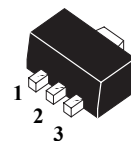


PNP Epitaxial Planar Transistors

 Lead(Pb)-Free

1. BASE
2. COLLECTOR
3. EMITTER



SOT-89

ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

| Rating | Symbol | Limits | Unit |
|-----------------------------|-----------|-------------|--------------------|
| Collector-Base Voltage | V_{CBO} | -35 | V |
| Collector-Emitter Voltage | V_{CEO} | -30 | V |
| Emitter-Base Voltage | V_{EBO} | -5.0 | V |
| Collector Current | I_C | -1.5 | A |
| Collector Power Dissipation | P_D | 0.5 | W |
| Junction Temperature | T_j | -55 to +150 | $^{\circ}\text{C}$ |
| Storage Temperature Range | T_{stg} | -55 to +150 | $^{\circ}\text{C}$ |

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

| Parameter | Symbol | Min | Typ | Max | Unit |
|--|------------|-----|-----|------|---------------|
| Collector-Base Breakdown Voltage $I_C=-1\text{mA}, I_E=0$ | BV_{CBO} | -35 | - | - | V |
| Collector-Emitter Breakdown Voltage $I_C=-10\text{mA}, I_B=0$ | BV_{CEO} | -30 | - | - | V |
| Emitter-Base Breakdown Voltage $I_E=-1\text{mA}, I_C=0$ | BV_{EBO} | -5 | - | - | V |
| Collector Cutoff Current $V_{CB}=-30\text{V}, I_E=0$ | I_{CBO} | - | - | -0.1 | μA |
| Collector Cutoff Current $V_{EB}=-5\text{V}, I_C=0$ | I_{EBO} | - | - | -0.1 | μA |

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

| Characteristic | Symbol | Min | Typ | Max | Unit |
|----------------|--------|-----|-----|-----|------|
|----------------|--------|-----|-----|-----|------|

ON CHARACTERISTICS

| | | | | | |
|--|----------------------|-----|---|------|---|
| DC Current Gain $V_{CE}=-2\text{V}, I_C=-500\text{mA}$ | h_{FE} | 100 | - | 320 | - |
| Collector-Emitter Saturation Voltage $I_C=-1.5\text{A}, I_B=-30\text{mA}$ | $V_{CE(\text{sat})}$ | - | - | -0.2 | V |
| Base-Emitter Saturation Voltage $V_{CE}=-2\text{V}, I_C=-500\text{mA}$ | $V_{BE(\text{sat})}$ | - | - | -1.0 | V |

DYNAMIC CHARACTERISTICS

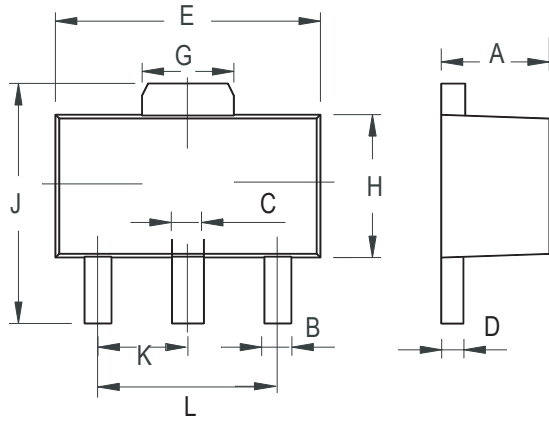
| | | | | | |
|--|----------|----|---|----|-----|
| Transition Frequency $V_{CE}=-5\text{V}, I_C=-50\text{mA}$ | f_T | 80 | - | - | MHz |
| Output Capacitance $V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$ | C_{ob} | - | - | 50 | pF |

CLASSIFICATION OF h_{FE}

| | | |
|---------|---------|---------|
| Rank | O | Y |
| Range | 100-200 | 160-320 |
| Marking | HO | HY |

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 | 1.500 TYP | |
| L | 2.900 | 3.100 |