



**THE DATASHEET OF  
FJC1386QTF**

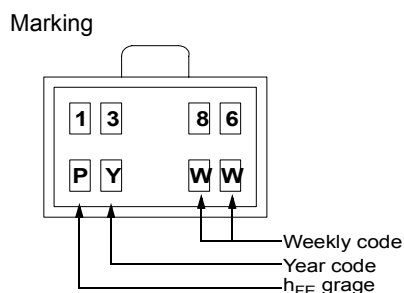
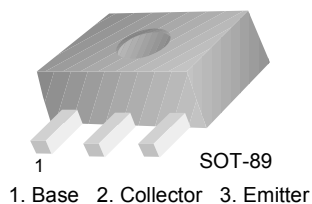


# FJC1386

## PNP Epitaxial Silicon Transistor

### Low Saturation Transistor Medium Power Amplifier

- Complement to FJC2098
- High Collector Current
- Low Collector-Emitter Saturation Voltage



### Absolute Maximum Ratings $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol    | Parameter                                      | Value       | Units            |
|-----------|--|-------------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                         | -30         | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                      | -20         | V                |
| $V_{EBO}$ | Emitter-Base Voltage                           | -6          | V                |
| $I_C$     | Collector Current (DC)                         | -5          | A                |
| $P_C$     | Power Dissipation ( $T_a = 25^\circ\text{C}$ ) | 0.5         | W                |
| $T_J$     | Junction Temperature                           | 150         | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature                            | -55 to +150 | $^\circ\text{C}$ |

### Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol        | Parameter                            | Test Condition                               | Min. | Max. | Units         |
|---------------|--------------------------------------|--|------|------|---------------|
| $BV_{CBO}$    | Collector-Base Breakdown Voltage     | $I_C = -50\mu\text{A}$ , $I_E = 0$           | -30  |      | V             |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = -1\text{mA}$ , $I_B = 0$              | -20  |      | V             |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage       | $I_E = -50\mu\text{A}$ , $I_C = 0$           | -6   |      | V             |
| $I_{CBO}$     | Collector-Cutoff Current             | $V_{CB} = -20\text{V}$ , $V_B = 0$           |      | -0.5 | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter-Cutoff Current               | $V_{EB} = -5\text{V}$ , $I_C = 0$            |      | -0.5 | $\mu\text{A}$ |
| $h_{FE}$      | DC Current Gain                      | $V_{CE} = -2\text{V}$ , $I_C = -0.5\text{A}$ | 80   | 390  |               |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -4\text{A}$ , $I_B = -0.1\text{A}$    |      | -1.0 | V             |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage      | $I_C = -4\text{A}$ , $I_B = -0.1\text{A}$    |      | -1.5 | V             |

**Thermal Characteristics**  $T_a = 25^\circ\text{C}$  unless otherwise noted

| Symbol          | Parameter                               | Max. | Units              |
|-----------------|---|------|--------------------|
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 250  | $^\circ\text{C/W}$ |

**$h_{FE}$  Classification**

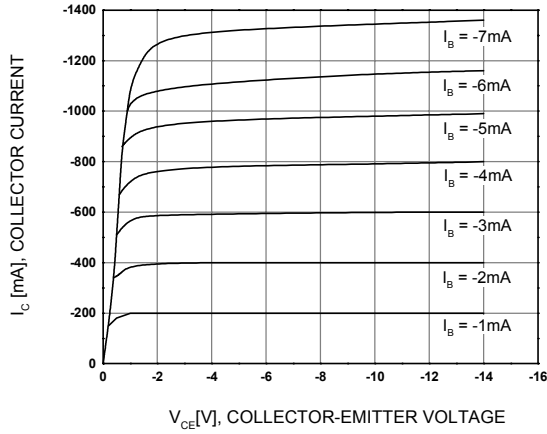
| Classification | P        | Q         | R         |
|----------------|----------|-----------|-----------|
| $h_{FE}$       | 80 ~ 180 | 120 ~ 270 | 180 ~ 390 |

**Package Marking and Ordering Information**

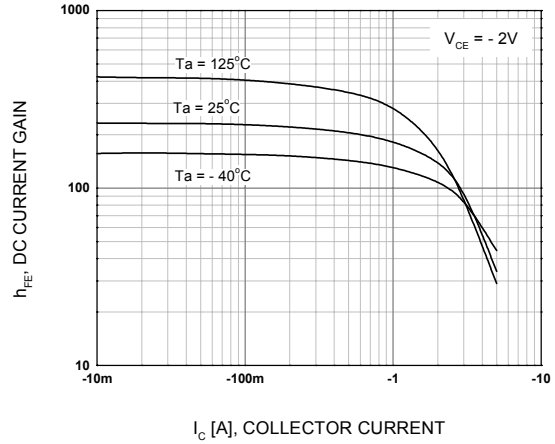
| Device Marking | Device  | Package | Reel Size | Tape Width | Quantity |
|----------------|---------|---------|-----------|------------|----------|
| 1386           | FJC1386 | SOT-89  | 13"       | --         | 4,000    |

## Typical Performance Characteristics

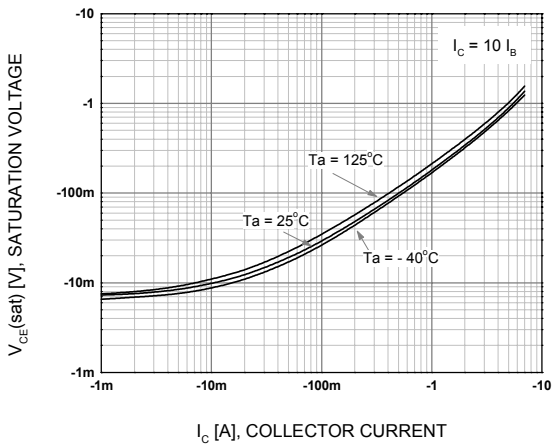
**Figure 1. Static Characteristic**



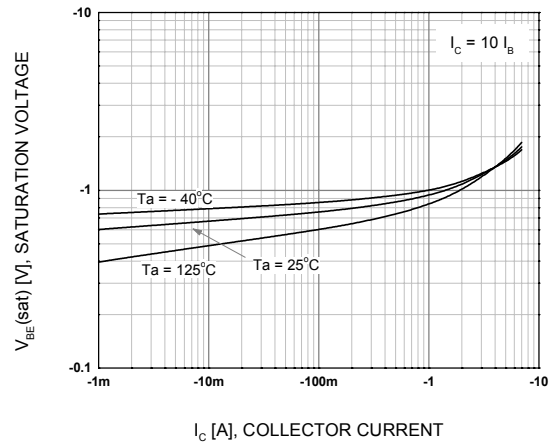
**Figure 2. DC Current Gain**



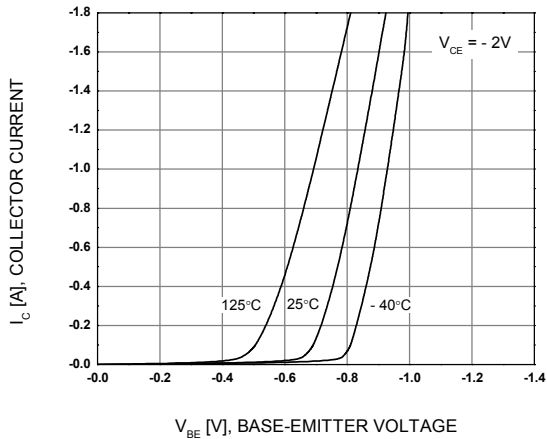
**Figure 3. Collector-Emitter Saturation Voltage**



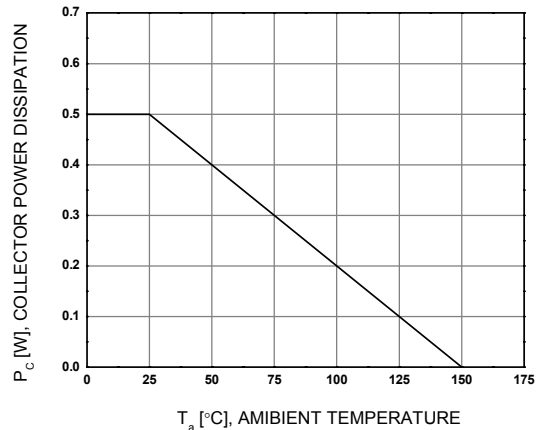
**Figure 4. Base-Emitter Saturation Voltage**



**Figure 5. Base-Emitter On Voltage**

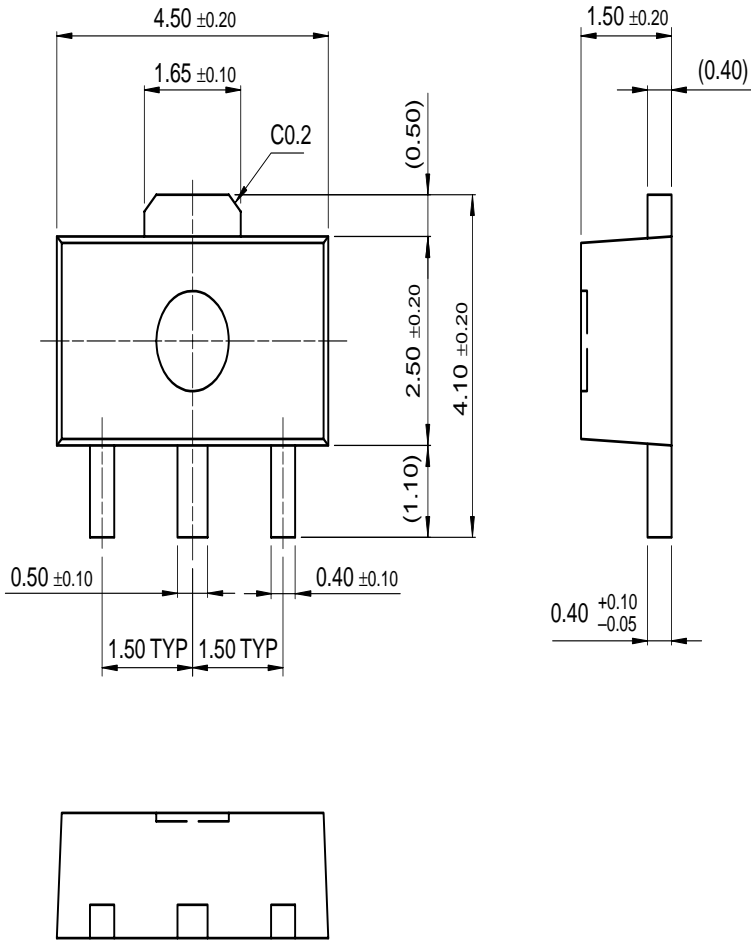


**Figure 6. Power Derating**



Mechanical Dimensions

SOT-89



Dimensions in Millimeters

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| Bottomless™                          | FPS™                | MICROCOUPLER™ | QFET®               | TinyLogic®      |
| Build it Now™                        | FRFET™              | MicroFET™     | QS™                 | TINYOPTO™       |
| CoolFET™                             | GlobalOptoisolator™ | MicroPak™     | QT Optoelectronics™ | TruTranslation™ |
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| DOME™                                | HiSeC™              | MSX™          | RapidConfigure™     | UltraFET®       |
| EcoSPARK™                            | I <sup>2</sup> C™   | MSXPro™       | RapidConnect™       | UniFET™         |
| E <sup>2</sup> CMOS™                 | i-Lo™               | OCX™          | μSerDes™            | VCX™            |
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|                                      |                     | PowerEdge™    | SuperSOT™-6         |                 |

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