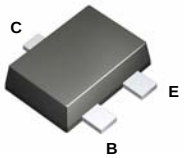
FAIRCHILD SEMICONDUCTOR®

November 2006

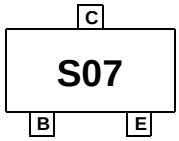
FJY3007R
NPN Epitaxial Silicon Transistor

Features

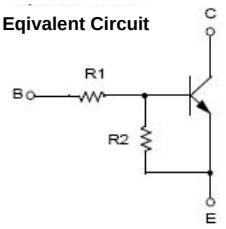
- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor (R1=22KΩ, R2=47KΩ)
- Complement to FJY4007R



SOT − 523F



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 = 5 mA	68			
$V_{CE(sat)}$	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		250		MHz
C_{cb}	Output Capacitance	V_{CB} = 10 V, I_E = 0, f = 1.0 MHz		3.7		pF
$V_{I(off)}$	Input Off Voltage	V_{CE} = 5 V, I_C = 100uA	0.4			V
$V_{I(on)}$	Input On Voltage	V_{CE} = 0.3V, I_C = 2mA			2.5	V
R_1	Input Resistor		15	22	29	KΩ
R_1/R_2	Resistor Ratio		0.42	0.47	0.52	

* Pulse Test: PW≤300μs, Duty Cycle≤2%

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Typical Performance Characteristics

Figure 1. DC current Gain

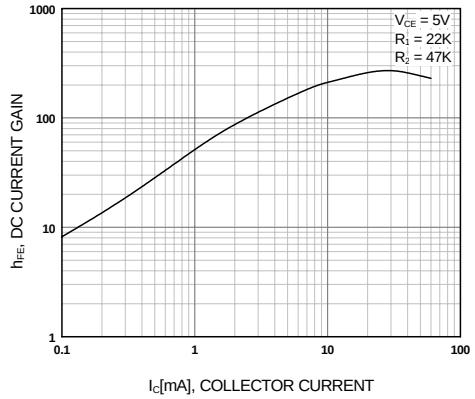


Figure 2. Input On Voltage

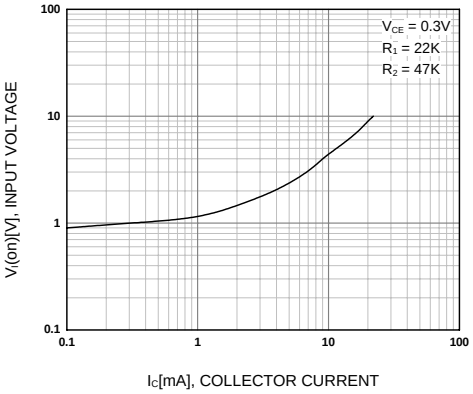


Figure 3. Input off Voltage

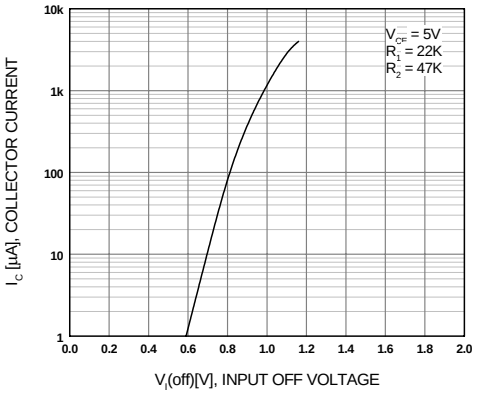
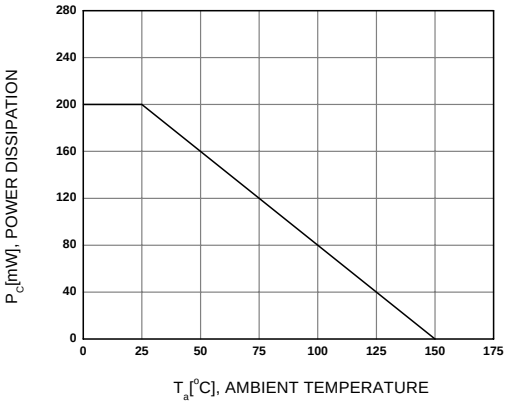
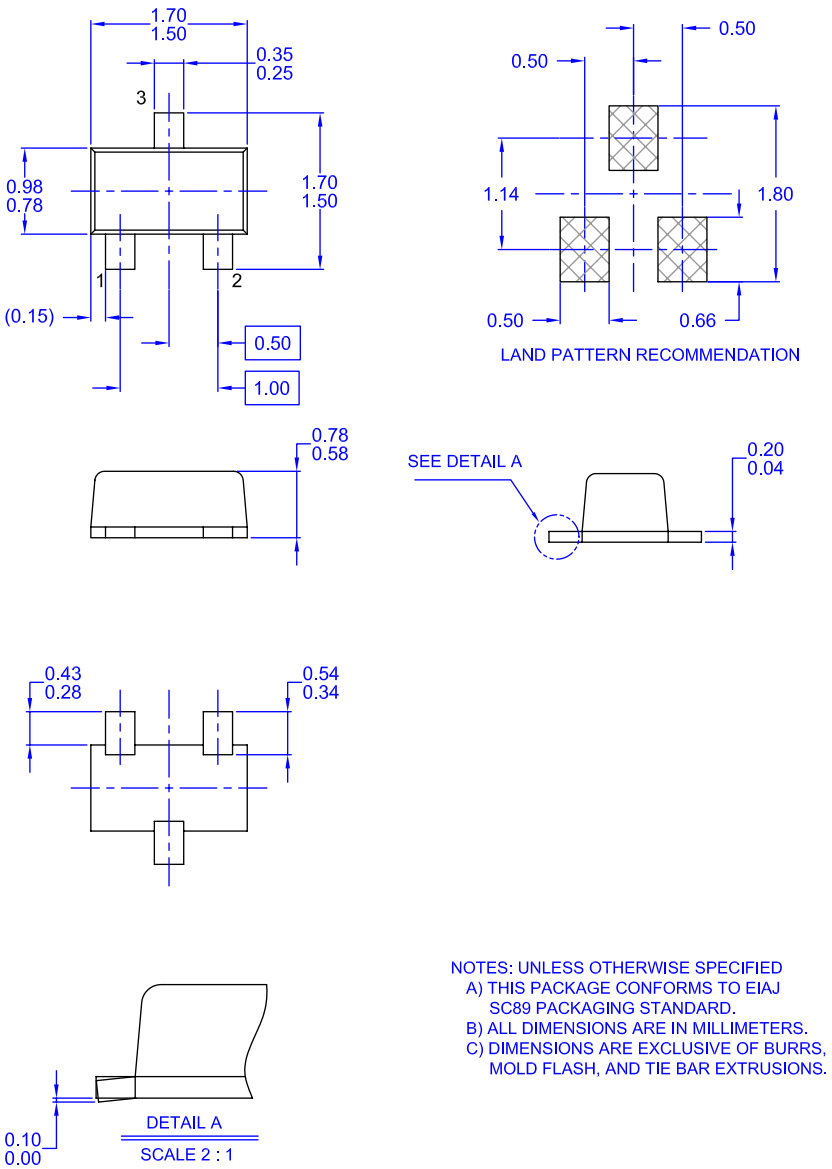


Figure 4. Power Derating



Package Dimensions

SOT-523F



NOTES: UNLESS OTHERWISE SPECIFIED
A) THIS PACKAGE CONFORMS TO EIAJ SC89 PACKAGING STANDARD.
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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FASTr™	MicroPak™	QT Optoelectronics™	TinyPWM™	
FPS™	MICROWIRE™	Quiet Series™	TinyPower™	
FRFET™	MSX™	RapidConfigure™	TinyLogic®	
	MSXPro™	RapidConnect™	TINYOPTO™	
Across the board. Around the world.™		µSerDes™	TruTranslation™	
The Power Franchise®		ScalarPump™	UHC®	
Programmable Active Droop™				

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