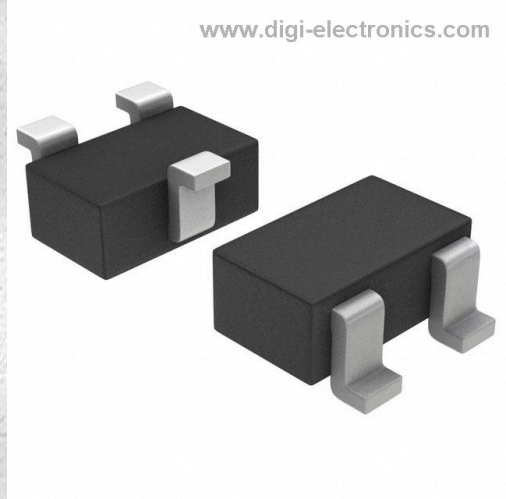
# FJX3906TF Datasheet

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| | |
|---|---|
| DiGi Electronics Part Number | FJX3906TF-DG |
| Manufacturer | onsemi |
| Manufacturer Product Number | FJX3906TF |
| Description | TRANS PNP 40V 0.2A SOT323 |
| Detailed Description | Bipolar (BJT) Transistor PNP 40 V 200 mA 250MHz 350 mW Surface Mount SOT-323 |

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

## Purchase and inquiry

| Manufacturer Product Number: | Manufacturer: |
| --- | --- |
| FJX3906TF | onsemi |
| Series: | Product Status: |
| - | Obsolete |
| Transistor Type: | Current - Collector (Ic) (Max): |
| PNP | 200 mA |
| Voltage - Collector Emitter Breakdown (Max): | Vce Saturation (Max) @ Ib, Ic: |
| 40 V | 400mV @ 5mA, 50mA |
| Current - Collector Cutoff (Max): | DC Current Gain (hFE) (Min) @ Ic, Vce: |
| - | 100 @ 10mA, 1V |
| Power - Max: | Frequency - Transition: |
| 350 mW | 250MHz |
| Operating Temperature: | Mounting Type: |
| - | Surface Mount |
| Package / Case: | Supplier Device Package: |
| SC-70, SOT-323 | SOT-323 |
| Base Product Number: | |
| FJX390 | |

## Environmental & Export classification

| Moisture Sensitivity Level (MSL): | REACH Status: |
| --- | --- |
| 1 (Unlimited) | REACH Unaffected |
| ECCN: | HTSUS: |
| EAR99 | 8541.21.0075 |


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FAIRCHILD SEMICONDUCTOR®

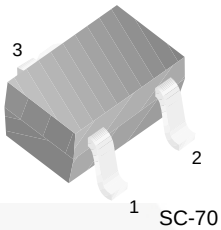
June 2013

# FJX3906

# PNP Epitaxial Silicon Transistor

## Feature

- General-Purpose Transistor




SC-70

1. Base 2. Emitter 3. Collector

## Ordering Information

| Part Number | Top Mark | Package | Packing Method |
|---|---|---|---|
| FJX3906TF | S2A | SC70 3L | Tape and Reel |

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A$ = 25°C unless otherwise noted.

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -40 | V |
| $V_{CES}$ | Collector-Emitter Voltage | 40 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -5 | V |
| $I_C$ | Collector Current | -200 | mA |
| $P_C$ | Collector Power Dissipation | 350 | mW |
| $T_{STG}$ | Storage Temperature | -55 to +150 | °C |

## Thermal Characteristics(1)

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $P_D$ | Derate above 25°C | 2.8 | mW/°C |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Air | 357 | °C/W |

**Note:**

1. PCB size: FR-4 76 x 114 x 0.6 T $mm^3$ (3.0 inch x 4.5 inch x 0.062 inch) with minimum land pattern size.

## Electrical Characteristics(2)

Values are at $T_A$ = 25°C unless otherwise noted.

| Symbol | Parameter | Test Conditions | Min. | Max. | Units |
|---|---|---|---|---|---|
| $BV_{CBO}$ | Collector-Base Breakdown Voltage | $I_C$ = -10 μA, $I_E$ = 0 | -40 | | V |
| $BV_{CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$ = -1.0 mA, $I_B$ = 0 | -40 | | V |
| $BV_{EBO}$ | Emitter-Base Breakdown Voltage | $I_E$ = 10 μA, $I_C$ = 0 | -5 | | V |
| $I_{CEX}$ | Collector Cut-Off Current | $V_{CE}$ = -30 V, $V_{EB}$ = -3 V | | -50 | nA |
| $h_{FE}$ | DC Current Gain | $V_{CE}$ = -1 V, $I_C$ = -0.1 mA | 60 | | |
| | | $V_{CE}$ = -1 V, $I_C$ = -1 mA | 80 | | |
| | | $V_{CE}$ = -1 V, $I_C$ = -10 mA | 100 | 300 | |
| | | $V_{CE}$ = -1 V, $I_C$ = -50 mA | 60 | | |
| | | $V_{CE}$ = -1 V, $I_C$ = -100 mA | 30 | | |
| $V_{CE}$(sat) | Collector-Emitter Saturation Voltage | $I_C$ = -10 mA, $I_B$ = -1 mA | | -0.25 | V |
| | | $I_C$ = -50 mA, $I_B$ = -5 mA | | -0.40 | V |
| $V_{BE}$(sat) | Base-Emitter Saturation Voltage | $I_C$ = -10 mA, $I_B$ = -1 mA | -0.65 | -0.85 | V |
| | | $I_C$ = -50 mA, $I_B$ = -5 mA | | -0.95 | V |
| $C_{ob}$ | Output Capacitance | $V_{CB}$ = -5 V, $I_E$ = 0, f = 1 MHz | | 4.5 | pF |
| $f_T$ | Current Gain Bandwidth Product | $V_{CE}$ = -20 V, $I_C$ = -10 mA | 250 | | MHz |
| NF | Noise Figure | $I_C$ = -10 μA, $V_{CE}$ = -5 V, $R_S$ = 1 kΩ, f = 10 Hz to 15.7 kHz | | 4 | dB |
| $t_{ON}$ | Turn-On Time | $V_{CC}$ = -3 V, $V_{BE}$ = -0.5 V, $I_C$ = -10 mA, $I_{B1}$ = -1 mA | | 70 | ns |
| $t_{OFF}$ | Turn-Off Time | $V_{CC}$ = -3 V, $I_C$ = -10 mA, $I_{B1}$ = $I_{B2}$ = 1 mA | | 300 | ns |

**Note:**

2. Pulse test: pulse width ≤ 300 μs, duty cycle ≤ 2.0%.

## Typical Performance Characteristics

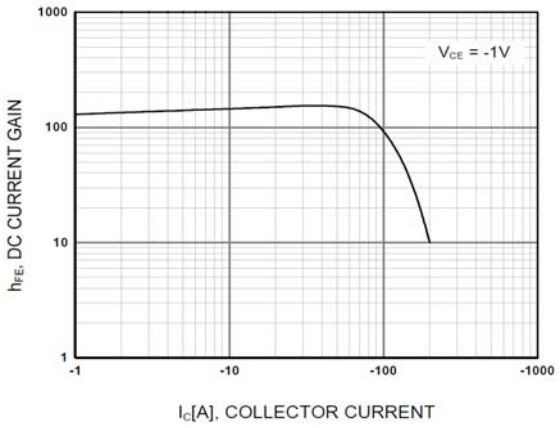



**Figure 1. DC Current Gain**

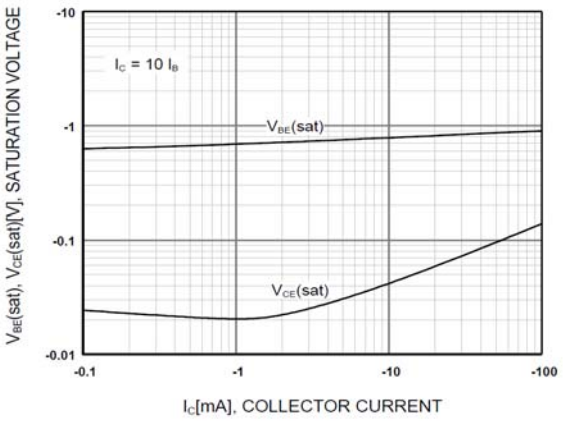



**Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage**

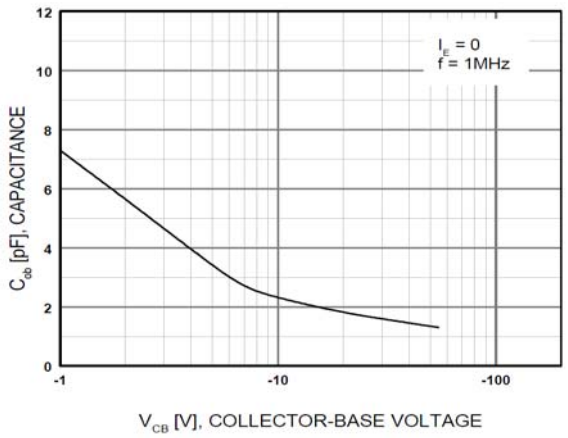



**Figure 3. Output Capacitance**

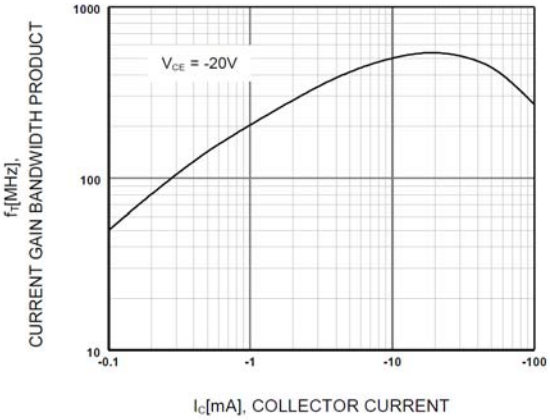



**Figure 4. Current Gain Bandwidth Product**

## Physical Dimensions

SC-70 (SOT-323)

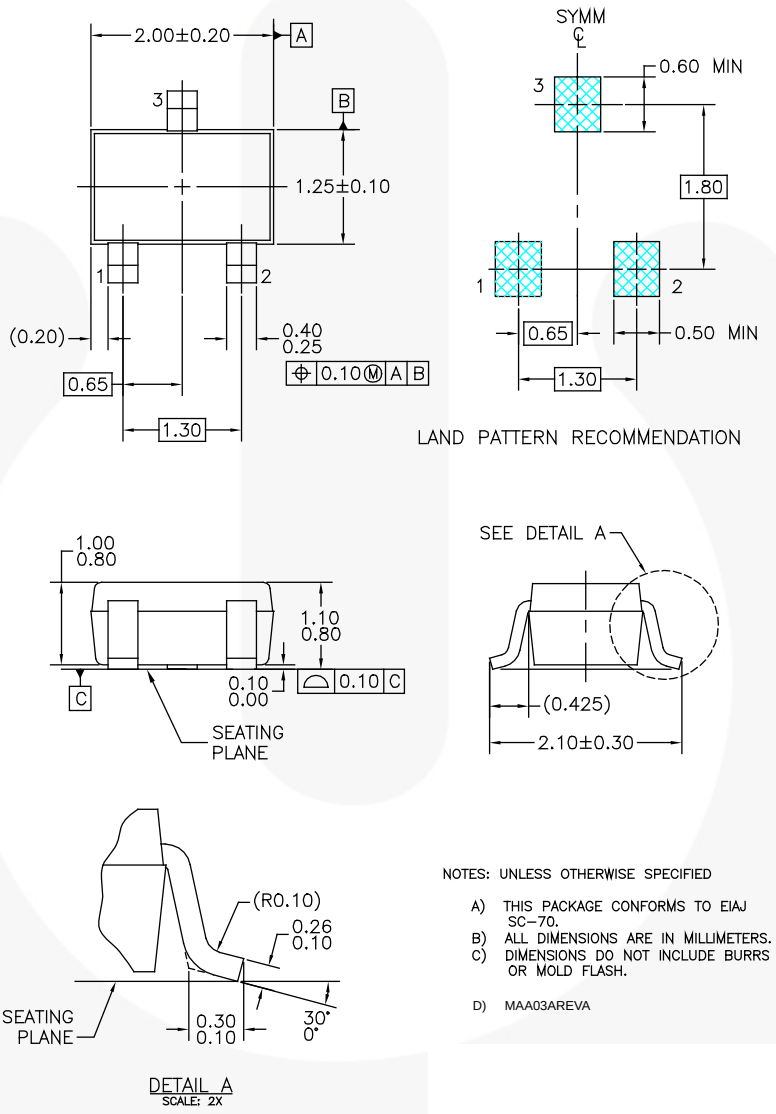



**Figure 5. 3-LEAD, SC90, EIAJ SC-70, 1.25 MM WIDE (ACTIVE)**

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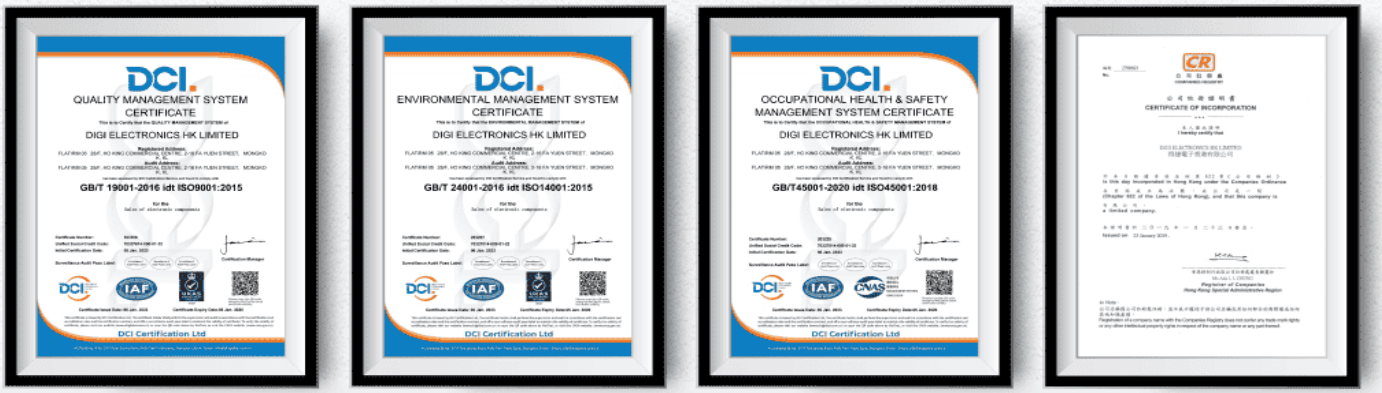



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