

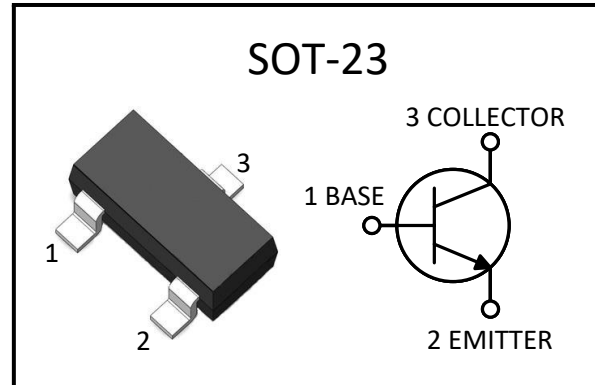
C1815

NPN Plastic-Encapsulate Transistor

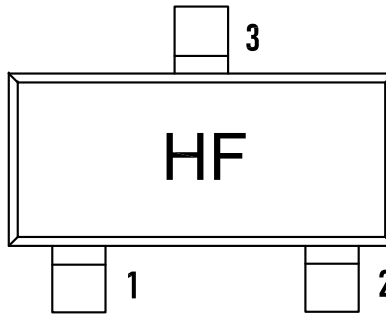
Features

- $V_{CE}=60V$
- $I_C=0.15A$
- $f_T=80MHz @V_{CE}=10V, I_C=1mA, f=30MHz$
- High voltage and high current.
- Excellent hFE linearity.
- Low noise.

Package



Marking



Ordering information

| Order code | Package | Marking | Base qty | Delivery mode |
|------------|---------|---------|----------|---------------|
| C1815 | SOT-23 | HF | 3K | Tape and reel |

Absolute Maximum Ratings @ $T_A=25^{\circ}C$ unless otherwise noted

| Symbol | Parameter | Value | Unit |
|-----------------|--|--------------|---------------|
| V_{CBO} | Collector-Base Voltage | 60 | V |
| V_{CEO} | Collector-Emitter Voltage | 50 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current | 0.15 | A |
| P_C | Collector Power Dissipation | 200 | mW |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 625 | $^{\circ}C/W$ |
| T_J, T_{stg} | Operation Junction And Storage Temperature Range | -55 to + 150 | $^{\circ}C$ |



C1815

NPN Plastic-Encapsulate Transistor

Electrical Characteristics ($T_A=+25^{\circ}\text{C}$, unless otherwise specified)

| Symbol | Parameter | Test condition | Min. | Typ. | Max. | Unit |
|---------------------|--------------------------------------|---|------|------|------|------|
| $V_{(BR)CBO}$ | Collector-base breakdown voltage | $I_C=100\mu\text{A}, I_E=0$ | 60 | – | – | V |
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage | $I_C=100\mu\text{A}, I_B=0$ | 50 | – | – | |
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage | $I_E=100\mu\text{A}, I_C=0$ | 5 | – | – | |
| I_{CBO} | Collector cut-off current | $V_{CB}=60\text{V}, I_E=0$ | – | – | 0.1 | uA |
| I_{EBO} | Emitter cut-off current | $V_{EB}=5\text{V}, I_C=0$ | – | – | 0.1 | |
| $h_{FE(1)}$ | DC current gain | $V_{CE}=6\text{V}, I_C=50\text{mA}$ | 200 | – | 400 | |
| $V_{CE(sat)}$ | Collector-emitter saturation voltage | $I_C=100\text{mA}, I_B=10\text{mA}$ | – | – | 0.25 | V |
| $V_{BE(sat)}$ | Base-emitter saturation voltage | $I_C=100\text{mA}, I_B=10\text{mA}$ | – | – | 1.0 | |
| f_T | Transition frequency | $V_{CE}=10\text{V}, I_C=1\text{mA}, f=30\text{MHZ}$ | 80 | – | – | MHZ |
| $h_{FE}\text{Rank}$ | (120-200) | (200-400) | | | | |



C1815

NPN Plastic-Encapsulate Transistor

Typical Performance Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise noted)

Figure 1 : $I_C - V_{CE}$

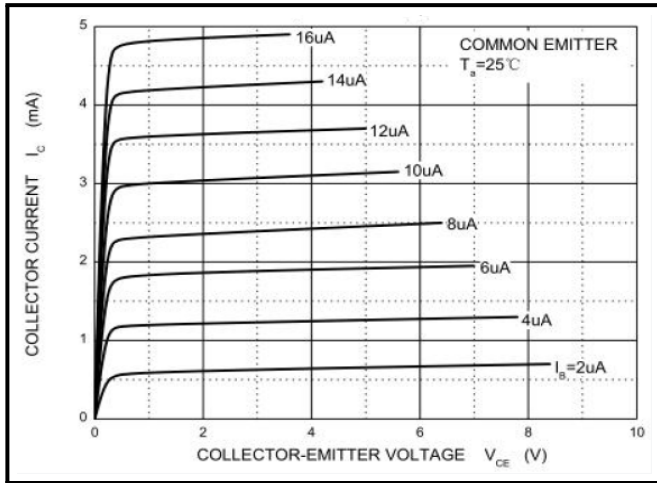


Figure 2 : $h_{FE} - I_C$

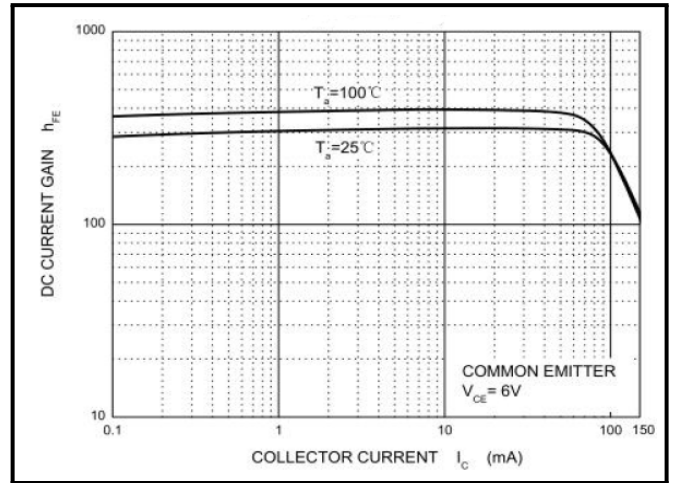


Figure 3 : $V_{CEsat} - I_C$

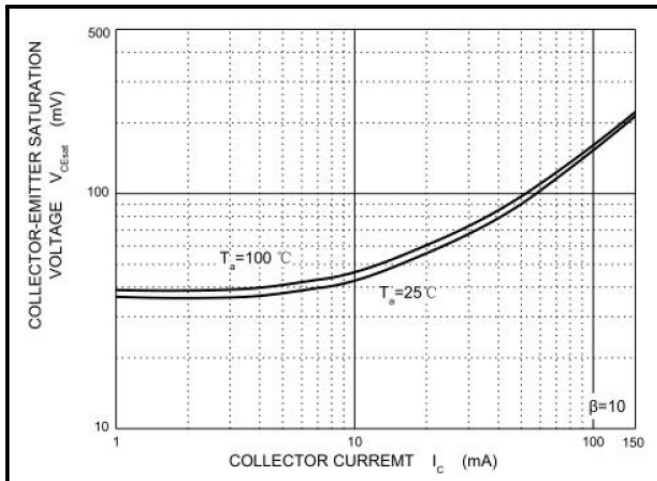
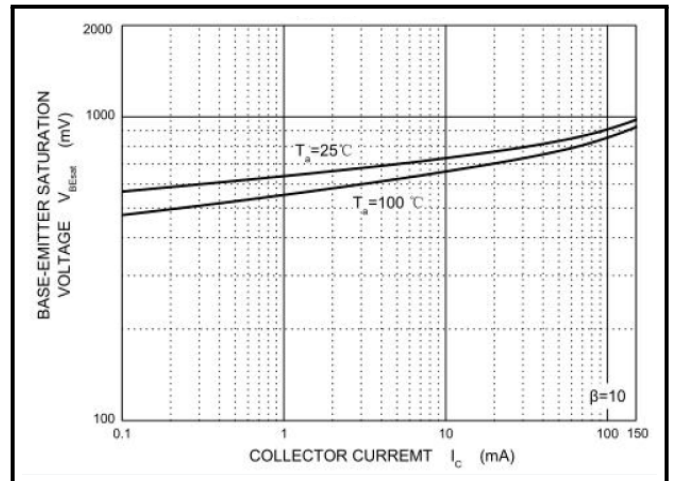


Figure 4 : $V_{BEsat} - I_C$



C1815

NPN Plastic-Encapsulate Transistor

Typical Performance Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise noted)

Figure 5 : $I_C - V_{BE}$

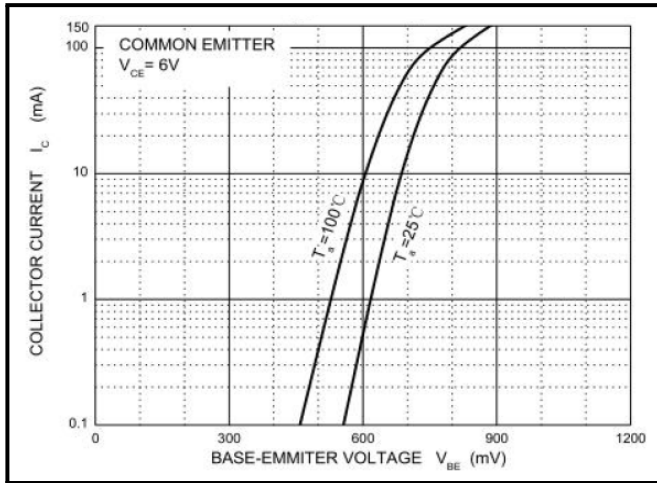


Figure 6 : $f_T - I_C$

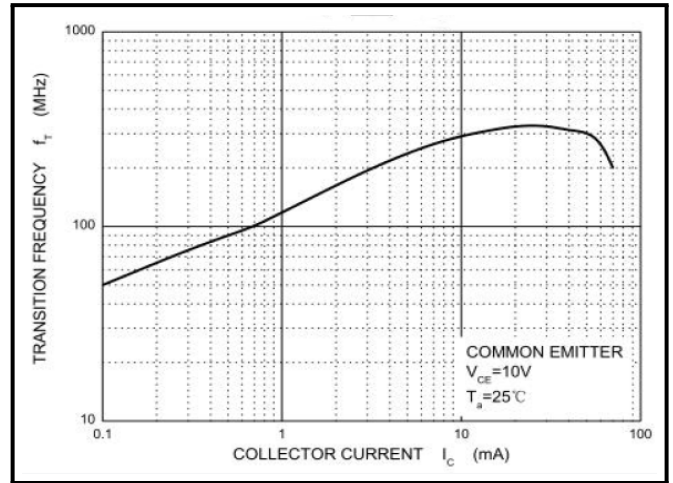


Figure 7 : $C_{ob}/C_{ib} - V_{CB}/V_{EB}$

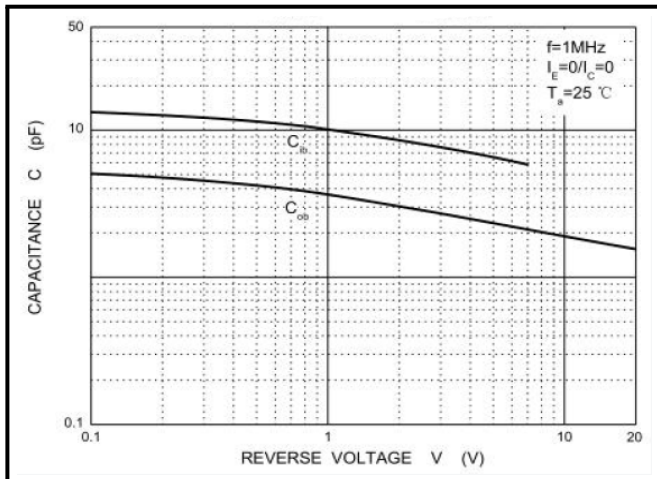
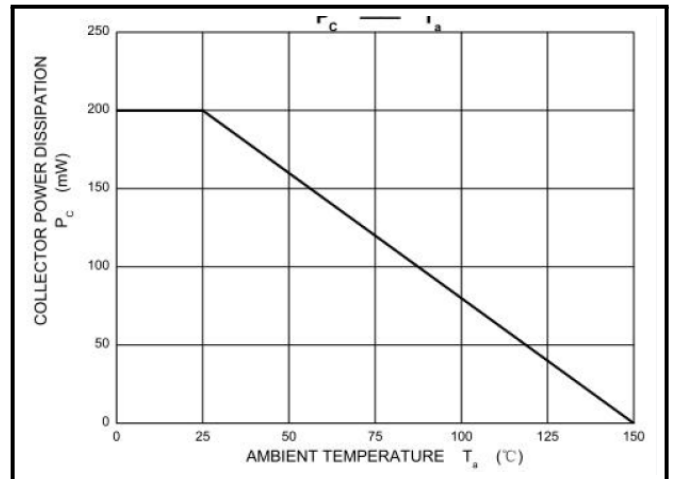


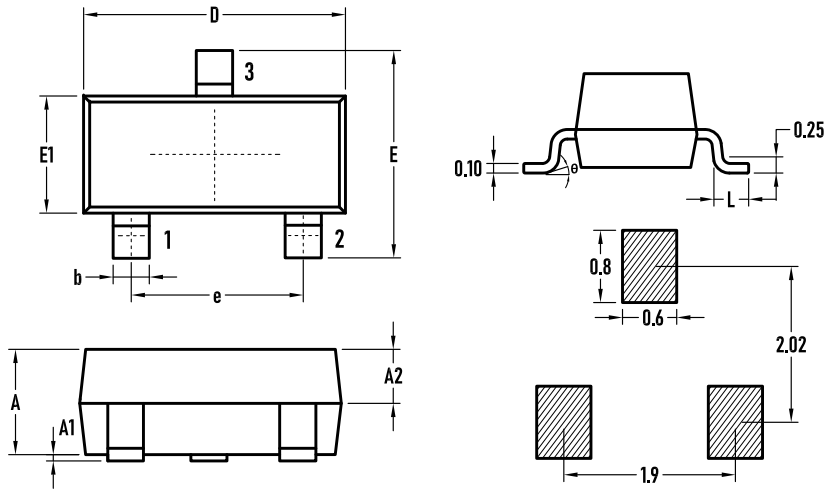
Figure 8 : $P_C - T_A$



C1815

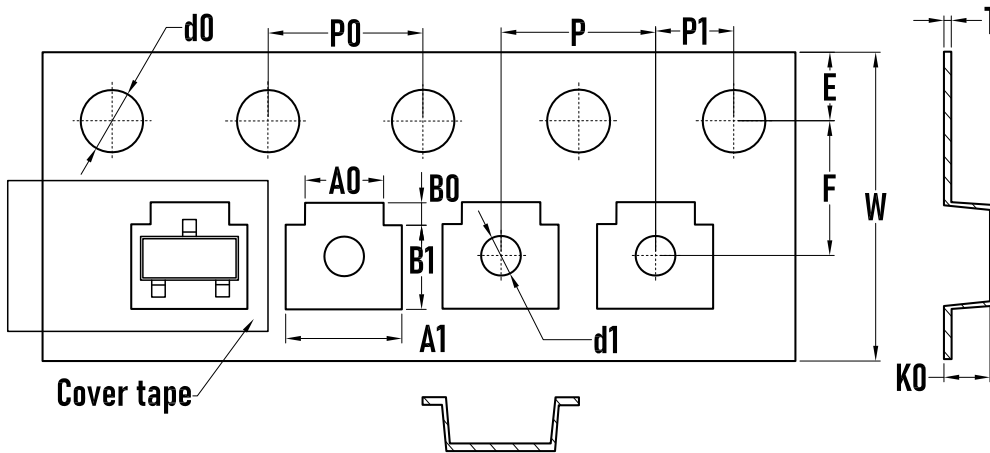
NPN Plastic-Encapsulate Transistor

Outline Drawing - SOT-23



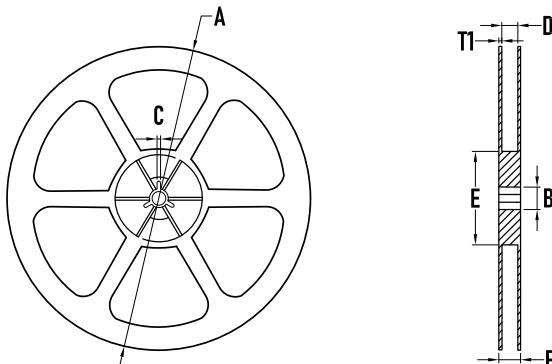
| SYMBOL | MILLIMETER | | |
|----------|------------|------|------|
| | MIN. | Typ | MAX |
| A | 0.95 | 1.00 | — |
| A1 | 0.02 | 0.06 | 0.10 |
| A2 | — | 0.60 | — |
| D | 2.85 | 2.90 | 2.95 |
| b | 0.37 | 0.40 | 0.43 |
| E | 2.35 | 2.40 | 2.45 |
| E1 | 1.25 | 1.30 | 1.35 |
| e | 1.85 | 1.90 | 1.95 |
| L | 0.35 | 0.40 | 0.48 |
| θ | 0 | — | 6° |

Packaging Tape - SOT-23



| SYMBOL | MILLIMETER |
|--------|------------|
| A0 | 2.10±0.10 |
| A1 | 3.10±0.10 |
| B0 | 0.65±0.10 |
| B1 | 2.75±0.10 |
| d0 | 1.55±0.10 |
| d1 | 1.00±0.05 |
| E | 1.75±0.10 |
| F | 3.50±0.10 |
| K0 | 1.10±0.10 |
| P | 4.00±0.10 |
| P0 | 4.00±0.10 |
| P1 | 2.00±0.10 |
| W | 8.00±0.30 |
| T | 0.20 ±0.05 |

Packaging Reel



| SYMBOL | MILLIMETER |
|----------|------------|
| A | 177.8±0.2 |
| B | 3.1 |
| C | 13.50 |
| D | 9.6±0.3 |
| E | 75±0.2 |
| F | 12.3±0.3 |
| T1 | 1.0±0.2 |
| Quantity | 3000PCS |

**BORN SEMICONDUCTOR, INC. ALL
RIGHT RESERVED**

Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

Revision: 2022-Jan-1-A



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bipolar Transistors - BJT category](#):

Click to view products by [Bourne manufacturer](#):

Other Similar products are found below :

[BC559C](#) [MCH4017-TL-H](#) [MMBT-2369-TR](#) [BC546/116](#) [NJVMJD148T4G](#) [NTE16](#) [NTE195A](#) [IMX9T110](#) [2N4401-A](#) [2N6728](#) [2SA1419T-TD-H](#) [2SB1204S-TL-E](#) [2SC5488A-TL-H](#) [FMC5AT148](#) [2N2369ADCSM](#) [2N2907A](#) [2N3904-NS](#) [2N5769](#) [2SC4618TLN](#) [CPH6501-TL-E](#) [US6T6TR](#) [BAX18/A52R](#) [BC556/112](#) [IMZ2AT108](#) [MMST8098T146](#) [MCH6102-TL-E](#) [BC846B-13-F](#) [2N3879](#) [30A02MH-TL-E](#) [NTE13](#) [NTE282](#) [NTE323](#) [NTE350](#) [NTE81](#) [JANTX2N2920L](#) [JANSR2N2907AUB](#) [CMLT3946EG TR](#) [SNSS40600CF8T1G](#) [CMLT3906EG TR](#) [GRP-DATA-JANS2N2907AUB](#) [GRP-DATA-JANS2N2222AUA](#) [MMDT3946FL3-7](#) [2N4240](#) [JANS2N3019](#) [MSB30KH-13](#) [2N2221AUB](#) [2SD1815T-TL-E](#) [2N6678](#) [2N2907Ae4](#) [JAN2N3507](#)