

FEATURES

Complementary type the PNP transistor
A1015 is recommended.

2SC1815 (NPN)

MARKING: HF

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|-------------------------------|------------------|-------------|------|
| Collector-Base Voltage | V _{CBO} | 60 | V |
| Collector-Emitter Voltage | V _{CEO} | 50 | V |
| Emitter-Base Voltage | V _{EBO} | 5 | V |
| Collector Current -Continuous | I _C | 150 | mA |
| Collector Power Dissipation | P _C | 0.2 | W |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature | T _{stg} | -55 to +150 | °C |



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|----------|------------------------------|-----|-----|------|------|
| Collector-base breakdown voltage | VCBO | IC= 100uA, IE=0 | 60 | | | V |
| Collector-emitter breakdown voltage | VCEO | IC= 0.1mA, IB=0 | 50 | | | V |
| Emitter-base breakdown voltage | VEBO | IE=100uA, IC=0 | 5 | | | V |
| Collector cut-off current | ICBO | VCB=60V, IE=0 | | | 0.1 | uA |
| Collector cut-off current | ICE | VCE=50V, IB=0 | | | 0.1 | uA |
| Emitter cut-off current | IEB | VEB= 5V, IC=0 | | | 0.1 | uA |
| DC current gain | hFE | VCE= 6V, IC= 2mA | 130 | | 400 | |
| Collector-emitter saturation voltage | VCE(sat) | IC=100mA, IB= 10mA | | | 0.25 | V |
| Base-emitter saturation voltage | VBE(sat) | IC=100mA, IB= 10mA | | | 1 | V |
| Transition frequency | fT | VCE=10V, IC= 1mA, f=30MHz | 80 | | | MHz |

CLASSIFICATION OF h_{FE}

| Rank | L | H | |
|-------|---------|---------|--|
| Range | 130-200 | 200-400 | |



2SC1815 Typical Characteristics

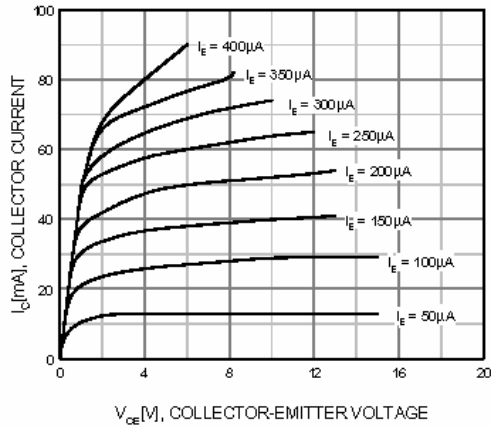


Figure 1. Static Characteristic

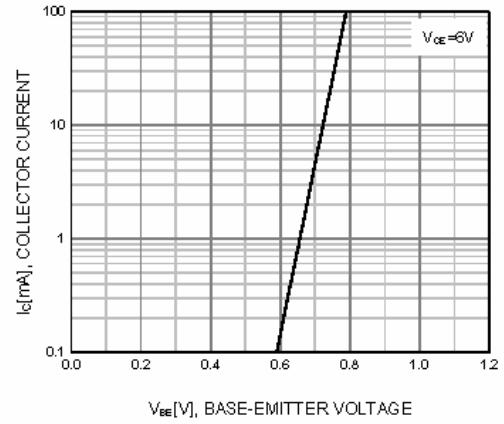


Figure 2. Transfer Characteristic

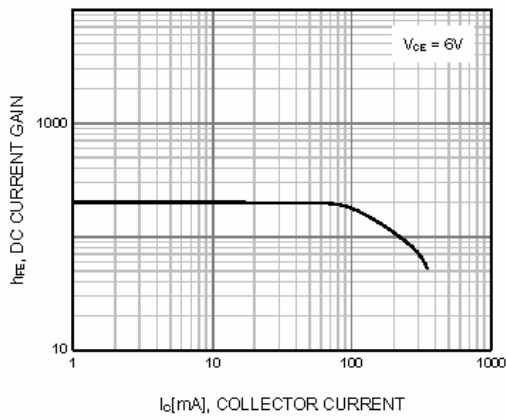


Figure 3. DC current Gain

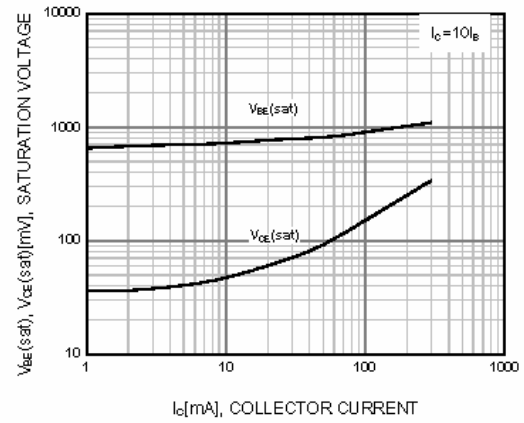


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

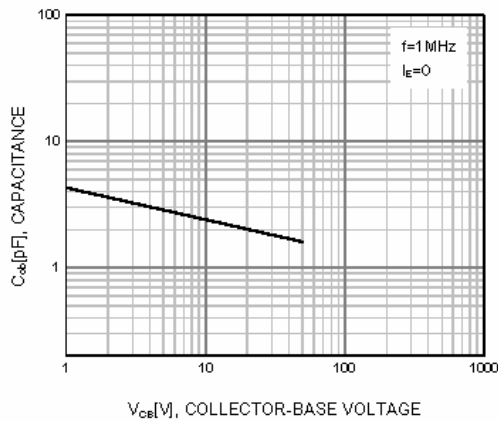


Figure 5. Output Capacitance

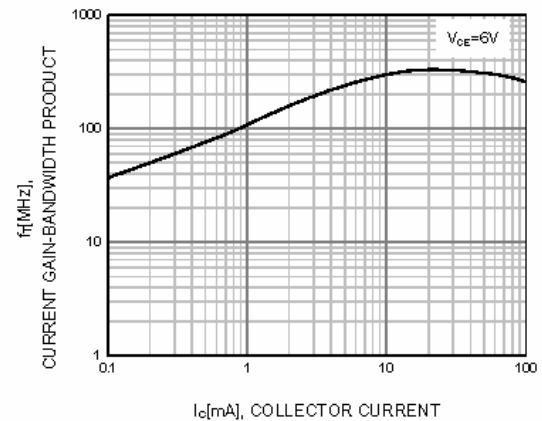


Figure 6. Current Gain Bandwidth Product