



SOT-23 Plastic-Encapsulate Transistors

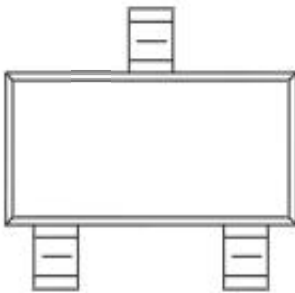
BC846

TRANSISTOR (NPN)

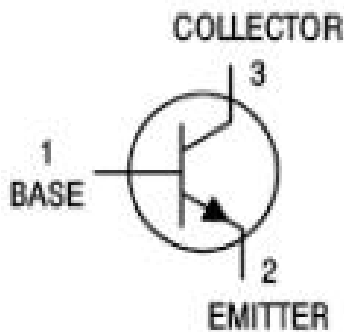
BC847

BC848

MARKING:



Equivalent Circuit:



SOT-23



- 1.BASE
- 2.EMITTER
- 3.COLLECTOR

FEATURES:

- ※ Ideally suited for automatic insertion
- ※ For switching and AF amplifier applications

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

| Parameter | Symbol | Value | Unit |
|---|--------|----------|------|
| Collector-Base Voltage | VCBO | 80 | V |
| | | 50 | |
| | | 30 | |
| Collector-Emitter Voltage | VCEO | 65 | V |
| | | 45 | |
| | | 30 | |
| Emitter-Base Voltage | VEBO | 6 | V |
| Collector Current | IC | 0.1 | A |
| Collector Power Dissipation | PC | 200 | mW |
| Thermal Resistance From Junction To Ambient | RθJA | 625 | °C/W |
| Junction Temperature | Tj | 150 | °C |
| Storage Temperature | Tstg | -55~+150 | °C |

| | |
|-----------------------------|--|
| DEVICE MARKING: | BC847A=1E; BC847B=1F; BC847C=1G |
| BC846A=1A; BC846B=1B | BC848A=1J; BC848B=1K; BC848C=1L |



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

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|---|----------|---|-------------------------------------|-----|-------------------|------|
| Collector-base breakdown voltage BC846 BC847 BC848 | V(BR)CBO | IC= 10μA, IE=0 | 80 50 30 | | | V |
| Collector-emitter breakdown voltage BC846 BC847 BC848 | V(BR)CEO | IC= 10mA, IB=0 | 65 45 30 | | | V |
| Emitter-base breakdown voltage | V(BR)EBO | IE=10μA, IC=0 | 6 | | | V |
| Collector cut-off current BC846 BC847 BC848 | ICBO | VCB=70 V , IE=0 VCB=50 V , IE=0 VCB=30 V , IE=0 | | | 0.01 | μA |
| Emitter cut-off current | IEBO | VEB= 5V , IC=0 | | | 0.1 | μA |
| DC current gain BC846A; 847A; 848A BC846B; 847B; 848B BC847C; BC848C | hFE | VCE=5V, IC= 2mA | 110 200 420 | | 220 450 800 | |
| Collector-emitter saturation voltage | VCE(sat) | IC=100 mA, IB= 5mA | | | 0.5 | V |
| Base-emitter saturation voltage | VBE(sat) | IC=100 mA, IB= 5mA | | | 1.1 | V |
| Transition frequency | fT | VCE=5V, IC= 10mA f=100MHz | 100 | | | MHz |
| Collector Current Capacitance | Cob | VCE=10V, f=1MHz | | | 4.5 | pF |

CLASSIFICATION OF hFE

| Rank | L | H | J |
|-------|---------|---------|---------|
| Range | 120-200 | 200-350 | 300-400 |



TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

