



Micro Commercial Components



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BC857S

PNP
Plastic-Encapsulate
Transistors
300mW

Features

- Halogen free available upon request by adding suffix "-HF"
Multi-chip Transistor
Ultra-Small Surface Mount Package
Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
Epoxy meets UL 94 V-0 flammability rating
Moisure Sensitivity Level 1

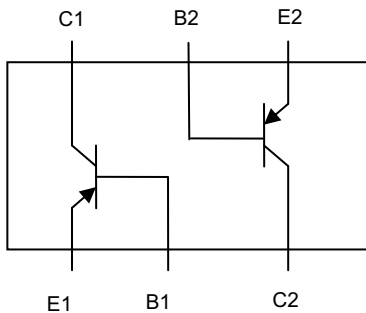
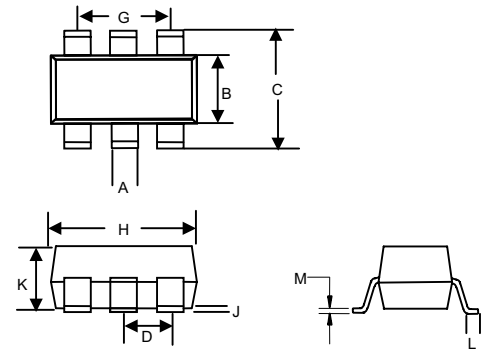
Mechanical Data

- Case: SOT-363
Marking: 3C

Maximum Ratings @ 25°C Unless Otherwise Specified

Table with 4 columns: Symbol, Parameter, Value, Units. Rows include ICM, V(BR)CBO, Pd, TJ, TSTG.

SOT-363



BC857S Structure schematic diagram

DIMENSIONS table with columns for DIM, INCHES (MIN, MAX), MM (MIN, MAX), and NOTE. Rows A through M.

# BC857S



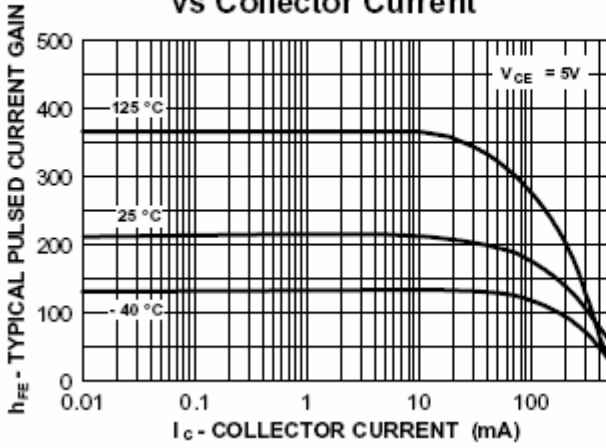
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## ELECTRICAL CHARACTERISTICS(Tamb=25 unless otherwise specified)

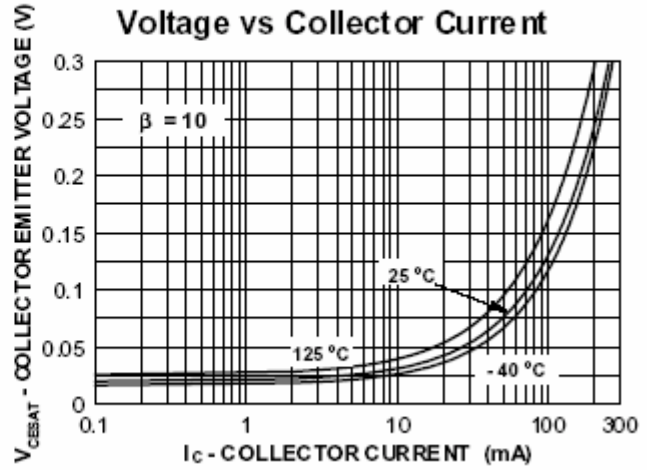
| Parameter                            | Symbol           | Test conditions   | MIN  | TYP | MAX   | UNIT |
|--------------------------------------|------------------|---|------|-----|-------|------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$    | $I_C=-10\mu A, I_E=0$                                   | -50  |     |       | V    |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$    | $I_C=-10mA, I_B=0$                                      | -45  |     |       | V    |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$    | $I_E=-10\mu A, I_C=0$                                   | -5   |     |       | V    |
| Collector cut-off current            | $I_{CBO}$        | $V_{CB}=-30V, I_E=0$                                    |      |     | -15   | nA   |
| DC current gain                      | $h_{FE}$         | $V_{CE}=-5V, I_C=-2mA$                                  | 125  |     | 630   |      |
| Collector-emitter saturation voltage | $V_{CE(sat)(1)}$ | $I_C=-10mA, I_B=-0.5mA$                                 |      |     | -0.3  | V    |
|                                      | $V_{CE(sat)(2)}$ | $I_C=-100mA, I_B=-5mA$                                  |      |     | -0.65 | V    |
| Base-emitter voltage                 | $V_{BE(1)}$      | $V_{CE}=-5V, I_C=-2mA$                                  | -0.6 |     | -0.75 | V    |
|                                      | $V_{BE(2)}$      | $V_{CE}=-5V, I_C=-10mA$                                 |      |     | -0.82 | V    |
| Transition frequency                 | $f_T$            | $V_{CE}=-5V, I_C=-10mA, f=100MHz$                       |      | 200 |       | MHz  |
| Collector output capacitance         | $C_{ob}$         | $V_{CB}=-10V, I_E=0, f=1MHz$                            |      | 3.5 |       | pF   |
| Noise figure                         | NF               | $V_{CE}=-5V, I_C=-0.2mA,$<br>$f=1kHz, R_s=2K, BW=200Hz$ |      | 2.5 |       | dB   |

# BC857S

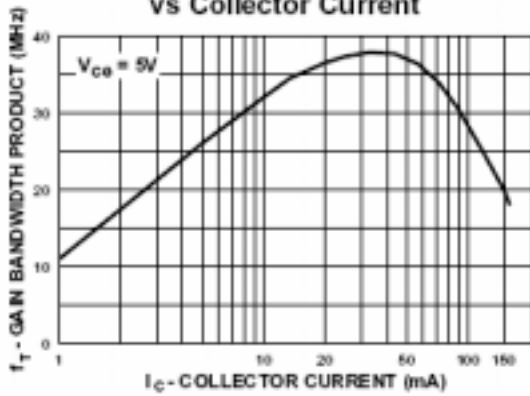
**Typical Pulsed Current Gain vs Collector Current**



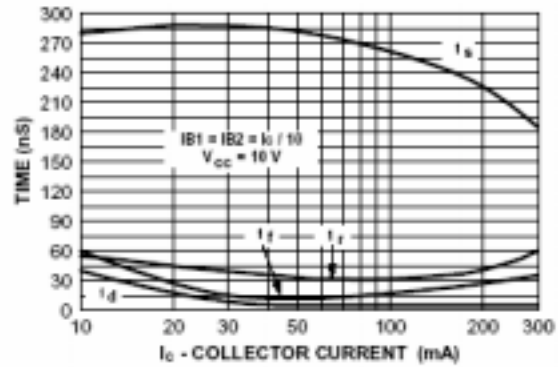
**Collector-Emitter Saturation Voltage vs Collector Current**



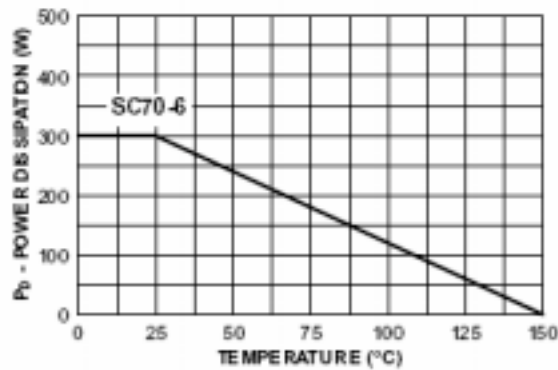
**Gain Bandwidth Product vs Collector Current**



**Switching Times vs Collector Current**

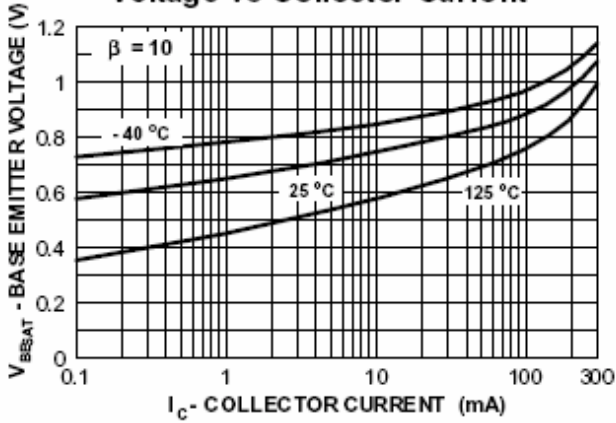


**Power Dissipation vs Ambient Temperature**

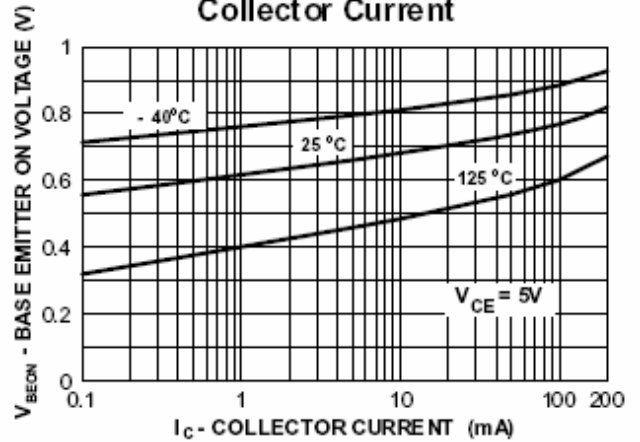


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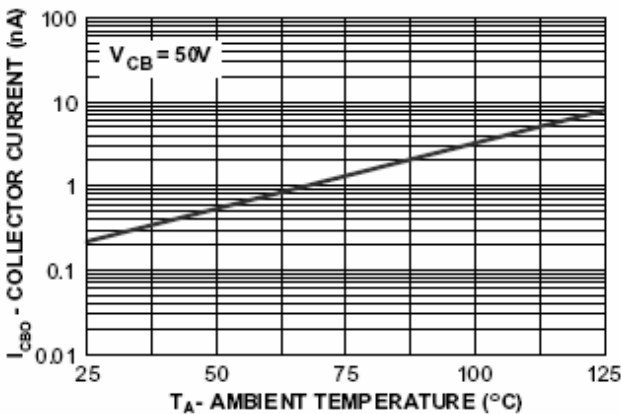
**Base-Emitter Saturation Voltage vs Collector Current**



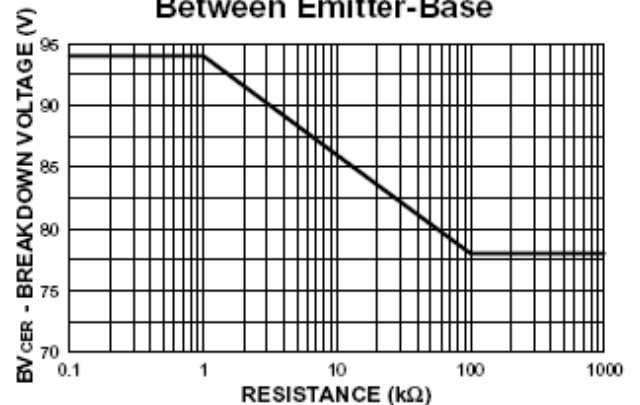
**Base Emitter ON Voltage vs Collector Current**



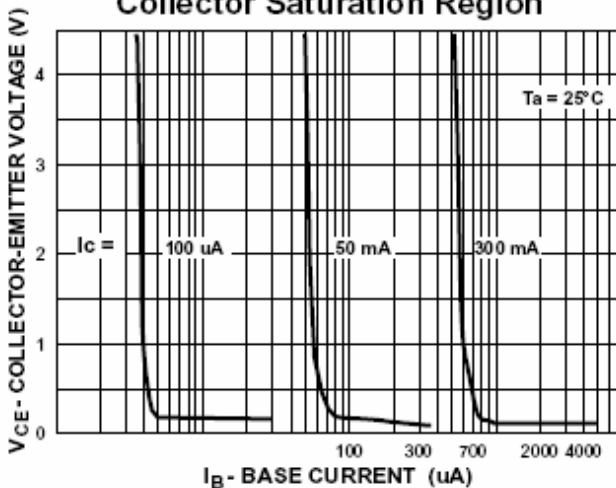
**Collector-Cutoff Current vs Ambient Temperature**



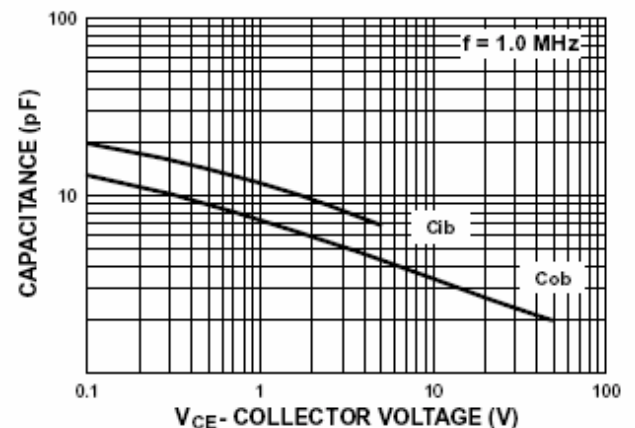
**Collector-Emitter Breakdown Voltage with Resistance Between Emitter-Base**



**Collector Saturation Region**



**Input and Output Capacitance vs Reverse Voltage**





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### Ordering Information :

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

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

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