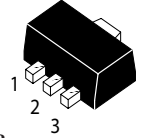


**PNP Plastic-Encapsulate Transistor**

 Lead(Pb)-Free

**SOT-89**


1. BASE  
2. COLLECTOR  
3. EMITTER

**ABSOLUTE MAXIMUM RATINGS(Ta=25°C)**

| Rating                                    | Symbol   | Value            | Unit            |
|---|--|------------------|-----------------|
| Collector-Emitter Voltage                 | V <sub>CEO</sub>                                     | -80              | V <sub>dc</sub> |
| Collector-Base Voltage                    | V <sub>CBO</sub>                                     | -80              | V <sub>dc</sub> |
| Emitter-Base Voltage                      | V <sub>EBO</sub>                                     | -5.0             | V <sub>dc</sub> |
| Collector Current                         | I <sub>C</sub>                                       | 1.0              | Adc(DC)         |
|   | I <sub>CP</sub>                                      | 2.0              | Adc (Pulse)     |
| Collector Power Dissipation               | P <sub>C</sub><br><small>www.DataSheet4U.com</small> | 0.5              | W               |
| Junction Temperature, Storage Temperature | T <sub>j</sub> , T <sub>stg</sub>                    | 150, -55 to +150 | °C              |

**Device Marking**

2SB1260=ZL

**ELECTRICAL CHARACTERISTICS**

| Characteristics  | Symbol               | Min  | Max | Unit            |
|--|----------------------|------|-----|-----------------|
| Collector-Emitter Breakdown Voltage (I <sub>C</sub> = -1.0 mAdc, I <sub>B</sub> =0)  | V <sub>(BR)CEO</sub> | -80  | -   | V <sub>dc</sub> |
| Collector-Base Breakdown Voltage (I <sub>C</sub> = -50 μAdc, I <sub>E</sub> =0)      | V <sub>(BR)CBO</sub> | -80  | -   | V <sub>dc</sub> |
| Emitter-Base Breakdown Voltage (I <sub>E</sub> = -50 μAdc, I <sub>C</sub> =0)        | V <sub>(BR)EBO</sub> | -5.0 | -   | V <sub>dc</sub> |
| Collector Cutoff Current (V <sub>CB</sub> = -60 V <sub>dc</sub> , I <sub>E</sub> =0) | I <sub>CBO</sub>     | -    | -1  | uAdc            |
| Emitter Cutoff Current (V <sub>EB</sub> =-4.0 V <sub>dc</sub> , I <sub>C</sub> =0)   | I <sub>EBO</sub>     | -    | -1  | uAdc            |

1.FR-5=1.0 x 0.75 x 0.062 in.

# 2SB1260



## ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted) (Continued)

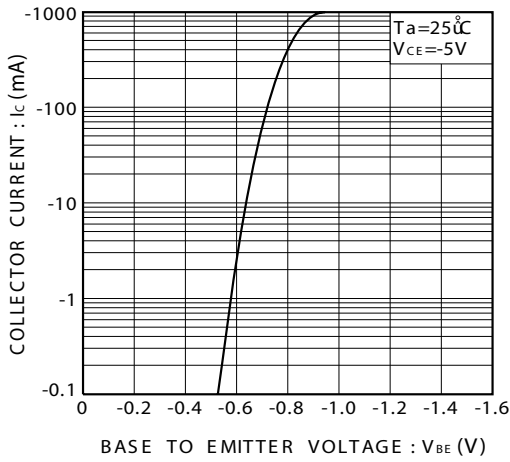
| Characteristics | Symbol | Min | Typ | Max | Unit |
|-----------------|--------|-----|-----|-----|------|
|-----------------|--------|-----|-----|-----|------|

### ON CHARACTERISTICS

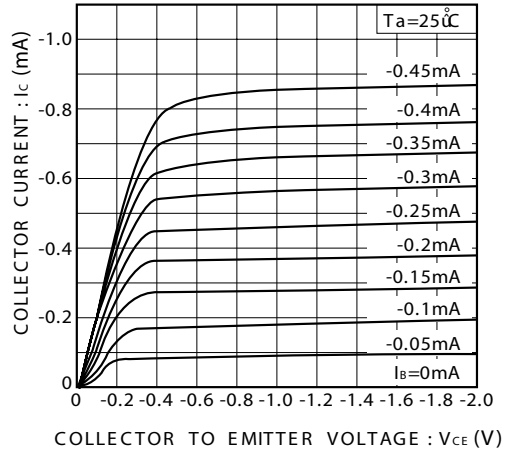
|  |               |    |   |      |     |
|--|---------------|----|---|------|-----|
| DC Current Gain<br>( $I_C=-0.1\text{ A dc}, V_{CE}=-3.0\text{ V dc}$ )                       | $h_{FE}$      | 82 | - | 390  | -   |
| Collector-Emitter Saturation Voltage<br>( $I_C=-500\text{ mA dc}, I_B=-50\text{ mA dc}$ )    | $V_{CE(sat)}$ | -  | - | -0.4 | Vdc |
| Transition Frequency<br>( $I_C=-50\text{ mA dc}, V_{CE}=-5.0\text{ V dc}, f=30\text{ MHz}$ ) | $f_T$         | 80 | - | -    | MHz |

### CLASSIFICATION OF $h_{FE}$

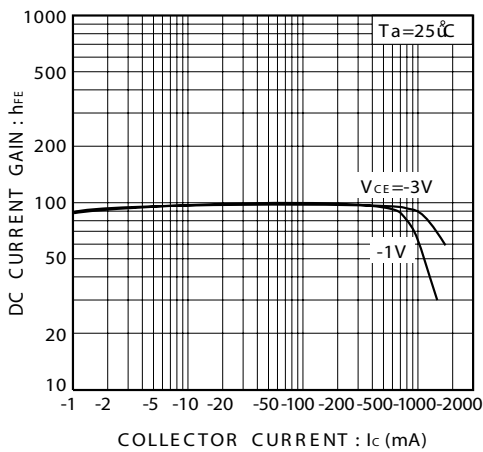
| Item  | P      | Q       | R       |
|-------|--------|---------|---------|
| Range | 82-180 | 120-270 | 180-390 |



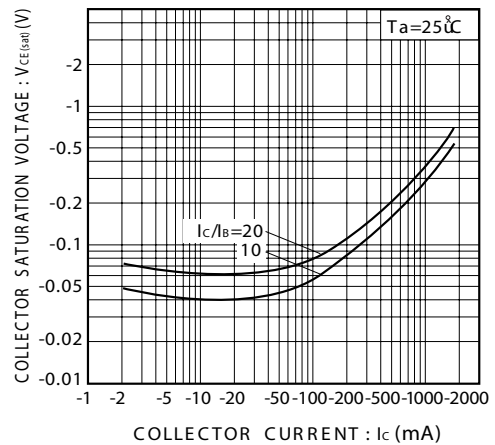
**FIG.1** Grounded Emitter Propagation Characteristics



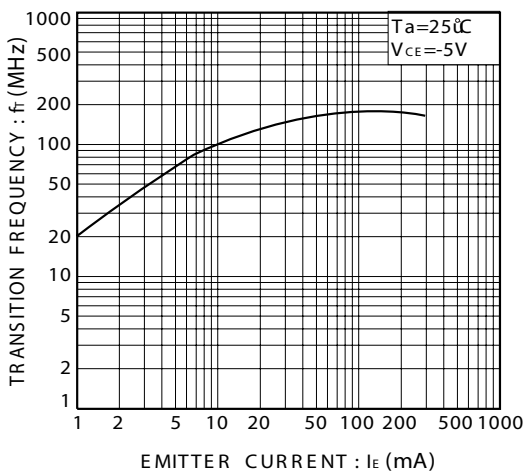
**FIG.2** Grounded Emitter Output Characteristics



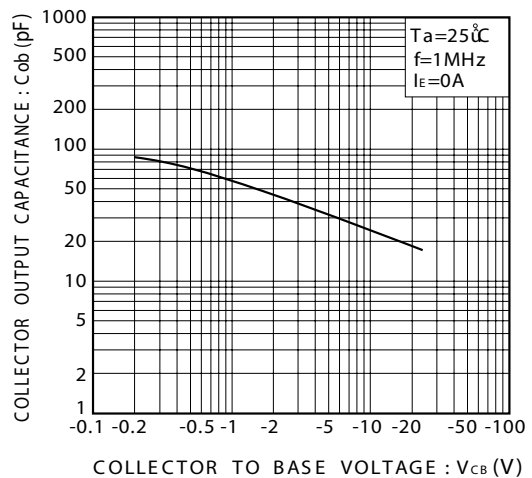
**FIG.3** DC Current Gain vs. Collector Current



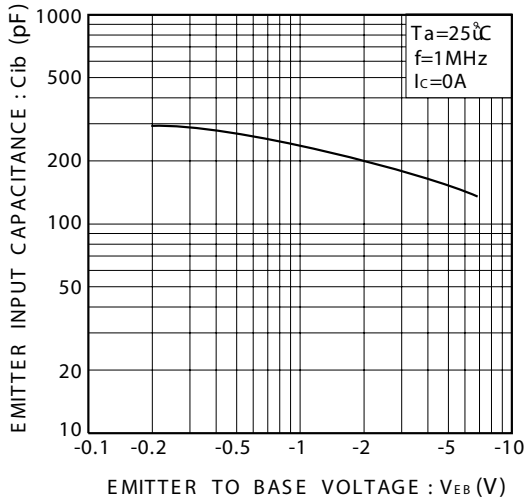
**FIG.4** Collector-Emitter Saturation Voltage vs. Collector Current



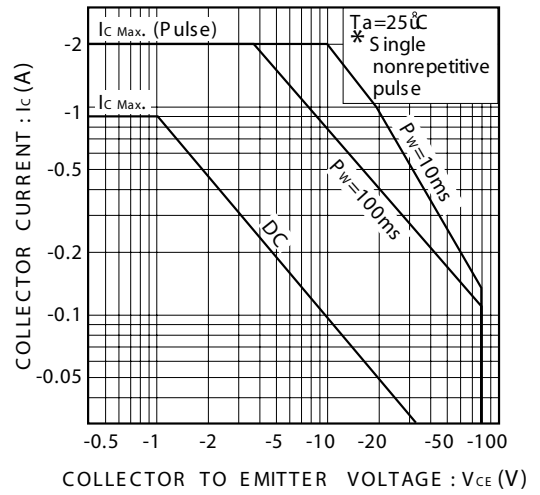
**FIG.5** Gain Bandwidth Product vs. Emitter Current



**FIG.6** Collector Output Capacitance vs. Collector-Base Voltage



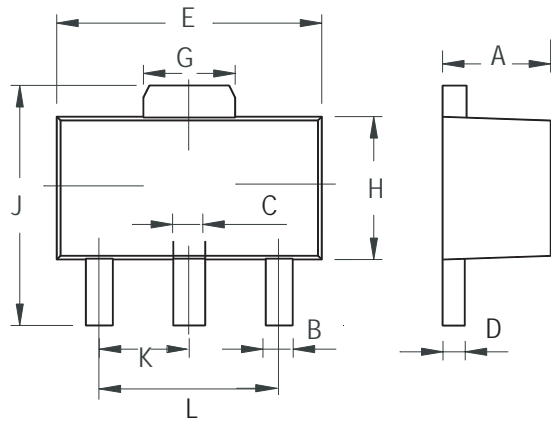
**FIG. 7 Emitter Input Capacitance vs. Emitter-Base Voltage**



**FIG. 8 Safe Operating Area**

## 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 |