIAL PLANAR TRANSISTOR

Description

The HE9014 is designed for use in pre-amplifier of low level and low noise.

Features

- High Total Power Dissipation (PD: 450mW)
- Complementary to HE9015
- High hFE and Good Linearity

Absolute Maximum Ratings

- Maximum Temperatures
 Storage Temperature -55 ~ +150 °C
 Junction Temperature +150 °C Maximum
- Maximum Power Dissipation
 Total Power Dissipation (Ta=25°C) 450 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 5 V
 IC Collector Current 100 mA

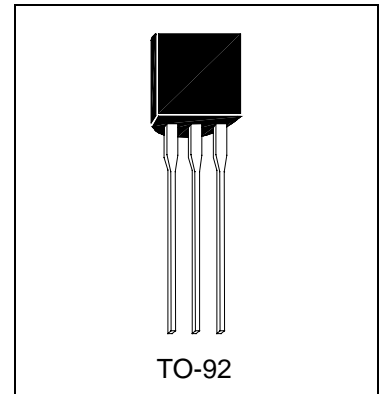
Characteristics (Ta=25°C)

| Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|-----------|------|------|------|------|-----------------------|
| BVCBO | 50 | - | - | V | IC=100uA, IE=0 |
| BVCEO | 45 | - | - | V | IC=1mA, IB=0 |
| BVEBO | 5 | - | - | V | IE=100uA, IC=0 |
| ICBO | - | - | 50 | nA | VCB=50V, IE=0 |
| IEBO | - | - | 50 | nA | VEB=5V, IC=0 |
| *VCE(sat) | - | 0.14 | 0.3 | V | IC=100mA, IB=5mA |
| *VBE(sat) | - | 0.84 | 1 | V | IC=100mA, IB=5mA |
| VBE(on) | 0.58 | 0.63 | 0.7 | V | VCE=5V, IC=2mA |
| *hFE | 100 | 280 | 1000 | | VCE=5V, IC=1mA |
| Cob | - | 2.20 | 3.5 | pF | VCB=10V, f=1MHz, IE=0 |
| fT | 150 | 270 | - | MHz | VCE=5V, IC=10mA |

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

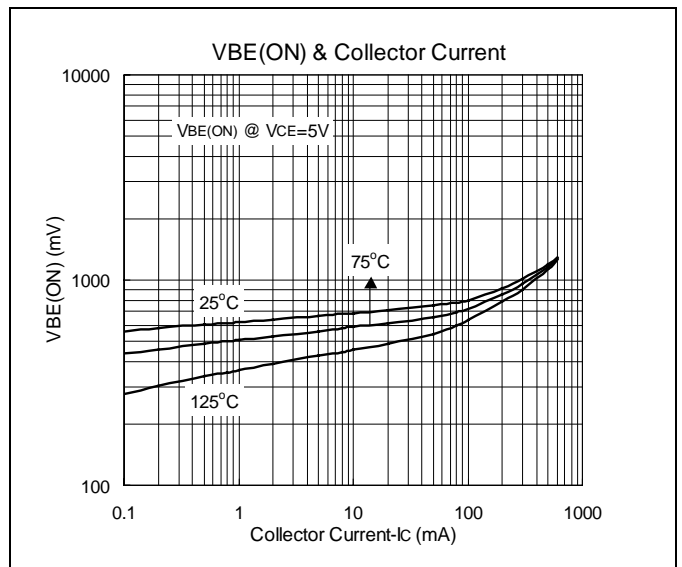
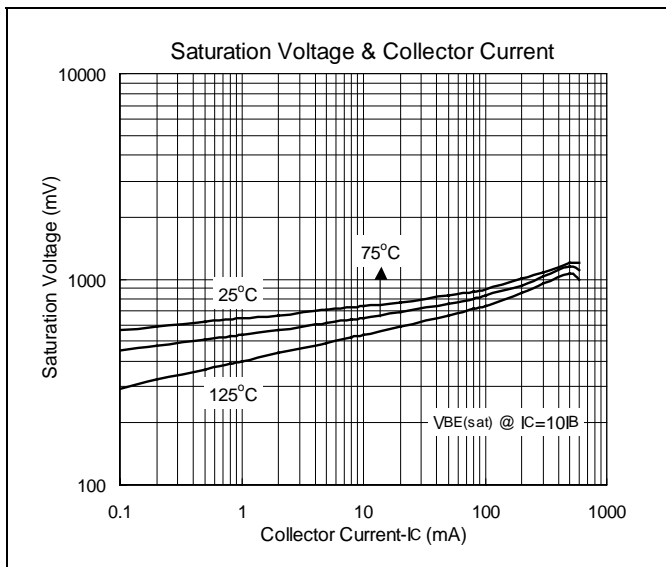
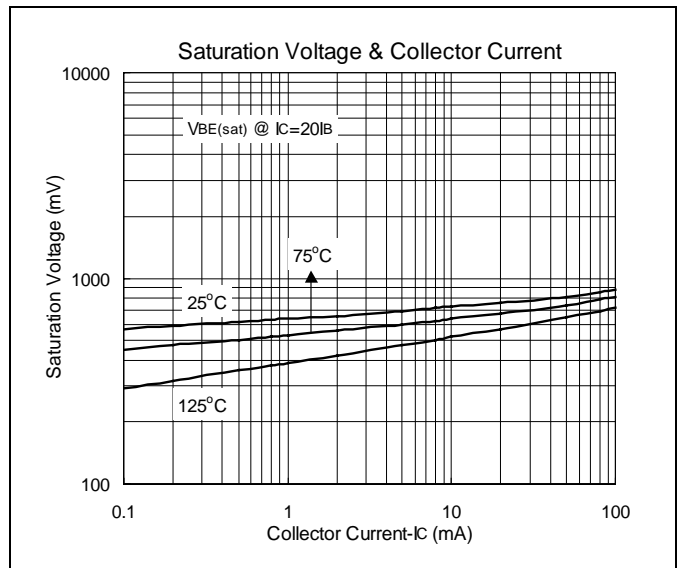
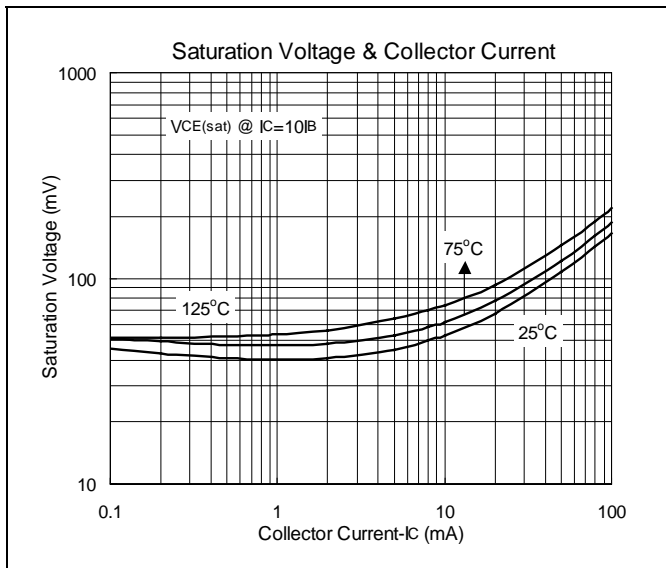
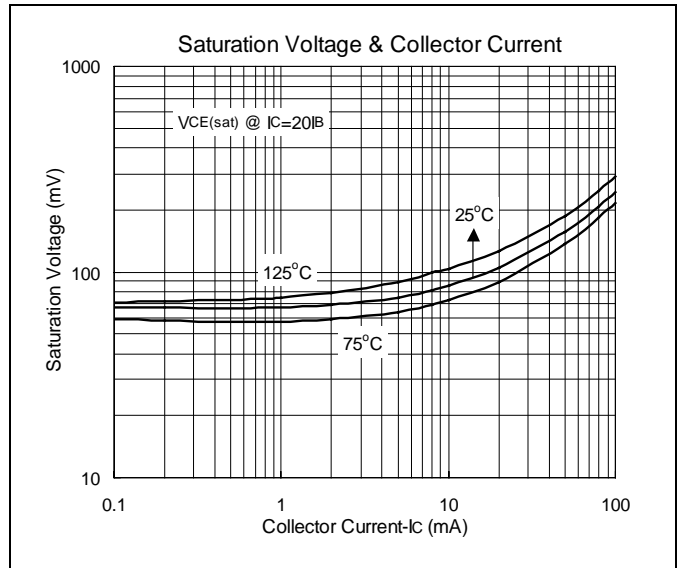
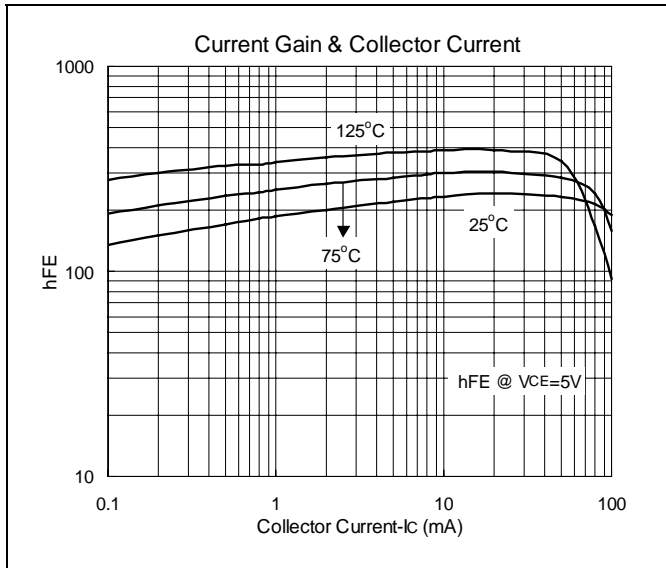
Classification on hFE

| Rank | B | C | D |
|-------|---------|---------|----------|
| Range | 100-300 | 200-600 | 400-1000 |



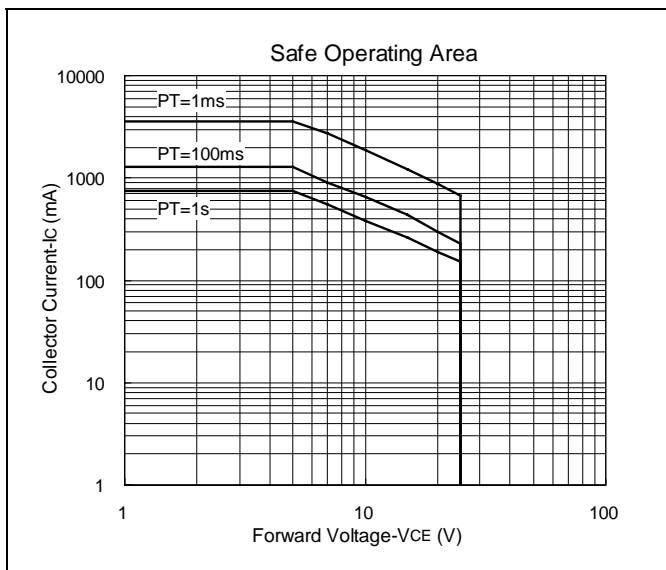
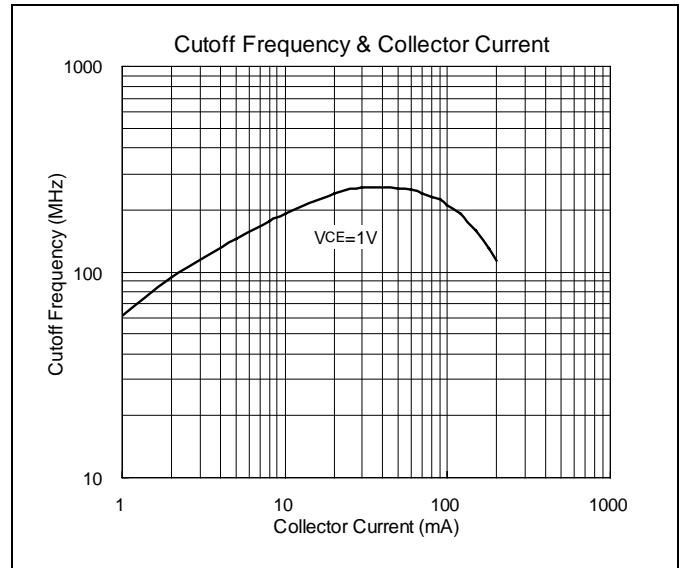
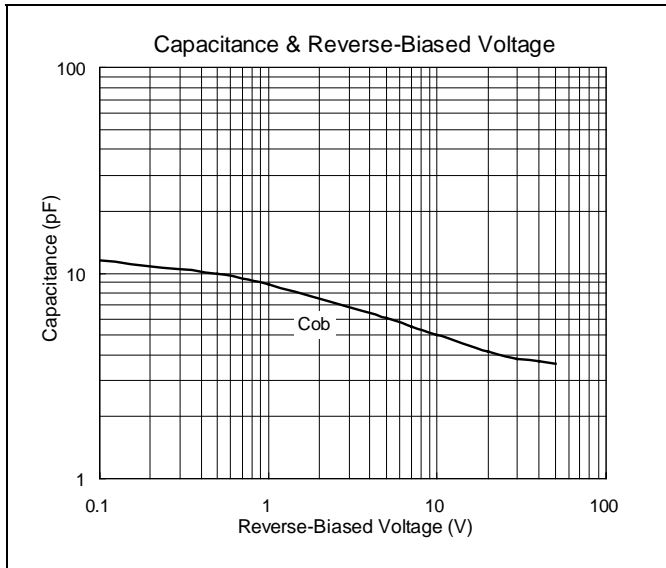


Characteristics Curve



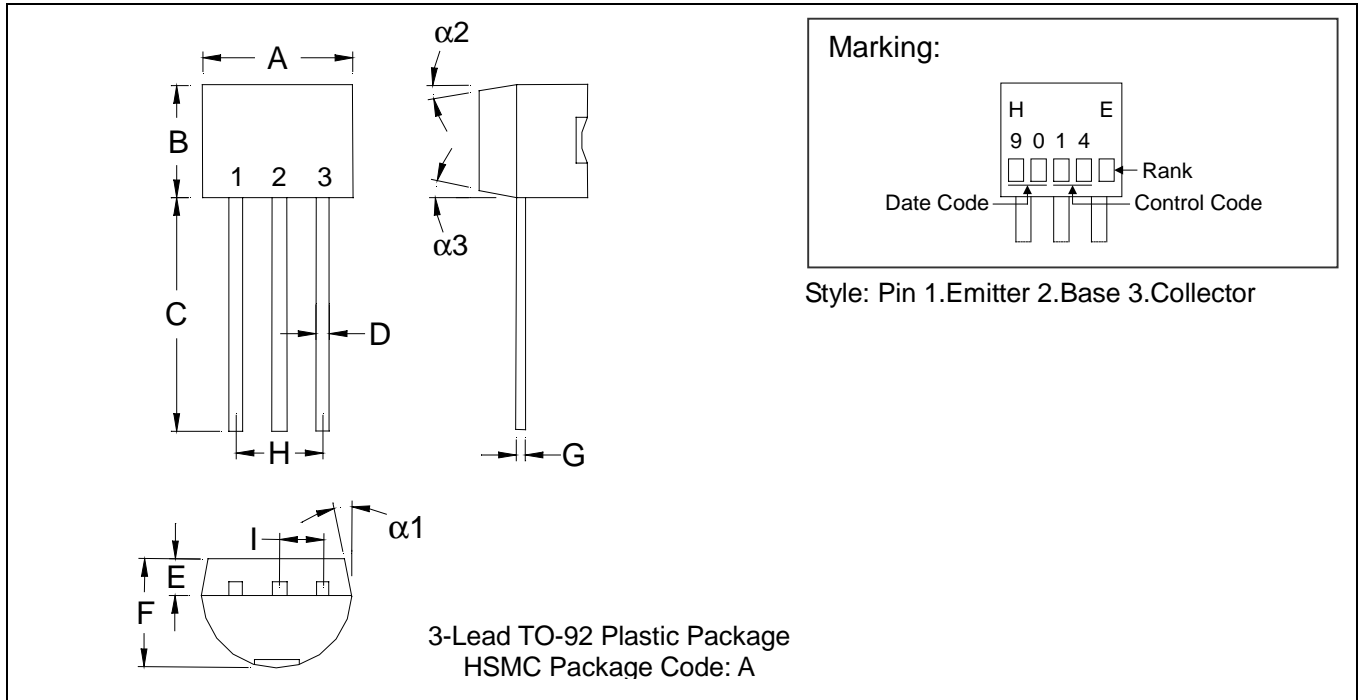


Characteristics Curve





TO-92 Dimension



*: 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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