

MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



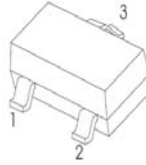
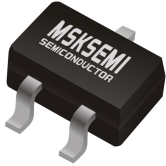
GDT



PLED

Product data sheet

www.msksemi.com



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

SOT - 23

DEVICE MARKING

| P/N | MARK | P/N | MARK | P/N | MARK |
|--------|------|--------|------|--------|------|
| BC856A | 3A | BC856B | 3B | | |
| BC857A | 3E | BC857B | 3F | BC857C | 3G |
| BC858A | 3J | BC858B | 3K | BC858C | 3L |

TRANSISTOR (PNP)

FEATURES

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

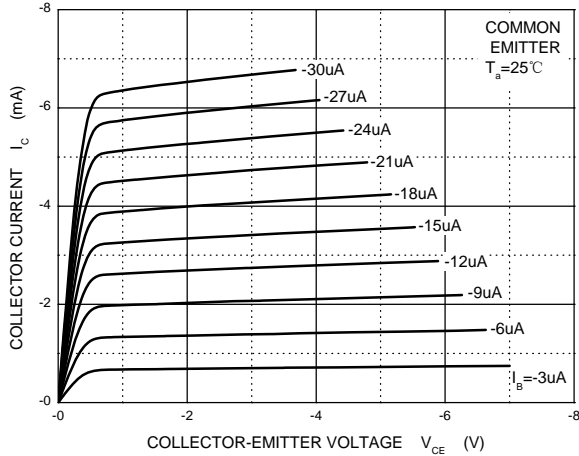
MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|----------------------------------|--------------------------------------------------|----------|------|
| V _{CBO} | Collector-Base Voltage | BC856 | -80 |
| | | BC857 | -50 |
| | | BC858 | -30 |
| V _{CEO} | Collector-Emitter Voltage | BC856 | -65 |
| | | BC857 | -45 |
| | | BC858 | -30 |
| V _{EBO} | Emitter-Base Voltage | -5 | V |
| I _C | Collector Current –Continuous | -0.1 | A |
| P _C | Collector Power Dissipation | 200 | mW |
| R _{θJA} | Thermal Resistance From Junction To Ambient | 625 | °C/W |
| T _J ,T _{stg} | Operation Junction and Storage Temperature Range | -55~+150 | °C |

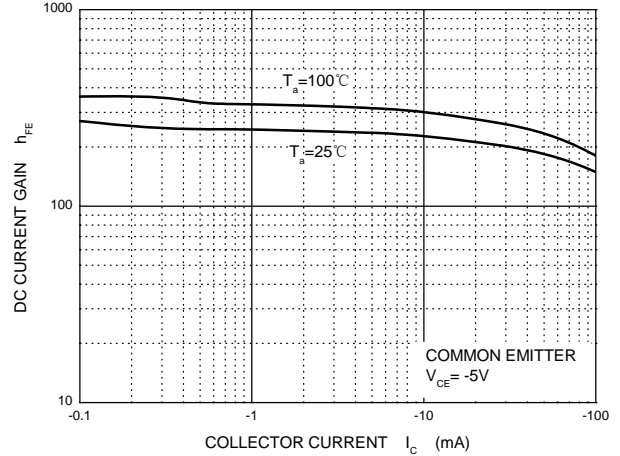
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Max | Unit |
|--------------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|------|
| Collector-base breakdown voltage | BC856 BC857 BC858 | V _{CBO} I _C = -10μA, I _E =0 | -80 | | V |
| | | | -50 | | |
| | | | -30 | | |
| Collector-emitter breakdown voltage | BC856 BC857 BC858 | V _{CEO} I _C = -10mA, I _B =0 | -65 | | V |
| | | | -45 | | |
| | | | -30 | | |
| Emitter-base breakdown voltage | V _{EBO} | I _E = -1μA, I _C =0 | -5 | | V |
| Collector cut-off current | BC856 BC857 BC858 | I _{CBO} V _{CB} = -70 V, I _E =0 V _{CB} = -45 V, I _E =0 V _{CB} = -25 V, I _E =0 | | -0.1 | μA |
| | | | | | |
| | | | | | |
| Emitter cut-off current | I _{EBO} | V _{EB} = -5 V, I _C =0 | | -0.1 | μA |
| DC current gain | BC856A, 857A,858A BC856B, 857B,858B BC857C,BC858C | h _{FE} V _{CE} = -5V,I _C = -2mA | 125 | 250 | |
| | | | 220 | 475 | |
| | | | 420 | 800 | |
| Collector-emitter saturation voltage | V _{CE(sat)} | I _C =-100mA,I _B = -5 mA | | -0.5 | V |
| Base-emitter saturation voltage | V _{BE(sat)} | I _C = -100mA, I _B = -5mA | | -1.1 | V |
| Transition frequency | f _T | V _{CE} = -5 V, I _C = -10mA f=100MHz | 100 | | MHz |
| Collector capacitance | C _{ob} | V _{CB} =-10V, f=1MHz | | 4.5 | pF |

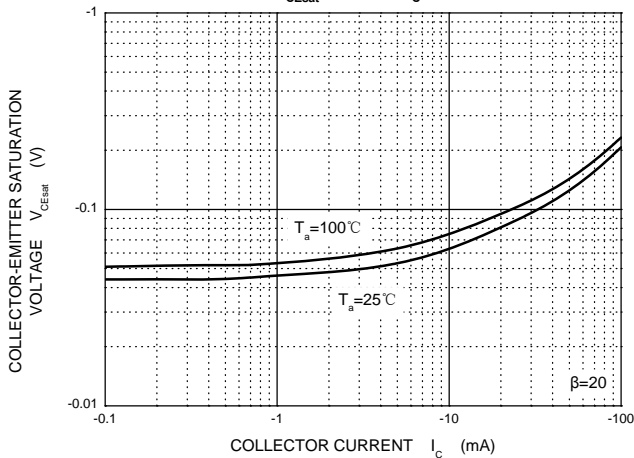
Static Characteristic



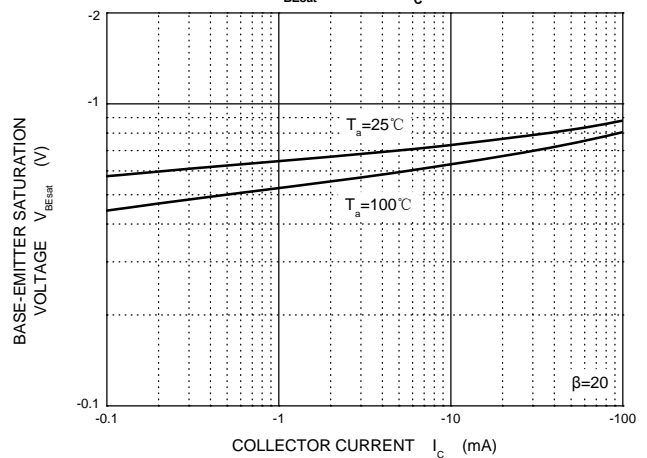
h_{FE} — I_c



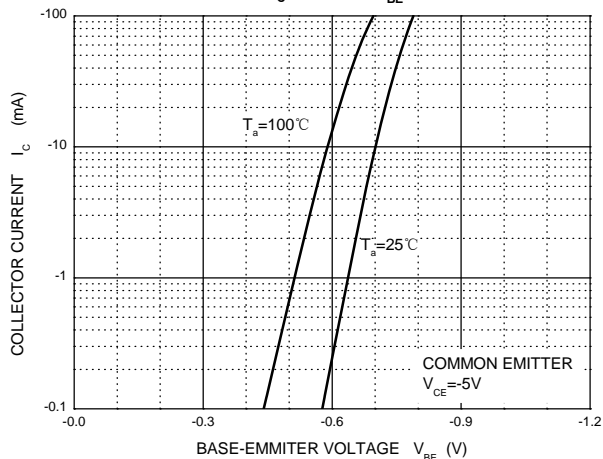
V_{CEsat} — I_c



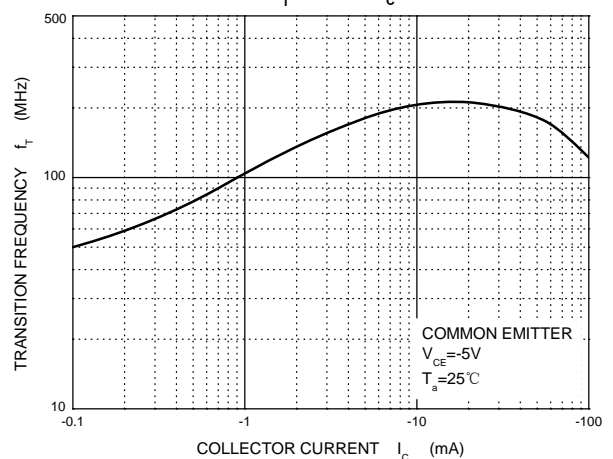
V_{BEsat} — I_c



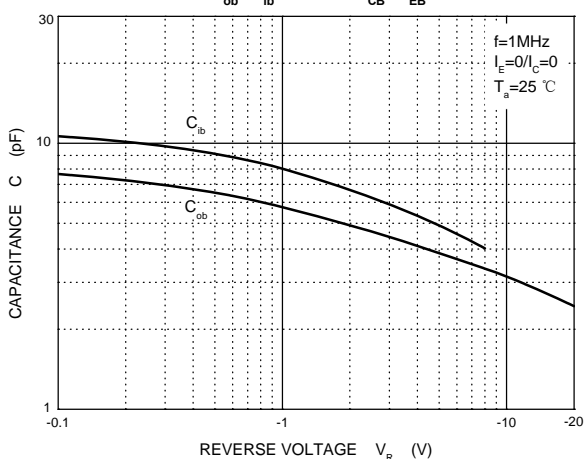
I_c — V_{BE}



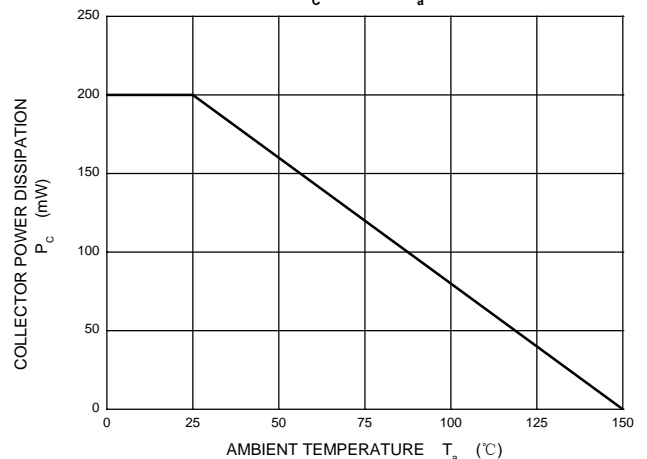
f_T — I_c



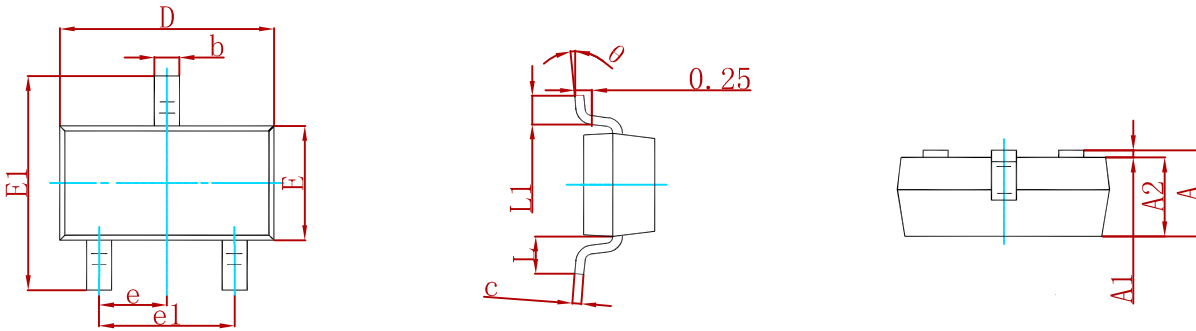
C_{ob}/C_{ib} — V_{CB}/V_{EB}



P_c — T_a

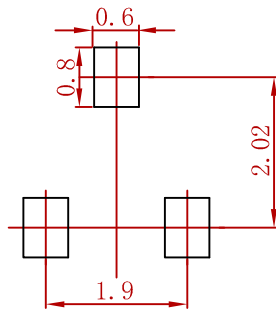


PACKAGE MECHANICAL DATA



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05mm.
 3. The pad layout is for reference purposes only.

REEL SPECIFICATION

| P/N | PKG | QTY |
|----------------|--------|------|
| BC856/57/58ABC | SOT-23 | 3000 |

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