



**THE DATASHEET OF  
FJY4013R**



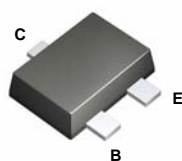


# FJY4013R

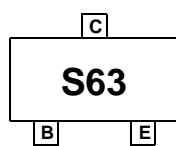
## PNP Epitaxial Silicon Transistor

### Features

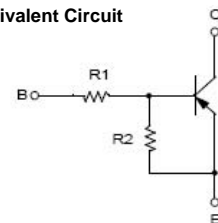
- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor ( $R_1=2.2K\Omega$ ,  $R_2=47K\Omega$ )
- Complement to FJY3013R



SOT - 523F



Equivalent Circuit



### Absolute Maximum Ratings\* $T_a=25^\circ\text{C}$ 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	$^\circ\text{C}$
$T_J$	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.

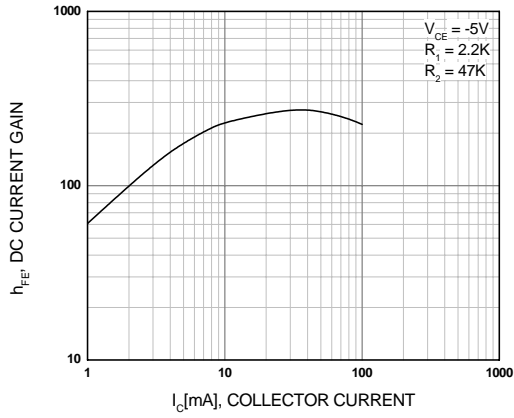
### Electrical Characteristics\* $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	MIN	Typ	MAX	Units
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -10 \mu\text{A}$ , $I_E = 0$	-50			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -100 \mu\text{A}$ , $I_B = 0$	-50			V
$I_{CBO}$	Collector-Cutoff Current	$V_{CB} = -40 \text{V}$ , $I_E = 0$			-0.1	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE} = -5 \text{V}$ , $I_C = -5 \text{mA}$	68			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -10 \text{mA}$ , $I_B = -0.5 \text{mA}$			-0.3	V
$f_T$	Current Gain - Bandwidth Product	$V_{CE} = -10 \text{V}$ , $I_C = -5 \text{mA}$		200		MHz
$C_{cb}$	Output Capacitance	$V_{CB} = -10 \text{V}$ , $I_E = 0$ , $f = 1.0 \text{MHz}$		5.5		pF
$V_{I(off)}$	Input Off Voltage	$V_{CE} = -5 \text{V}$ , $I_C = -100 \mu\text{A}$	-0.5			V
$V_{I(on)}$	Input On Voltage	$V_{CE} = -0.2 \text{V}$ , $I_C = -10 \text{mA}$			-1.1	V
$R_1$	Input Resistor		1.5	2.2	2.9	$K\Omega$
$R_1/R_2$	Resistor Ratio		0.042	0.047	0.052	

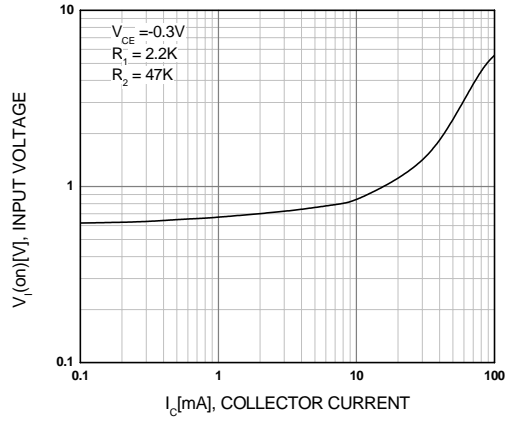
\* Pulse Test:  $PW \leq 300 \mu\text{s}$ , Duty Cycle  $\leq 2\%$

## Typical Performance Characteristics

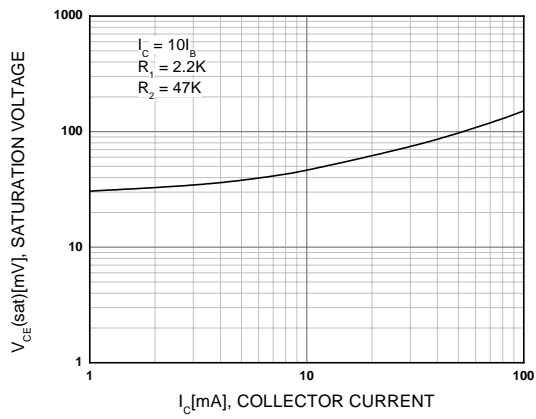
**Figure 1. DC current Gain**



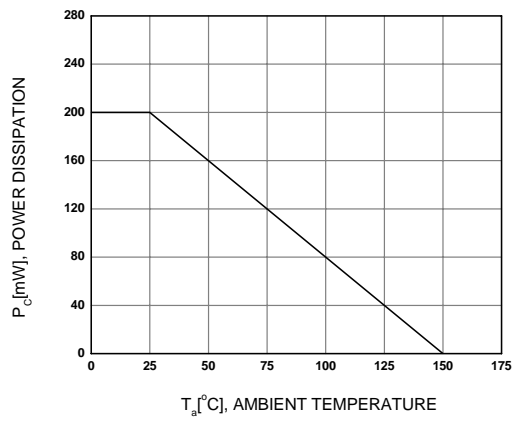
**Figure 2. Input On Voltage**



**Figure 3. Collector-Emitter Saturation Voltage**

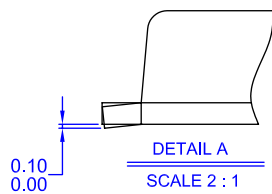
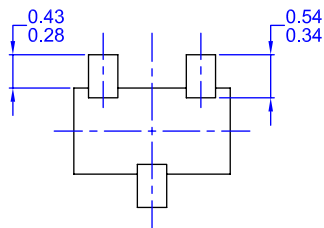
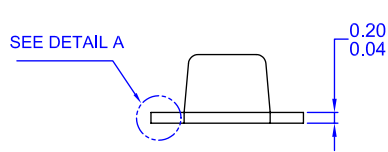
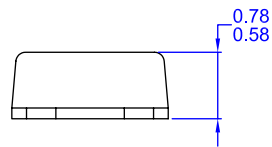
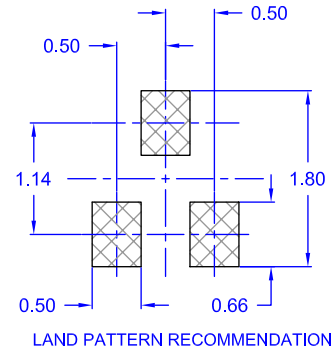
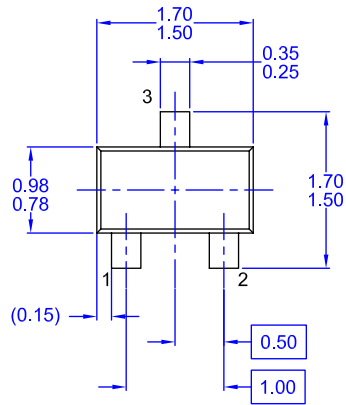


**Figure 4. Power Derating**



# Package Dimensions

## SOT-523F




- NOTES: UNLESS OTHERWISE SPECIFIED  
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Dimensions in Millimeters



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