

Features

- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

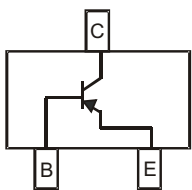
Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Maximum Thermal Resistance: 833°C/W Junction to Ambient

| Parameter | Symbol | Rating | Unit |
|---|-----------|-------------------|------|
| Collector-Base Voltage BC856AW, BC856BW BC857AW, BC857BW, BC857CW BC858AW, BC858BW, BC858CW | V_{CBO} | -80 -50 -30 | V |
| Collector-Emitter Voltage BC856AW, BC856BW BC857AW, BC857BW, BC857CW BC858AW, BC858BW, BC858CW | V_{CEO} | -65 -45 -30 | V |
| Emitter-Base Voltage | V_{EBO} | -5 | V |
| Collector Current | I_C | -100 | mA |
| Power Dissipation | P_D | 200 | mW |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure

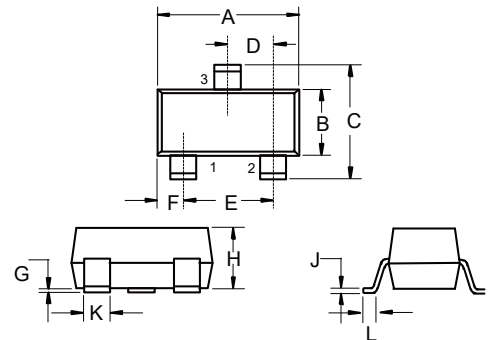


Marking:

BC856AW:3A; BC856BW:3B
BC857AW:3E; BC857BW:3F; BC857CW:3G
BC858AW:3J; BC858BW:3K; BC858CW:3L

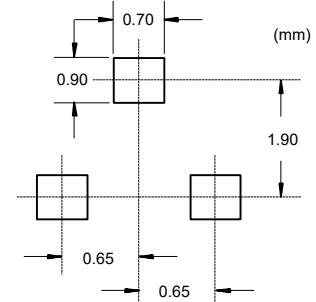
**PNP
General Purpose
Transistors**

SOT-323



| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.071 | 0.087 | 1.80 | 2.20 | |
| B | 0.045 | 0.053 | 1.15 | 1.35 | |
| C | 0.083 | 0.096 | 2.10 | 2.45 | |
| D | 0.026 | | 0.65 | | TYP. |
| E | 0.047 | 0.055 | 1.20 | 1.40 | |
| F | 0.012 | 0.016 | 0.30 | 0.40 | |
| G | 0.000 | 0.004 | 0.00 | 0.10 | |
| H | 0.035 | 0.044 | 0.90 | 1.10 | |
| J | 0.002 | 0.010 | 0.05 | 0.25 | |
| K | 0.006 | 0.016 | 0.15 | 0.40 | |
| L | 0.010 | 0.018 | 0.26 | 0.46 | |

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

| Parameter | Symbol | Min | Typ | Max | Units | Conditions |
|--|---------------|-------------------|-----|-------------------|-------|---|
| Collector-Base Breakdown Voltage BC856AW,BC856BW BC857AW,BC857BW,BC857CW BC858AW,BC858BW,BC858CW | $V_{(BR)CBO}$ | -80 -50 -30 | | | V | $I_C=-10\mu A, I_E=0$ |
| Collector-Emitter Breakdown Voltage BC856AW,BC856BW BC857AW,BC857BW,BC857CW BC858AW,BC858BW,BC858CW | $V_{(BR)CEO}$ | -65 -45 -30 | | | V | $I_C=-10mA, I_B=0$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | -5 | | | V | $I_E=-1\mu A, I_C=0$ |
| Collector-Base Cutoff Current | I_{CBO} | | | -15 | nA | $V_{CB}=-30V, I_E=0$ |
| DC Current Gain BC856AW,BC857AW,BC858AW BC856BW,BC857BW,BC858BW BC857CW,BC858CW | h_{FE} | 125 220 420 | | 250 475 800 | | $V_{CE}=-5V, I_C=-2mA$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | | -0.65 | V | $I_C=-100mA, I_B=-5mA$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | | -1.10 | V | $I_C=-100mA, I_B=-5mA$ |
| Transition Frequency | f_T | 100 | | | MHz | $V_{CE}=-5V, I_C=-10mA, f=100MHz$ |
| Collector-Base Capacitance | C_{CBO} | | | 4.5 | pF | $V_{CB}=-10V, f=1MHz$ |
| Noise Figure | NF | | | 10 | dB | $V_{CE}=-5V, I_C=-200\mu A$ $R_S=2K\Omega, f=1KHz$ |

Curve Characteristics

Fig. 1 - Static Characteristics

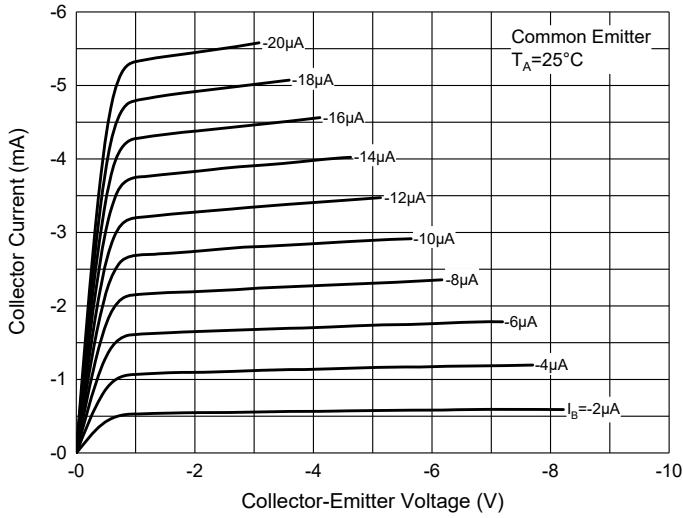


Fig. 2 - DC Current Gain Characteristics

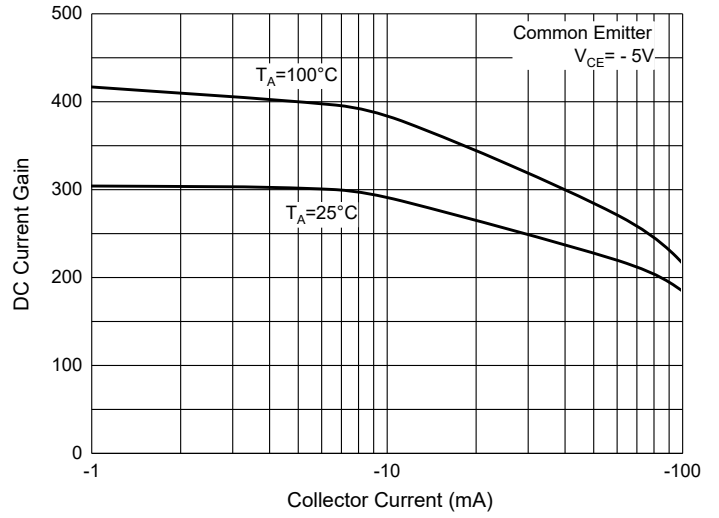


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

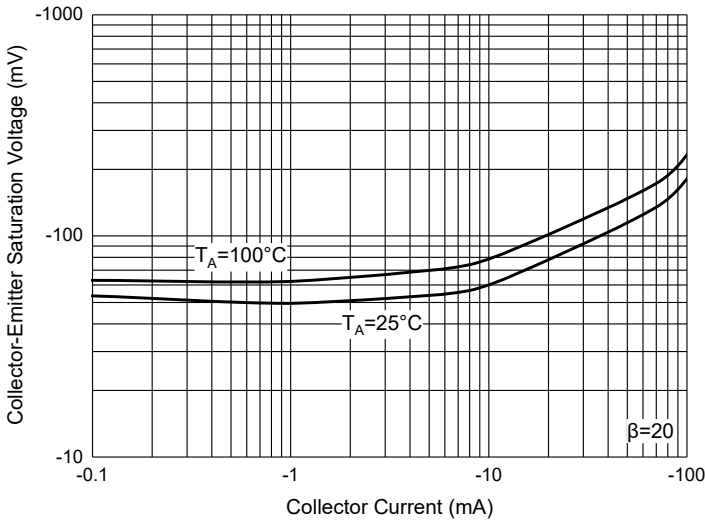


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

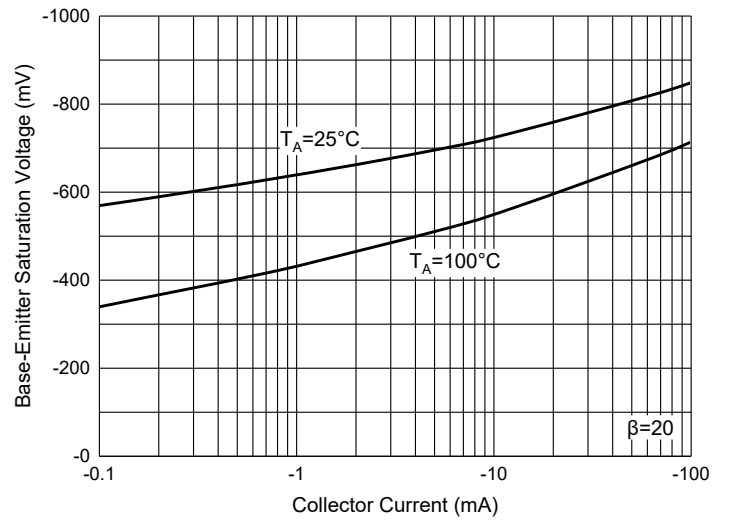
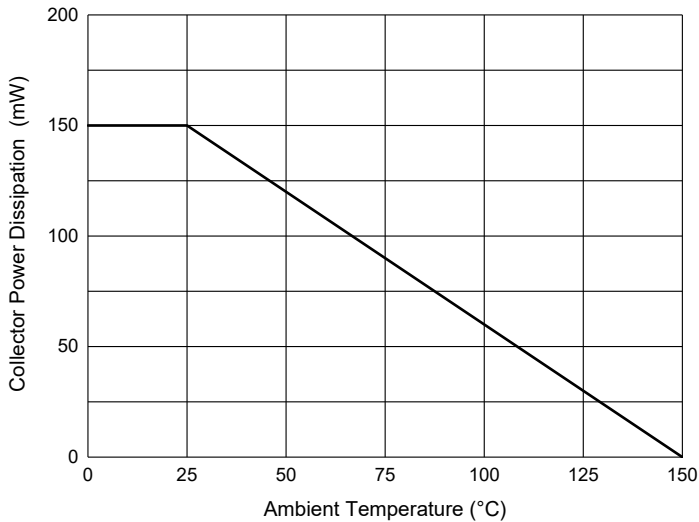


Fig. 5 - Collector Power Derating Curve



Ordering Information

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

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