



Micro Commercial Components



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Features

- Halogen free available upon request by adding suffix "-HF"
- 2SC1815 is NPN Silicon Epitaxial Transistor Designed for RF, AF Amplifier and General Purpose Applications.
- Capable of 0.4Watts of Power Dissipation.
- Collector-current 0.15A
- Collector-base Voltage 60V
- Marking : C1815
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Lead Free Finish/Rohs Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Operating and storage junction temperature range:-55°C to +125°C

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Max | Units |
|--------|-----------|-----|-----|-------|
|--------|-----------|-----|-----|-------|

OFF CHARACTERISTICS

| | | | | |
|---------------|---|----|-----|---------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage ($I_C=0.1mA, I_B=0$) | 50 | | Vdc |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage ($I_C=100\mu A, I_E=0$) | 60 | | Vdc |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage ($I_E=100\mu A, I_C=0$) | 5 | | Vdc |
| I_{CBO} | Collector Cutoff Current ($V_{CB}=60Vdc, I_E=0A$) | | 0.1 | μA |
| I_{CEO} | Collector Cutoff Current ($V_{CB}=50Vdc, I_E=0A$) | | 0.1 | μA |
| I_{EBO} | Emitter Cutoff Current ($V_{EB}=5.0Vdc, I_C=0A$) | | 0.1 | μA |

ON CHARACTERISTICS

| | | | | |
|---------------|---|-----|------|-----|
| $h_{FE(1)}$ | DC Current Gain* ($I_C=2.0mA, V_{CE}=6.0Vdc$) | 70 | 700 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage ($I_C=100mA, I_B=10mA$) | | 0.25 | Vdc |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage ($I_C=100mA, I_B=10mA$) | | 1.0 | Vdc |
| V_{BE} | Base-Emitter Voltage ($I_E=310mA$) | --- | 1.45 | Vdc |

SMALL-SIGNAL CHARACTERISTICS

| | | | | |
|----------|---|-----|-----|-----|
| f_T | Transistor Frequency ($I_C=1.0mA, V_{CE}=10Vdc, f=30MHz$) | 80 | | MHz |
| C_{OB} | Collector Output Capacitance ($V_{CB}=10Vdc, I_E=0, f=1MHz$) | --- | 3.5 | pF |
| NF | Noise Figure ($V_{CE}=6Vdc, I_C=0.1mA, f=1KHz, R_g=10K$) | --- | 10 | dB |

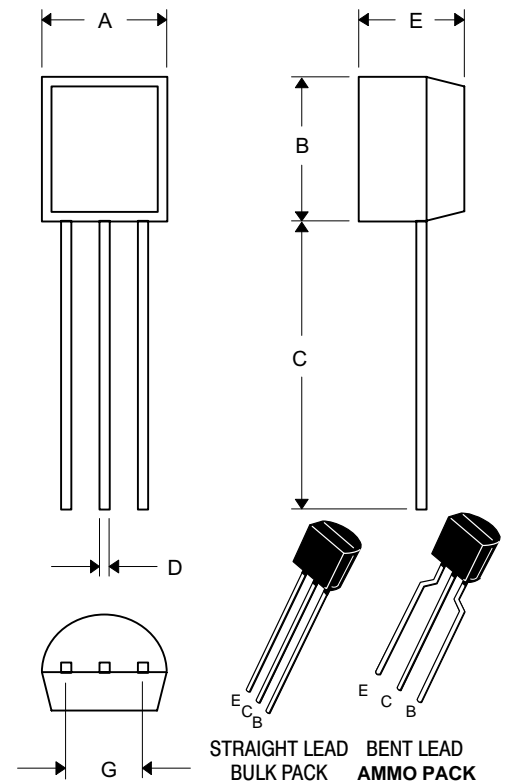
CLASSIFICATION OF $h_{FE(1)}$

| Rank | O | Y | GR | BL |
|-------|--------|---------|---------|---------|
| Range | 70-140 | 120-240 | 200-400 | 350-700 |

2SC1815-O
2SC1815-Y
2SC1815-GR
2SC1815-BL

NPN Silicon Epitaxial Transistor

TO-92



STRAIGHT LEAD BULK PACK
BENT LEAD AMMO PACK

DIMENSIONS

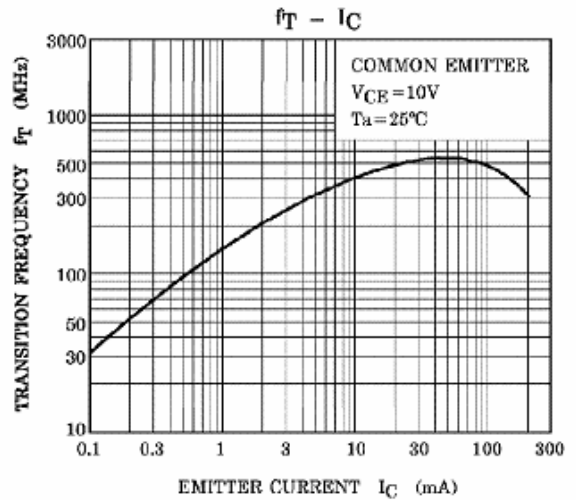
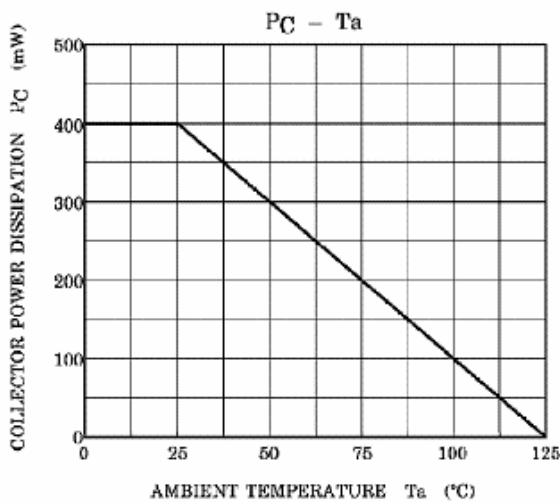
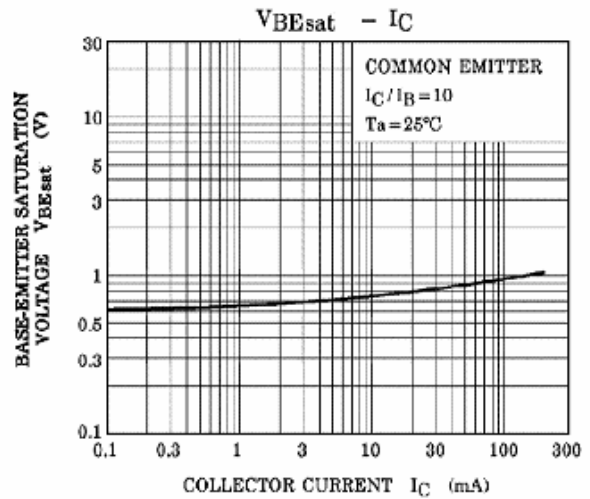
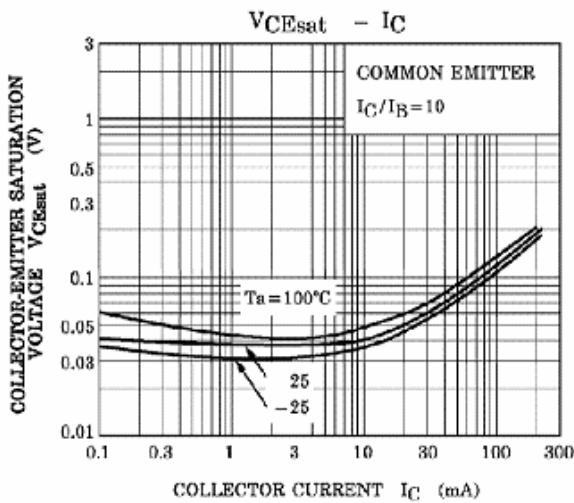
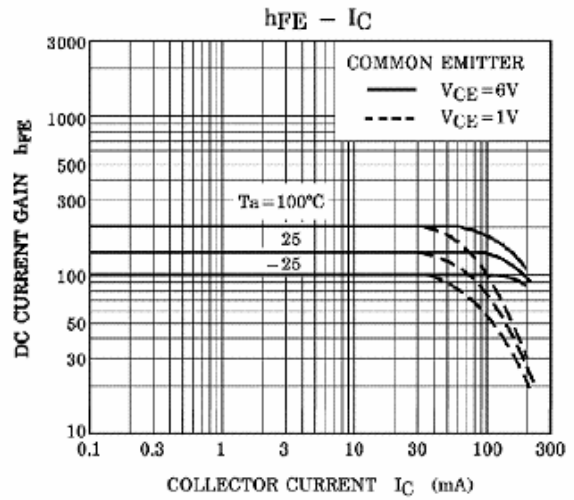
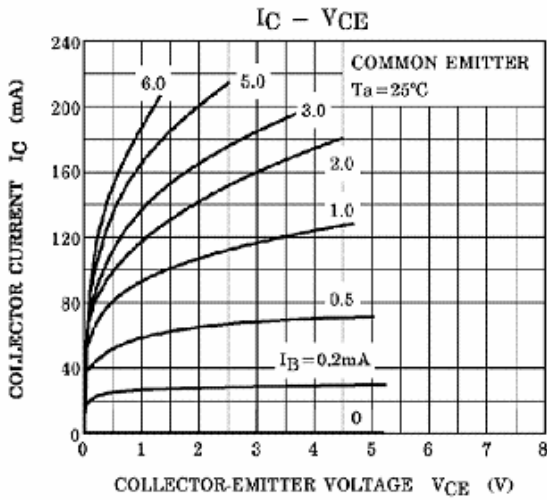
| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|-------|------|----------------------------|
| | MIN | MAX | MIN | MAX | |
| A | .175 | .185 | 4.45 | 4.70 | |
| B | .175 | .185 | 4.45 | 4.70 | |
| C | .500 | --- | 12.70 | --- | |
| D | .016 | .020 | 0.41 | 0.63 | |
| E | .135 | .145 | 3.43 | 3.68 | |
| G | .095 | .105 | 2.42 | 2.67 | Straight Lead Bent Lead |
| | .173 | .220 | 4.40 | 5.60 | |

* For ammo packing detailed specification, click here to visit our website of product packaging for details.

www.mccsemi.com

2SC1815

Typical Characteristics





Micro Commercial Components

Ordering Information :

| Device | Packing |
|----------------|-----------------------------|
| Part Number-AP | Ammo Packing: 20Kpcs/Carton |
| Part Number-BP | Bulk: 100Kpcs/Carton |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-AP-HF

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