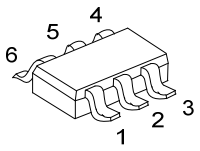
BC856AS **Preliminary** ***DUAL TRANSISTOR***

# DUAL PNP SURFACE MOUNT SMALL SIGNAL TRANSISTOR




SOT-363

## ■ DESCRIPTION

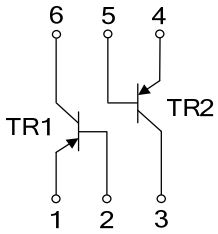
The UTC **BC856AS** is a dual PNP surface mount small signal transistor, it uses UTC's advanced technology to provide customers with high DC current gain, etc.

The UTC **BC856AS** is suitable for switching and AF amplifier applications.

## ■ FEATURES

* High DC current gain

## ■ EQUIVALENT CIRCUIT




## ■ ORDERING INFORMATION

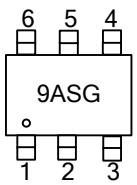
| Ordering Number | Package | Pin Assignment | | | | | | Packing |
|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | |
| BC856ASG-AL6-R | SOT-363 | E1 | B1 | C2 | E2 | B2 | C1 | Tape Reel |

Note: Pin Assignment: E: Emitter B: Base C: Collector

BC856ASG-AL6-R
(1)Packing Type
(2)Package Type
(3)Green Package

(1) R: Tape Reel
(2) AL6: SOT-363
(3) G: Halogen Free and Lead Free

## ■ MARKING



## ■ ABSOLUTE MAXIMUM RATINGS ($T_A$=25°C unless otherwise specified)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | -80 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | -65 | V |
| Emitter-Base Voltage | $V_{EBO}$ | -5.0 | V |
| Collector Current | $I_C$ | -100 | mA |
| Peak Collector Current | $I_{CM}$ | -200 | mA |
| Peak Emitter Current | $I_{EM}$ | -200 | mA |
| Power Dissipation | $P_D$ | 200 | mW |
| Operating Temperature Range | $T_J$ | -65~+150 | °C |
| Storage Temperature | $T_{STG}$ | -65~+150 | °C |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

## ■ THERMAL DATA

| PARAMETER | SYMBOL | RATINGS | UNIT |
|---|---|---|---|
| Junction to Ambient | $\theta_{JA}$ | 625 | °C/W |

Note: Device mounted on FR-4 PCB minimum land pad.

## ■ ELECTRICAL CHARACTERISTICS ($T_A$ =25°C unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | | | |
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C$=10μA, $I_B$=0 | -80 | | | V |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$=10mA, $I_B$=0 | -65 | | | V |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$=1μA, $I_C$=0 | -5 | | | V |
| **ON CHARACTERISTICS** | | | | | | |
| DC Current Gain | $h_{FE}$ | $V_{CE}$=-5.0V, $I_C$=-2.0mA | 125 | 180 | 250 | |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C$=-10mA, $I_B$=-0.5mA | | -75 | -300 | mV |
| | | $I_C$=-100mA, $I_B$=-5.0mA | | -250 | -650 | mV |
| Base-Emitter Saturation Voltage | $V_{BE(SAT)}$ | $I_C$=-10mA, $I_B$=-0.5mA | | -700 | | mV |
| | | $I_C$=-100mA, $I_B$=-5.0mA | | -850 | | mV |
| Base-Emitter Voltage | $V_{BE(ON)}$ | $V_{CE}$=-5.0V, $I_C$=-2.0mA | -600 | -650 | -750 | mV |
| | | $V_{CE}$=-5.0V, $I_C$=-10mA | | | -820 | mV |
| **SMALL SIGNAL CHARACTERISTICS** | | | | | | |
| Collector-Cutoff Current | $I_{CES}$ | $V_{CE}$=-80V | | | -15 | nA |
| | $I_{CBO}$ | $V_{CB}$=-30V | | | -15 | nA |
| | | $V_{CB}$=-30V, $T_A$=150°C | | | -4.0 | μA |
| Gain Bandwidth Product | $f_T$ | $V_{CE}$=-5.0V, $I_C$=-10mA, f=100MHz | 100 | | | MHz |
| Collector-Base Capacitance | $C_{CB}$ | $V_{CB}$=-10V, f=1.0MHz | | 3 | | pF |

Note: Short duration pulse test used to minimize self-heating effect.