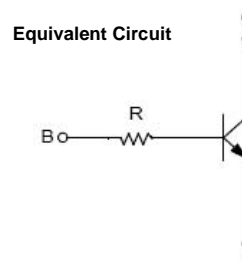
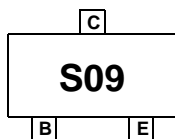
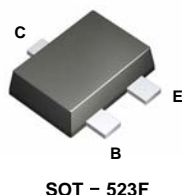


# FJY3009R

## 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.

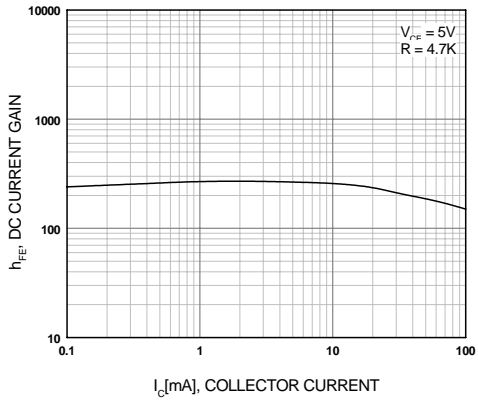
### Electrical Characteristics\* $T_C = 25^\circ\text{C}$ unless otherwise noted

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	$\mu\text{A}$
$h_{FE}$	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
$f_r$	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

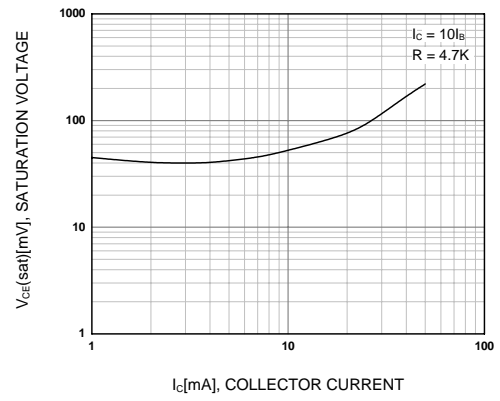
\* Pulse Test:  $PW \leq 300 \mu\text{s}$ , Duty Cycle  $\leq 2\%$

## Typical Performance Characteristics

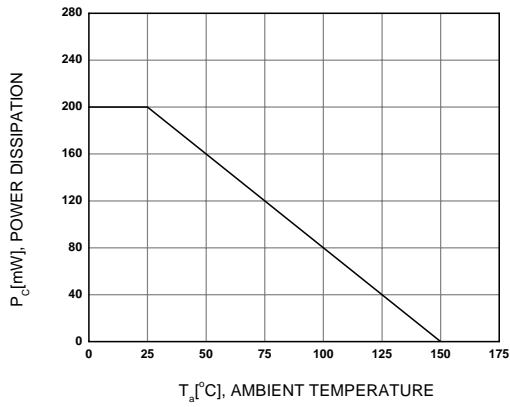
**Figure 1. DC current Gain**



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

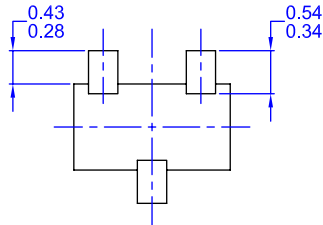
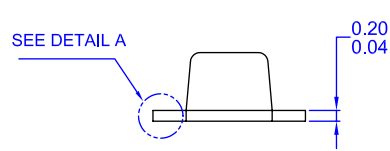
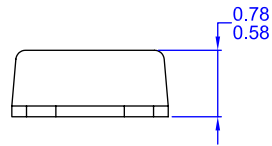
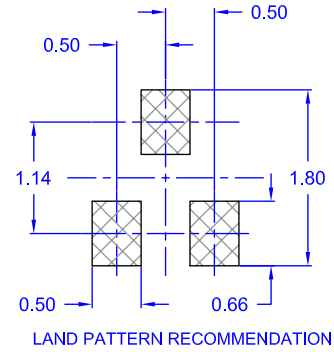
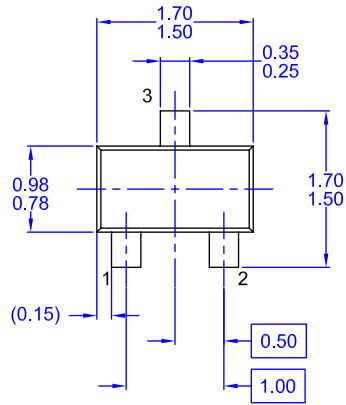


**Figure 3. Power Derating**



# Package Dimensions

## SOT-523F




- NOTES: UNLESS OTHERWISE SPECIFIED  
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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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EcoSPARK®	OCX™	SPM®	Wire™
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FACT®	OPTOPLANAR®	SuperSOT™-3	
FAST®	PACMAN™	SuperSOT™-6	
FASTr™	PDP-SPM™	SuperSOT™-8	
FPS™	POP™	SyncFET™	
FRFET®	Power220®	TCM™	
GlobalOptoisolator™	Power247®	The Power Franchise®	
GTO™	PowerEdge™		

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