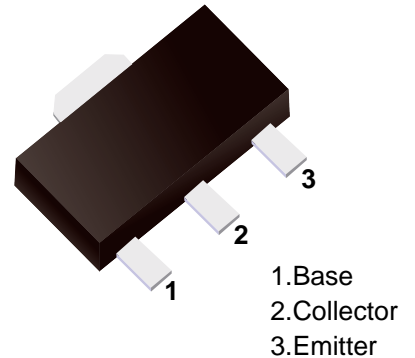


■ NPN Transistors

■ Features

- Excellent hFE linearity and high hFE  
hFE = 60 to 400 (VCE = 2 V, IC = 1 A)



■ Simplified outline(SOT-89)

■ Absolute Maximum Ratings Ta = 25°C

| Parameter                       | Symbol           | Rating     | Unit |
|---------------------------------|------------------|------------|------|
| Collector to Base Voltage       | V <sub>CB0</sub> | 40         | V    |
| Collector to Emitter Voltage    | V <sub>CE0</sub> | 30         | V    |
| Emitter to Base Voltage         | V <sub>EB0</sub> | 6          | V    |
| Collector Current to Continuous | I <sub>c</sub>   | 3          | A    |
| Collector Dissipation           | P <sub>c</sub>   | 0.5        | W    |
| Junction Temperature            | T <sub>J</sub>   | 150        | °C   |
| Storage Temperature             | T <sub>stg</sub> | -55 to 150 | °C   |

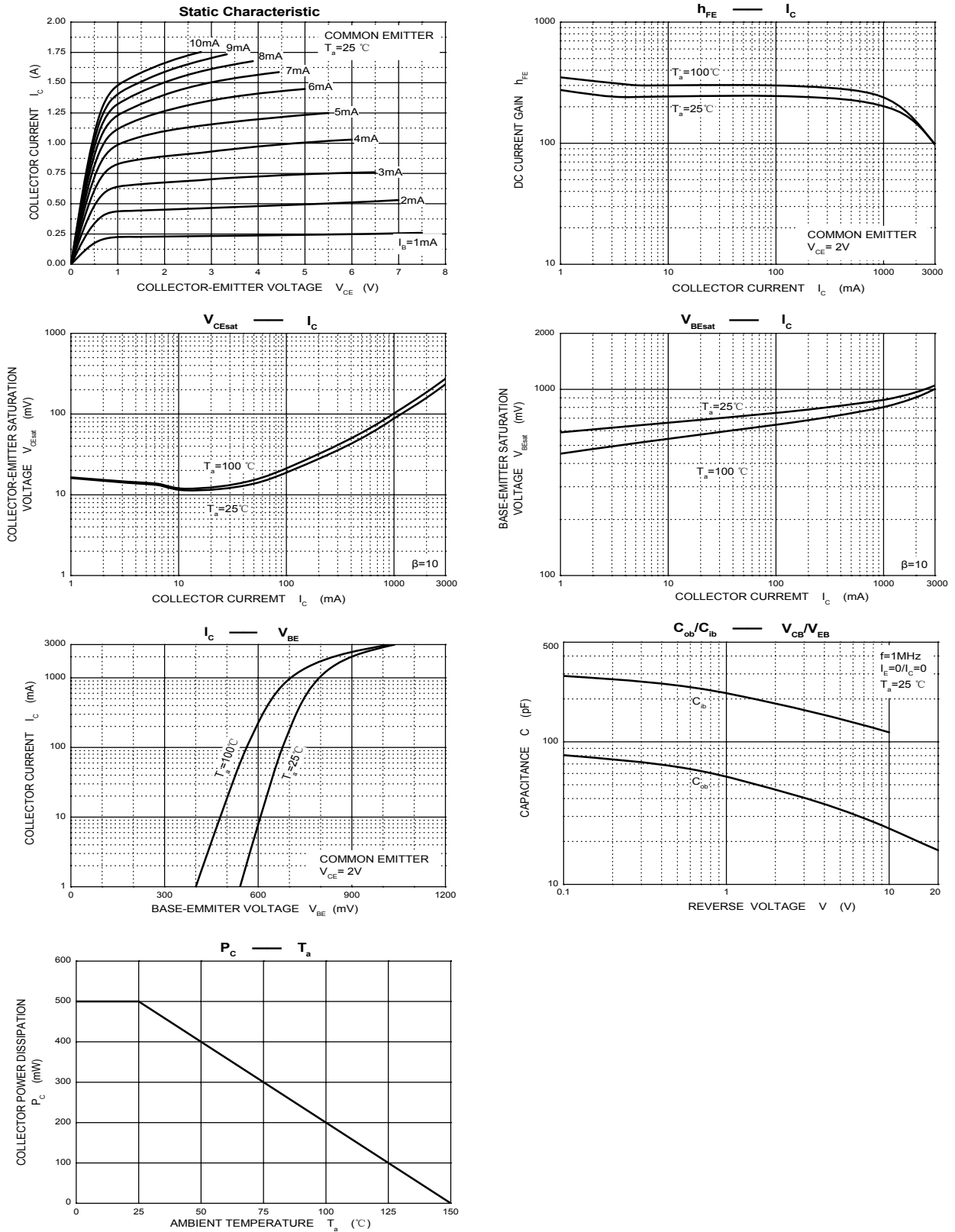
■ Electrical Characteristics Ta = 25°C

| Parameter                            | Symbol               | Testconditions  | Min | Typ | Max | Unit |
|--------------------------------------|----------------------|---|-----|-----|-----|------|
| Collector-base breakdown voltage     | V <sub>CB0</sub>     | I <sub>c</sub> =100uA ,I <sub>E</sub> =0              | 40  |     |     | V    |
| Collector-emitter breakdown voltage  | V <sub>CE0</sub>     | I <sub>c</sub> = 10 mA , I <sub>B</sub> =0            | 30  |     |     | V    |
| Emitter-base breakdown voltage       | V <sub>EB0</sub>     | I <sub>E</sub> = 100 uA ,I <sub>c</sub> =0            | 6   |     |     | V    |
| Collector cut-off current            | I <sub>CB0</sub>     | V <sub>CB</sub> =40 V , I <sub>E</sub> =0             |     |     | 1   | uA   |
| Collector cut-off current            | I <sub>CE0</sub>     | V <sub>CE</sub> =30 V , I <sub>B</sub> =0             |     |     | 10  | uA   |
| Emitter cut-off current              | I <sub>EB0</sub>     | V <sub>EB</sub> =6V , I <sub>c</sub> =0               |     |     | 1   | uA   |
| DC current gain                      | h <sub>FE</sub>      | V <sub>CE</sub> = 2V, I <sub>c</sub> = 1A             | 60  |     | 400 |      |
|                                      |                      | V <sub>CE</sub> =2V, I <sub>c</sub> = 100mA           | 32  |     |     |      |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>c</sub> =2A, I <sub>B</sub> = 0.2A             |     |     | 0.5 | V    |
| Base-emitter saturation voltage      | V <sub>BE(sat)</sub> | I <sub>c</sub> =2A, I <sub>B</sub> = 0.2A             |     |     | 1.5 | V    |
| Transition frequency                 | f <sub>T</sub>       | V <sub>CE</sub> =5 V, I <sub>c</sub> =0.1mA,f = 10MHz | 50  |     |     | MHz  |

■ Classification of hfe(1)

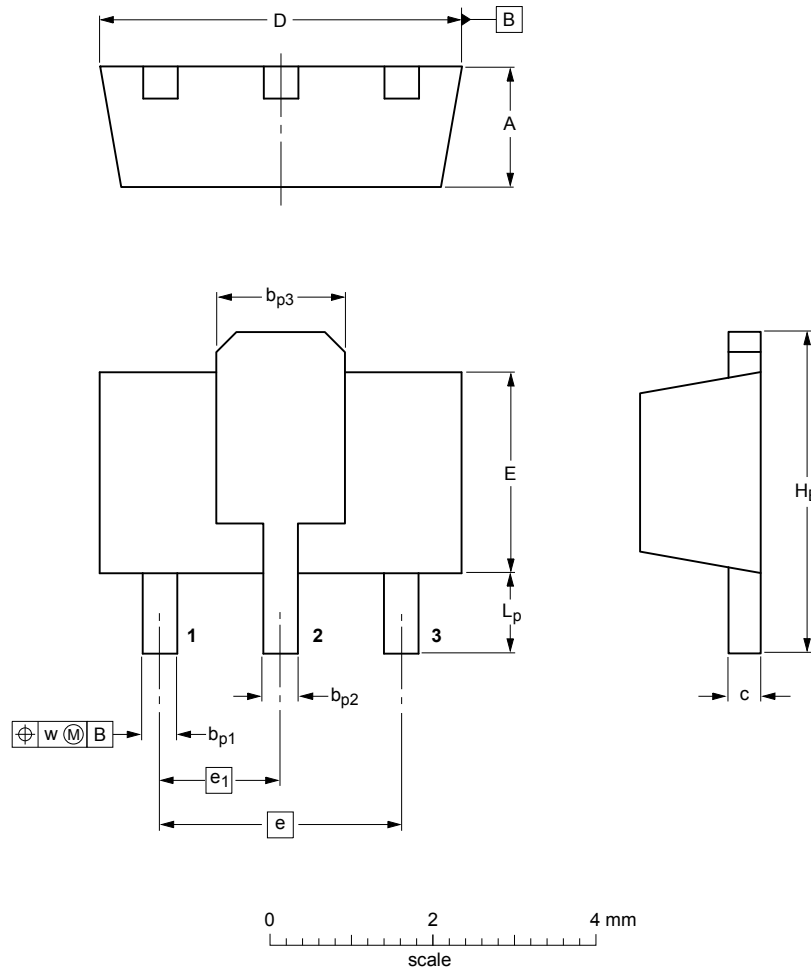
| Type    | 2SD882-R | 2SD882-Q | 2SD882-P | 2SD882-E |
|---------|----------|----------|----------|----------|
| Range   | 60-120   | 100-200  | 160-320  | 200-400  |
| Marking | 882R     | 882Q     | 882P     | 882E     |

■ Typical Characteristics



Package Outline

SOT-89



DIMENSIONS (mm are the original dimensions)

| UNIT | A          | $b_{p1}$     | $b_{p2}$     | $b_{p3}$   | c            | D          | E          | e   | $e_1$ | $H_E$        | $L_p$      | w    |
|------|------------|--------------|--------------|------------|--------------|------------|------------|-----|-------|--------------|------------|------|
| mm   | 1.6<br>1.4 | 0.48<br>0.35 | 0.53<br>0.40 | 1.8<br>1.4 | 0.44<br>0.23 | 4.6<br>4.4 | 2.6<br>2.4 | 3.0 | 1.5   | 4.25<br>3.75 | 1.2<br>0.8 | 0.13 |

Summary of Packing Options

| Package | Package Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| SOT-89  | Tape/Reel, 7" reel  | 1000             | EIA-481-1         |

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