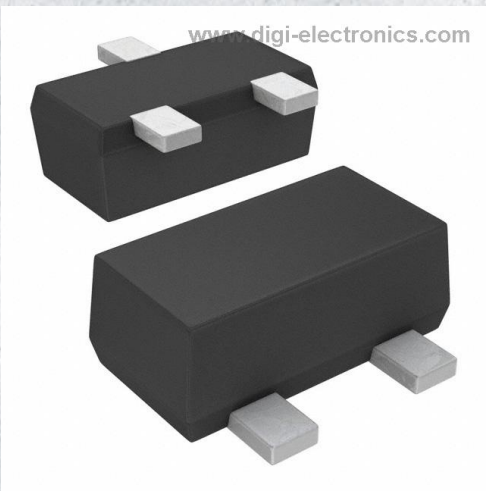
FJY3013R Datasheet



https://www.DiGi-Electronics.com

DiGi Electronics Part Number	FJY3013R-DG
Manufacturer	onsemi
Manufacturer Product Number	FJY3013R
Description	TRANS PREBIAS NPN 50V SC89-3
Detailed Description	Pre-Biased Bipolar Transistor (BJT) NPN - Pre-Biased 50 V 100 mA 250 MHz 200 mW Surface Mount SC-89-3

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
FJY3013R	onsemi
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN - Pre-Biased	100 mA
Voltage - Collector Emitter Breakdown (Max):	Resistor - Base (R1):
50 V	2.2 kOhms
Resistor - Emitter Base (R2):	DC Current Gain (hFE) (Min) @ Ic, Vce:
47 kOhms	56 @ 5mA, 5V
Vce Saturation (Max) @ Ib, Ic:	Current - Collector Cutoff (Max):
300mV @ 500µA, 10mA	100nA (ICBO)
Frequency - Transition:	Power - Max:
250 MHz	200 mW
Mounting Type:	Package / Case:
Surface Mount	SC-89, SOT-490
Supplier Device Package:	Base Product Number:
SC-89-3	FJY301

Environmental & Export classification

Moisture Sensitivity Level (MSL):	REACH Status:
1 (Unlimited)	REACH Unaffected
ECCN:	HTSUS:
EAR99	8541.21.0075

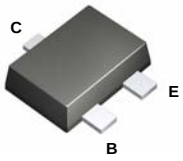
FAIRCHILD SEMICONDUCTOR®

July 2007

FJY3013R
NPN Epitaxial Silicon Transistor

Features

- Switching circuit, Inverter, Interface circuit, Driver Circuit
- Built in bias Resistor (R1=2.2KΩ, R2=47KΩ)
- Complement to FJY4013R



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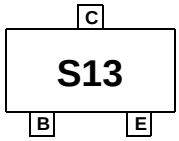
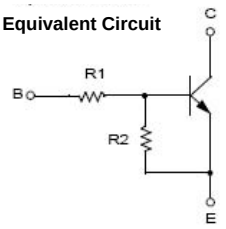


Equivalent Circuit



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	56			
$V_{CE(sat)}$	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	0.5			V
$V_{I(on)}$	Input On Voltage	V_{CE} = 0.2V, I_C = 5mA			1.1	V
R_1	Input Resistor		1.5	2.2	2.9	KΩ
R_1/R_2	Resistor Ratio		0.042	0.047	0.052	

* Pulse Test: PW≤300μs, Duty Cycle≤2%

Typical Performance Characteristics

Figure 1. DC current Gain

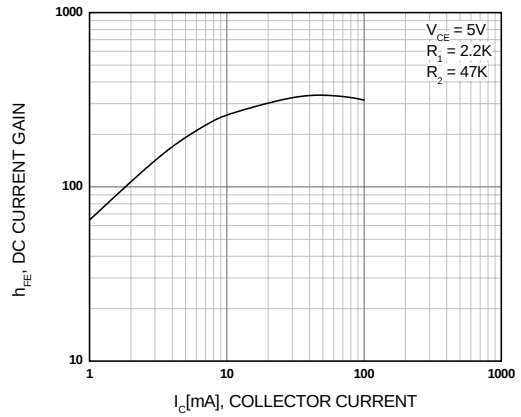


Figure 2. Input On Voltage

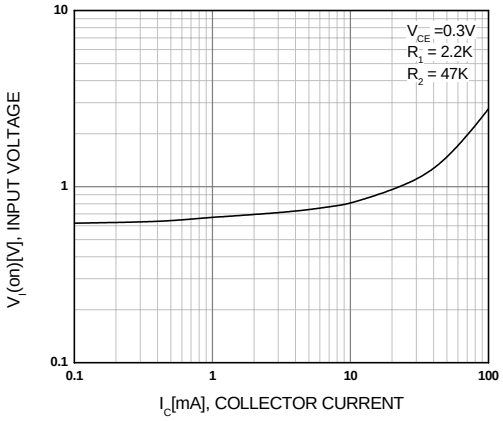


Figure 3. Collector-Emitter Saturation Voltage

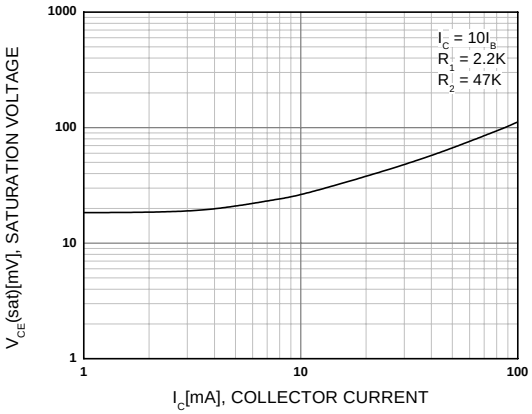
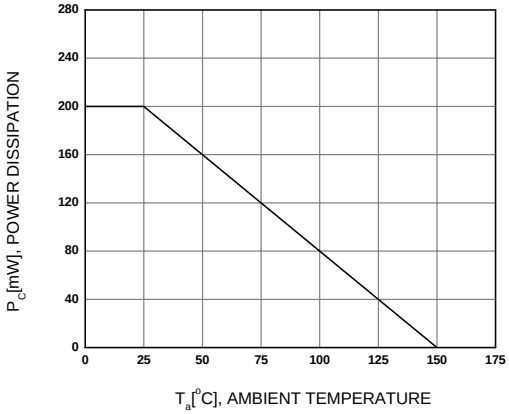
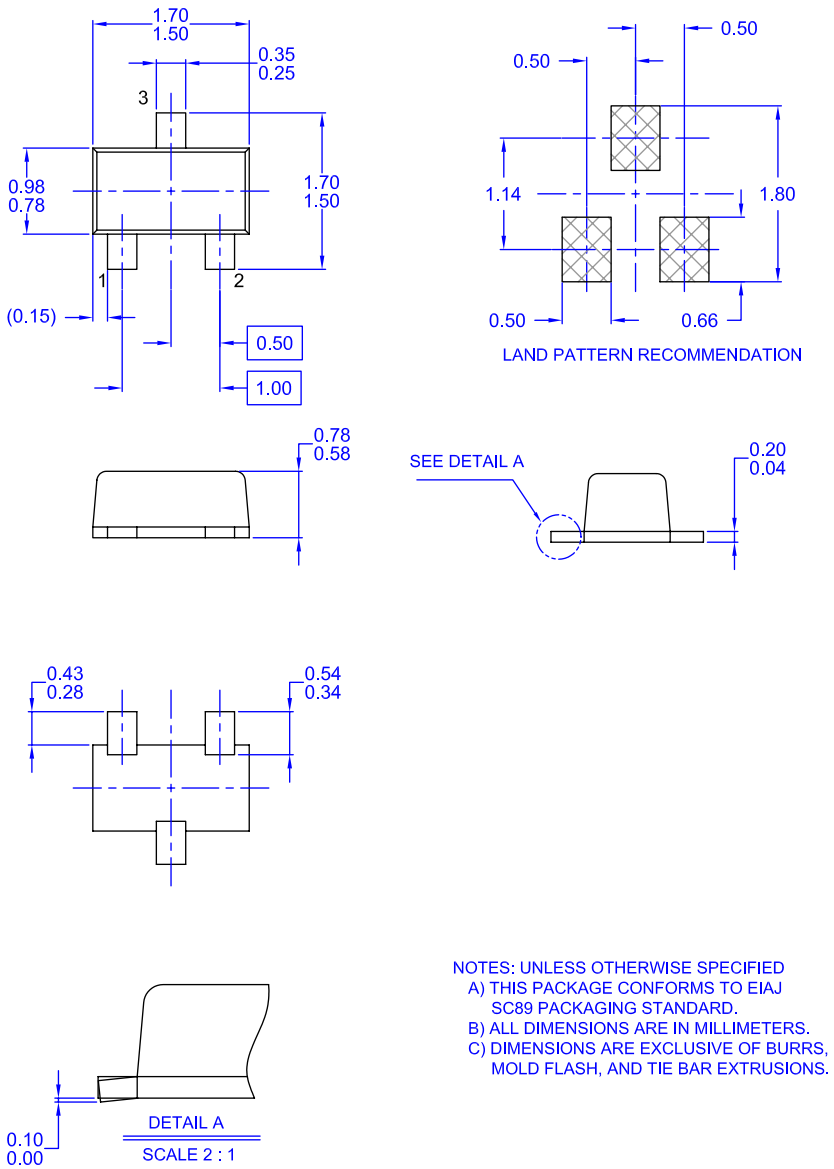


Figure 4. Power Derating



Package Dimensions

SOT-523F



NOTES: UNLESS OTHERWISE SPECIFIED
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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Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild Semiconductor. The datasheet is printed for reference information only.

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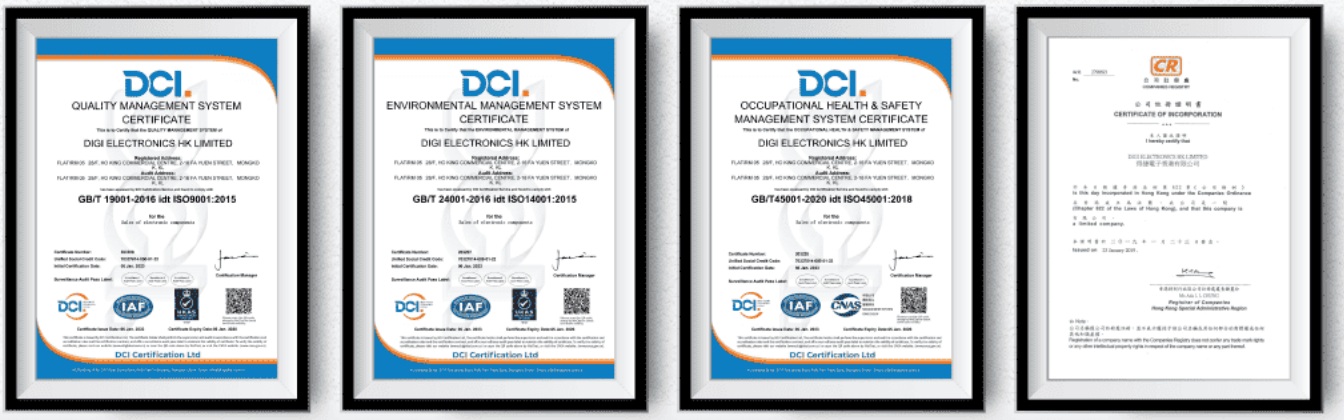

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