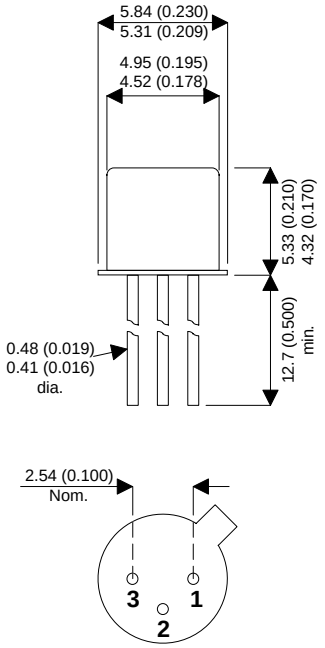
# ZT89

## MECHANICAL DATA
Dimensions in mm (inches)




# MEDIUM POWER SILICON NPN PLANAR TRANSISTOR

**General Purpose Bipolar NPN Transistor in a hermetically sealed TO18 (TO-206AA) Metal Package.**

$V_{CEO}$ = 65V

$I_C$ = 500mA

$P_{TOT}$ = 300mW

**TO18 PACKAGE (TO-206AA)**

**Underside View**

Pin 1 = Emitter  Pin 2 = Base  Pin 3 = Collector

## ABSOLUTE MAXIMUM RATINGS ($T_{case}$ = 25°C unless otherwise stated)

| | | |
|---|---|---|
| $V_{CBO}$ | Collector – Base Voltage | 65V |
| $V_{CEO}$ | Collector – Emitter Voltage | 65V |
| $V_{EBO}$ | Emitter – Base Voltage | 5V |
| $I_C$ | Collector Current | 500mA |
| $P_{TOT}$ | Dissipation @ $T_{amb}$ = 25°C | 300mW |
| | Derating linearly | 2mW/°C |
| $R\theta_{JC}$ | Thermal Resistance | 500°C/W |
| $T_{stg}, T_j$ | Storage and Operatuing Junction Temperature | –65 to 175°C |



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Document Number 4126
Issue 1

SEME LAB

# ZT89

## ELECTRICAL CHARACTERISTICS ($T_{case}$ = 25°C unless otherwise stated)

| | Parameter | Test Conditions | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector – Emitter Sustaining Voltage | $I_C$ = 10mA | $I_B$ = 0 | 65 | | | V |
| $V_{CE(sat)}$ | Collector – Emitter Saturation Voltage | $I_C$ = 50mA | $I_B$ = 5mA | | | 0.2 | |
| $V_{BE(sat)}$ | Base – Emitter Saturation Voltage | $I_C$ = 75mA | $I_B$ = 3mA | | | 1.2 | |
| $I_{CBO}$ | Collector Cut-off Current | $V_{CB}$ = 65V | $I_E$ = 0 | | | 0.5 | µA |
| $I_{EBO}$ | Emitter - Base Reverse Current | $V_{EB}$ = 5V | $I_C$ = 0 | | | 0.1 | µA |
| $h_{FE}$ | DC Current Gain | $V_{CE}$ = 0.4V | $I_C$ = 1mA | 35 | | | |
| | | $V_{CE}$ = 0.4V | $I_C$ = 10mA | 50 | | 200 | |
| | | $V_{CE}$ = 0.4V | $I_C$ = 30mA | 35 | | | |
| | | $V_{CE}$ = 0.75V | $I_C$ = 75mA | 25 | | | |
| $f_T$ | Transition Frequency | $V_{CE}$ = 6V | $I_C$ = 10mA | 50 | | | MHz |
| $C_{ob}$ | Output Capacitance | $V_{CE}$ = 6V | $I_E$ = 0<br>f = 1MHz | | | 20 | pF |



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