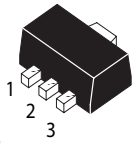
# WEITRON

# 2SB1132

## PNP Plastic-Encapsulate Transistors

**Lead(Pb)-Free**

**SOT-89**




1. BASE
2. COLLECTOR
3. EMITTER

## ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Collector-Emitter Voltage | VCBO | -40 | Vdc |
| Collector-Base Voltage | VCEO | -32 | Vdc |
| Emitter-Base Voltage | VEBO | -5.0 | Vdc |
| Collector Current | $I_C$ | -1.0 | A(DC) |
| | $I_{CP}$ | -2.0 | A (Pulse)* |
| Collector Power Dissipation | $P_C$ | 0.5 | W |
| Junction Temperature, Storage Temperature | $T_j$ , Tstg | 150, -55 to +150 | ℃ |

* Single pulse Pw = 100ms

## DEVICE MARKING

2SB1132P=BAP, 2SB1132Q=BAQ, 2SB1132R=BAR

## ELECTRICAL CHARACTERISTICS

| Characteristics | Symbol | Min | Max | Unit |
|---|---|---|---|---|
| Collector-Base Breakdown Voltage ($I_C$= -50 uAdc, $I_E$ =0) | $V_{(BR)CBO}$ | -40 | - | Vdc |
| Collector-Emitter Breakdown Voltage ($I_C$= -1 mAdc, $I_B$=0) | $V_{(BR)CEO}$ | -32 | - | Vdc |
| Emitter-Base Breakdown Voltage ($I_E$= -50 uAdc, $I_C$=0) | $V_{(BR)EBO}$ | -5.0 | - | Vdc |
| Collector Cutoff Current ($V_{CB}$= -20Vdc, $I_E$=0) | $I_{CBO}$ | - | -0.5 | uAdc |
| Emitter Cutoff Current ($V_{EB}$= -4.0 Vdc, $I_C$=0) | $I_{EBO}$ | - | -0.5 | uAdc |

## ELECTRICAL CHARACTERISTICS ($T_A$=25°C unless otherwise noted) (Countinued)

| Characteristics | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|

## ON CHARACTERISTICS

| | | | | | |
|---|---|---|---|---|---|
| DC Current Gain ($I_C$= -100 mAdc, $V_{CE}$= -3 Vdc) | $h_{FE}$ | 82 | - | 390 | - |
| Collector-Emitter Saturation Voltage ($I_C$= -500 mAdc, $I_B$ = -50mAdc) | $V_{CE(sat)}$ | - | - | -0.5 | Vdc |
| Transition Frequency ($I_C$= -50mAdc, $V_{CE}$=-5 Vdc, f=30MHz) | $f_T$ | - | 150 | - | MHz |
| Collector Output Capacitance ($I_E$= 0, $V_{CB}$=-10 Vdc, f=1MHz) | Cob | - | 20 | 30 | PF |

## CLASSIFICATION OF $h_{FE}$

| Rank | P | Q | R |
|---|---|---|---|
| Range | 82-180 | 120-270 | 180-390 |

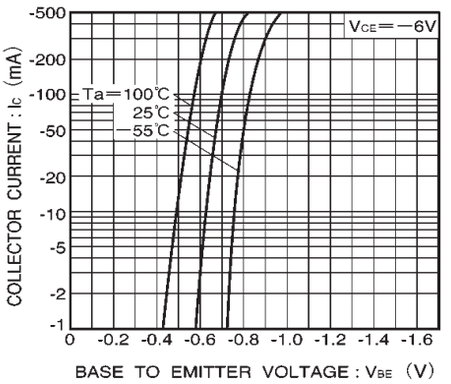



**FIG.1** Grounded emitter propagation characteristics

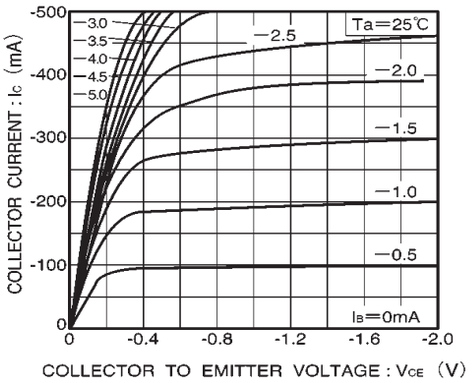



**FIG.2** Grounded emitter output characteristics

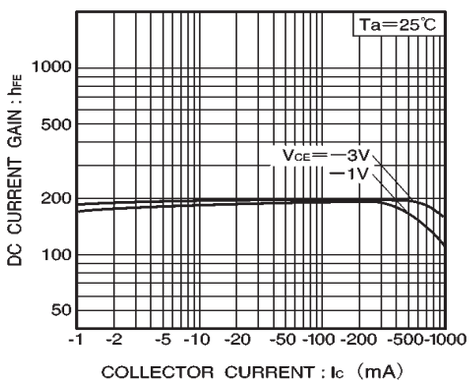



**FIG.3** DC current gain vs. collector current (Ⅰ)

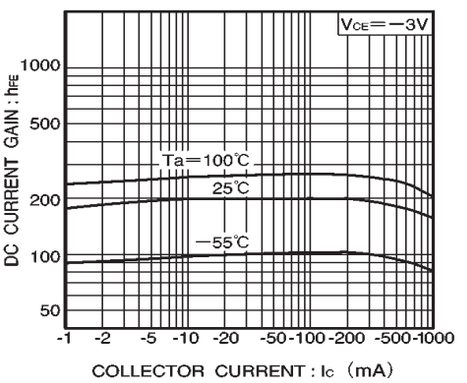



**FIG.4** DC current gain vs. collector current (Ⅱ)

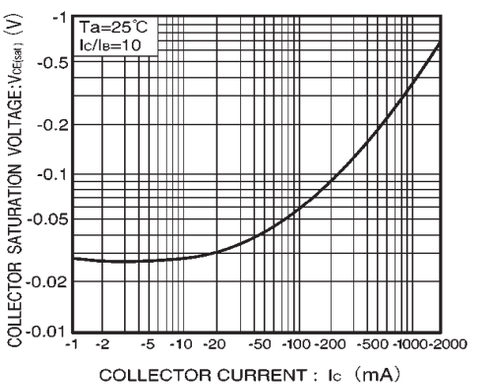



**FIG.5** Collector-emitter saturation voltage vs. collector current

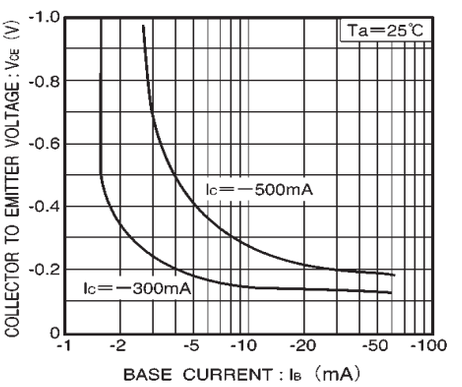



**FIG.6** Collector-emitter saturation voltage vs. base current

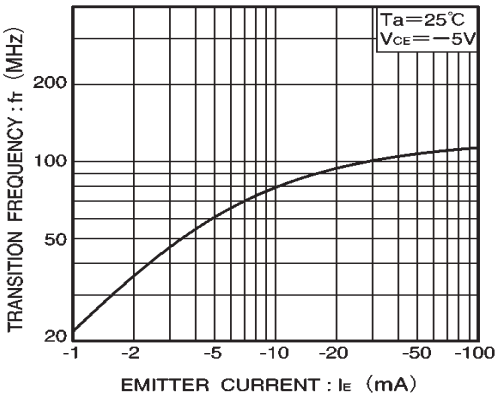



**FIG.7** Gain bandwidth product vs. emitter current

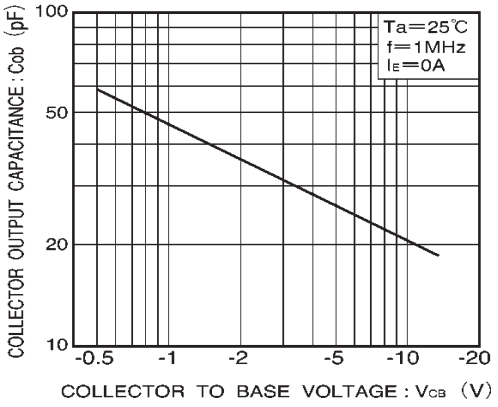



**FIG.8** Collector output capacitance vs. collector-base voltage

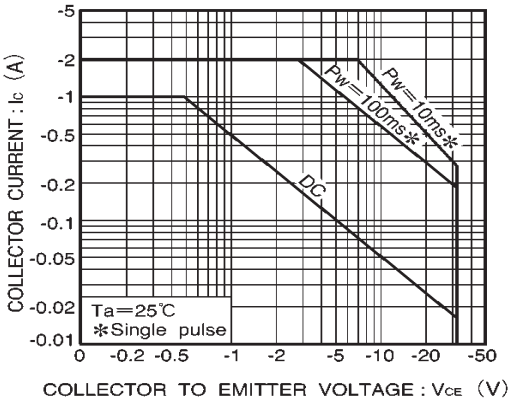



**FIG.9** Safe operation area

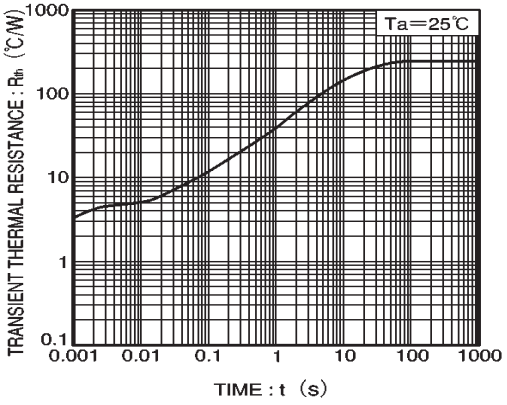
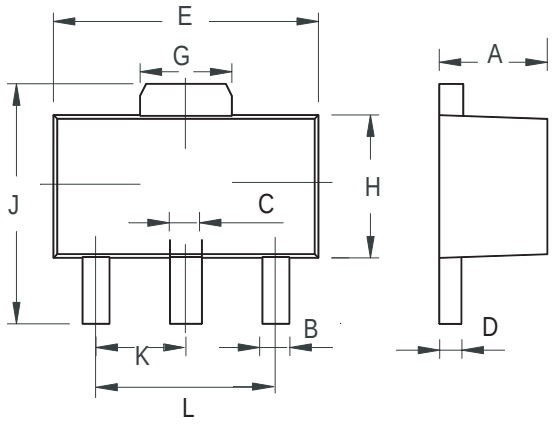



**FIG.10** Transient thermal resistance

## SOT-89 Outline Dimensions

unit:mm




| SOT-89 | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 1.400 | 1.600 |
| **B** | 0.320 | 0.520 |
| **C** | 0.360 | 0.560 |
| **D** | 0.350 | 0.440 |
| **E** | 4.400 | 4.600 |
| **G** | 1.400 | 1.800 |
| **H** | 2.300 | 2.600 |
| **J** | 3.940 | 4.250 |
| **K** | 1.500TYP | |
| **L** | 2.900 | 3.100 |