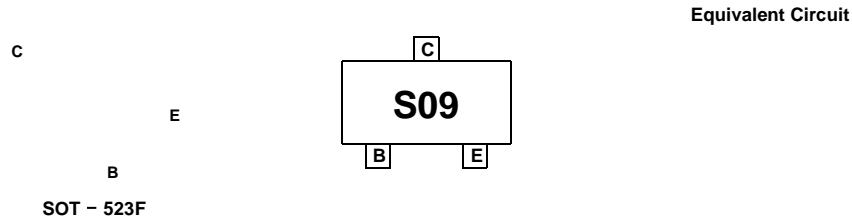


FJY3009R

NPN Epitaxial Silicon Transistor

Features

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor (R=4.7KΩ)
- Complement to FJY4009R



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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	100	mA
T_{STG}	Storage Temperature Range	-55~150	$^\circ\text{C}$
T_J	Junction Temperature	150	$^\circ\text{C}$
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 be impaired.

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

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

* Minimum land pad size.

Electrical Characteristics* $T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	MIN	Typ	MAX	Units
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 100 \mu\text{A}, I_E = 0$	40			V
$V_{(BR)CEO}$	Collector-Base Breakdown Voltage	$I_C = 1 \text{mA}, I_B = 0$	40			V
I_{CBO}	Collector-Cutoff Current	$V_{CB} = 30 \text{V}, I_E = 0$			0.1	μA
h_{FE}	DC Current Gain	$V_{CE} = 5 \text{V}, I_C = 1 \text{mA}$	100		600	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 10 \text{mA}, I_B = 1 \text{mA}$			0.3	V
f_T	Current Gain - Bandwidth Product	$V_{CE} = 10 \text{V}, I_C = 5 \text{mA}$		250		MHz
C_{cb}	Output Capacitance	$V_{CB} = 10 \text{V}, I_E = 0, f = 1.0 \text{MHz}$		3.7		pF
R	Input Resistor		3.2	4.7	6.2	KΩ

* Pulse Test: $PW \leq 300 \mu\text{s}$, Duty Cycle $\leq 2\%$

Typical Performance Characteristics

Figure 1. DC current Gain

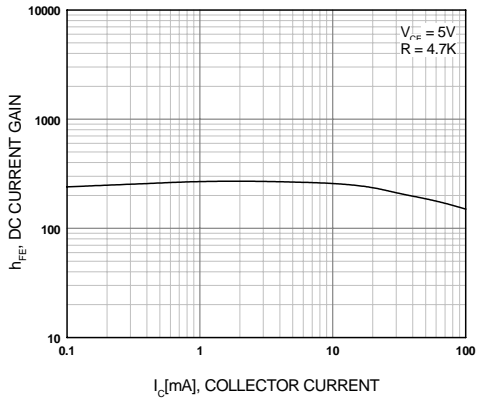


Figure 2. Collector-Emitter Saturation Voltage

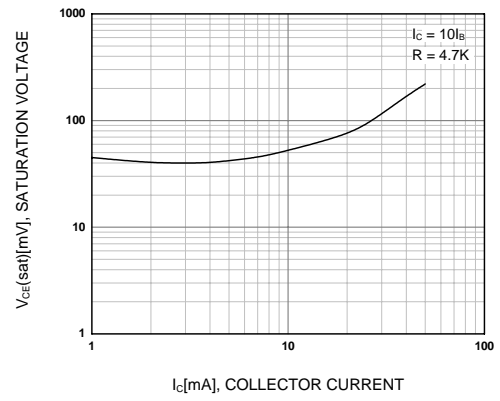
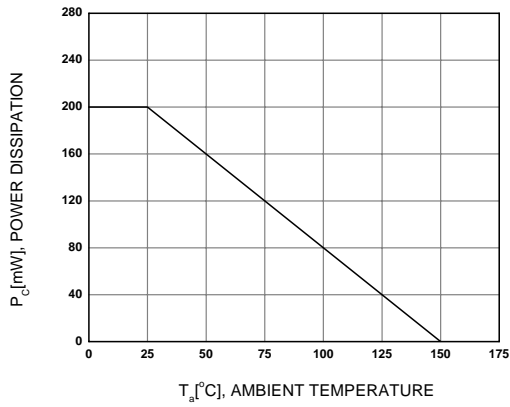


Figure 3. Power Derating





TRADEMARKS

The following are registered and unregistered trademarks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACEx®	HiSeC™
Across the board. Around the world.™	<i>i-Lo</i> ™
ActiveArray™	ImpliedDisconnect™
Bottomless™	IntelliMAX™
Build it Now™	ISOPLANAR™
CoolFET™	MICROCOUPLER™
CROSSVOLT™	MicroPak™
CTL™	MICROWIRE™
Current Transfer Logic™	Motion-SPM™
DOME™	MSX™
E ² CMOS™	MSXPro™
EcoSPARK®	OCX™
EnSigna™	OCXPro™
FACT Quiet Series™	OPTOLOGIC®
FACT®	OPTOPLANAR®
FAST®	PACMAN™™
FASTr™	
FPS™	
FRFET®	
GlobalOptoisolator™	
GTO™	