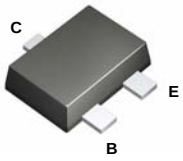
FAIRCHILD SEMICONDUCTOR®

November 2006

FJY4002R
PNP Epitaxial Silicon Transistor

Features

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor (R_1=10KΩ, R_2=10KΩ)
- Complement to FJY3002R



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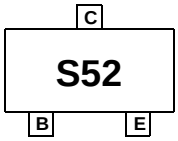
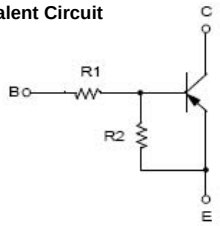


Eqivalent Circuit



Absolute Maximum Ratings * T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-10	V
I_C	Collector Current	-100	mA
T_{STG}	Storage Temperature Range	-55~150	°C
T_J	Junction Temperature	150	°C
P_C	Collector Power Dissipation, by $R_{\theta JA}$	200	mW

* These ratings are limiting values above which the serviceability of any semiconductor device may by impaired.

Thermal Characteristics* T_a=25°C unless otherwise noted

Symbol	Parameter	Max	Units
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	600	°C/W

* Minimum land pad size.

Electrical Characteristics* T_C = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	MIN	Typ	MAX	Units
$V_{(BR)CBO}$	Collector-Emitter Breakdown Voltage	I_C = -10 uA, I_E = 0	-50			V
$V_{(BR)CEO}$	Collector-Base Breakdown Voltage	I_C = -100 uA, I_B = 0	-50			V
I_{CBO}	Collector-Cutoff Current	V_{CB} = -40 V, I_E = 0			-0.1	uA
h_{FE}	DC Current Gain	V_{CE} = -5 V, I_C = -5mA	30			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = -10 mA, I_B = -0.5 mA			-0.3	V
f_T	Current Gain - Bandwidth Product	V_{CE} = -10V, I_C = -5 mA		200		MHz
C_{cb}	Output Capacitance	V_{CB} = -10 V, I_E = 0, f = 1.0 MHz		5.5		pF
$V_{I(off)}$	Input Off Voltage	V_{CE} = -5 V, I_C = -100uA	-0.5			V
$V_{I(on)}$	Input On Voltage	V_{CE} = -0.3V, I_C = -10mA			-3	V
R_1	Input Resistor		7	10	13	KΩ
R_1/R_2	Resistor Ratio		0.9	1.0	1.1	

* Pulse Test: PW≤300μs, Duty Cycle≤2%

Typical Performance Characteristics

Figure 1. DC current Gain

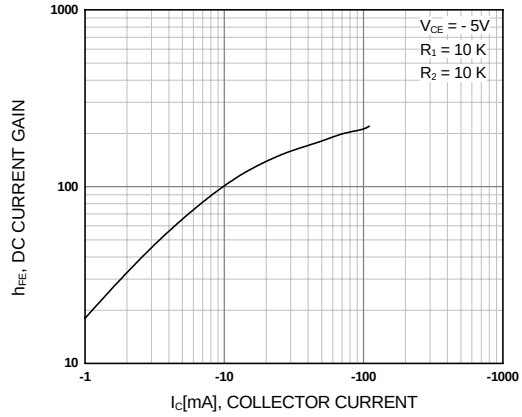


Figure 2. Input On Voltage

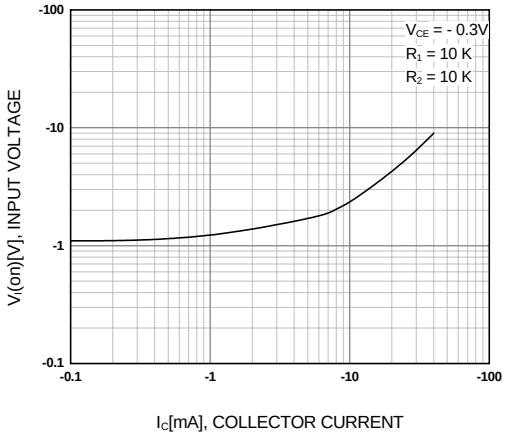


Figure 3. Input off Voltage

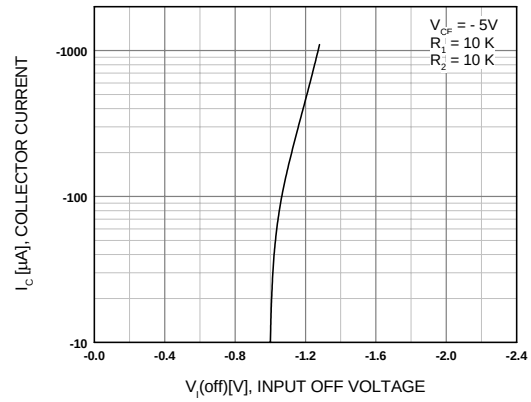
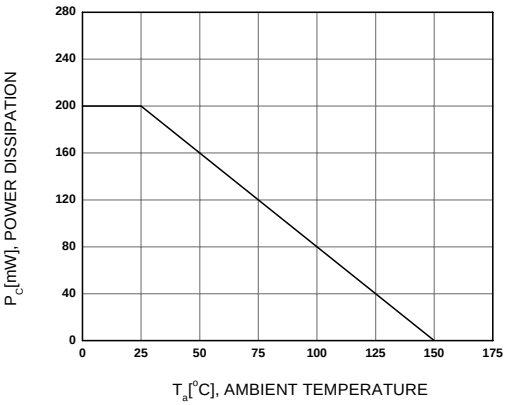
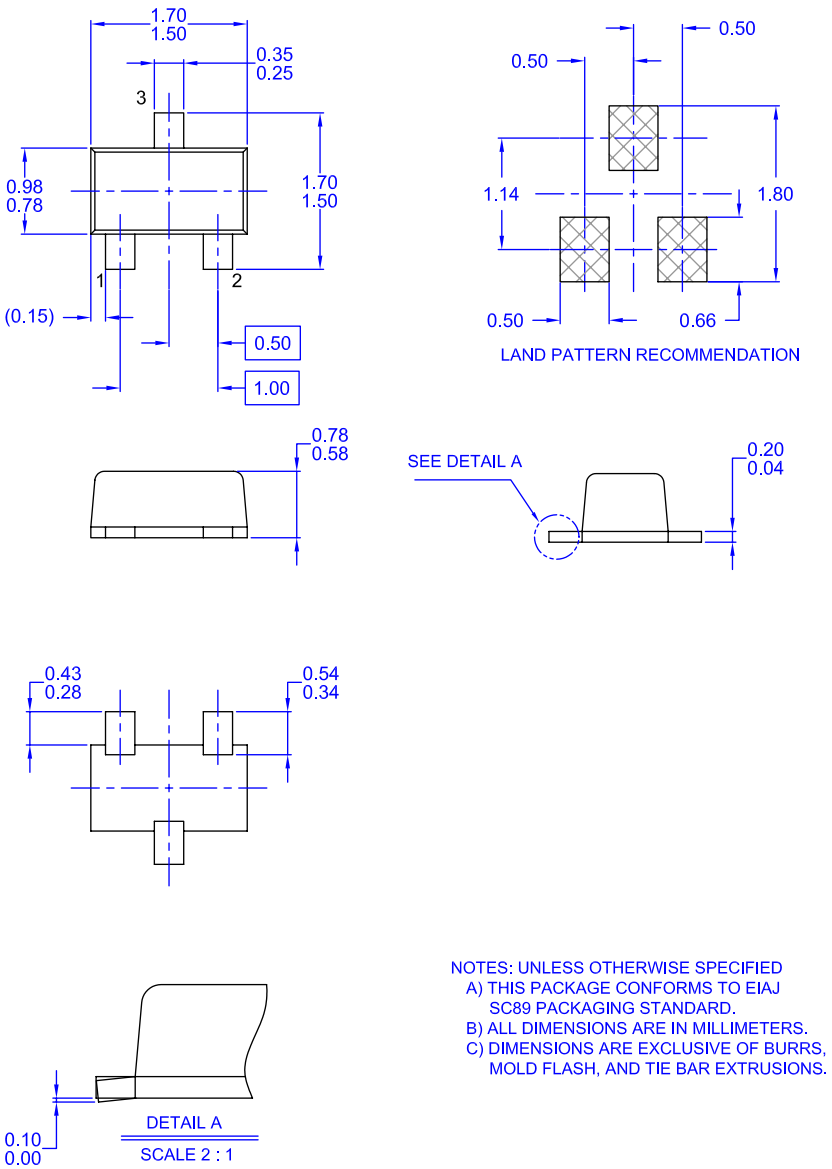


Figure 4. Power Derating



Package Dimensions

SOT-523F



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B) ALL DIMENSIONS ARE IN MILLIMETERS.
C) DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.

Dimensions in Millimeters

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