

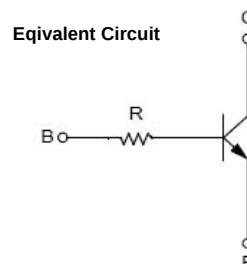
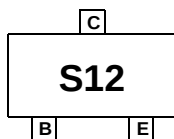
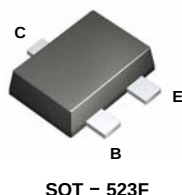


FJY3012R

NPN Epitaxial Silicon Transistor

Features

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor ($R=47K\Omega$)
- Complement to FJY4012R



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	$^\circ\text{C/W}$

* 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_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		32	47	62	$K\Omega$

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

Typical Performance Characteristics

Figure 1. DC current Gain

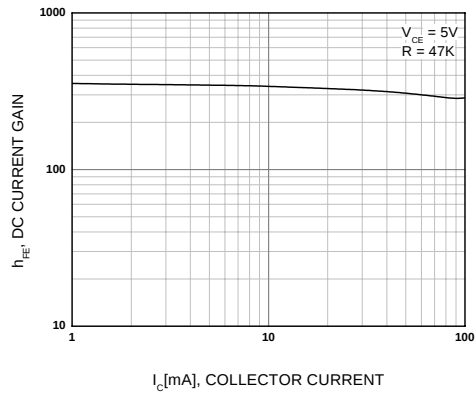


Figure 2. Collector-Emitter Saturation Voltage

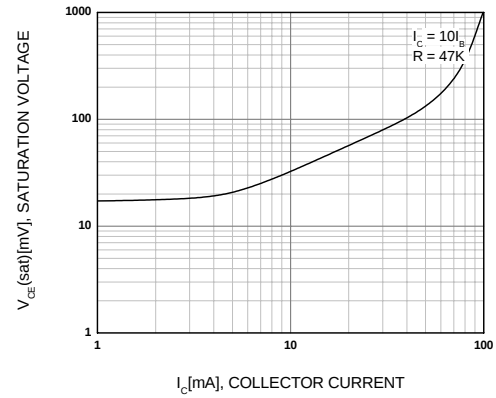
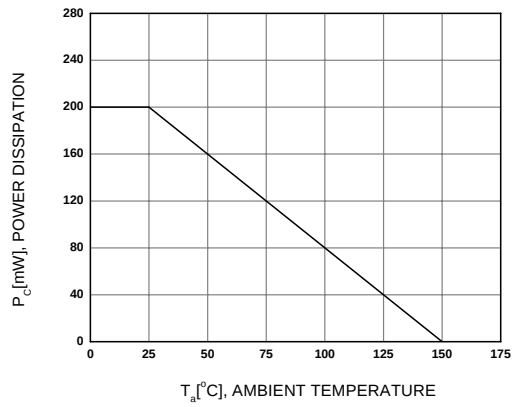


Figure 3. Power Derating



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