

# FJY3013R Datasheet

Di

Mar



FJY3013R-DG
onsemi
FJY3013R
TRANS PREBIAS NPN 50V SC89-3
Pre-Biased Bipolar Transistor (BJT) NPN - Pre-Biase d 50 V 100 mA 250 MHz 200 mW Surface Mount SC- 89-3

https://www.DiGi-Electronics.com



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.



# 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) @ lc, Vce:
47 kOhms	56 @ 5mA, 5V
Vce Saturation (Max) @ lb, lc:	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



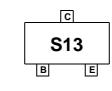


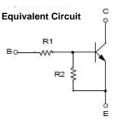
# FJY3013R NPN Epitaxial Silicon Transistor

### Features

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







## Absolute Maximum Ratings \* T<sub>a</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	50	V
V <sub>CEO</sub>	Collector-Emitter Voltage	50	V
V <sub>EBO</sub>	Emitter-Base Voltage	10	V
I <sub>C</sub>	Collector Current	100	mA
T <sub>STG</sub>	Storage Temperature Range	-55~150	°C
TJ	Junction Temperature	150	°C
P <sub>C</sub>	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<sub>a</sub>=25°C unless otherwise noted

Symbol	Parameter	Max	Units
$R_{ extsf{ heta}JA}$	Thermal Resistance, Junction to Ambient	600	°C/W

\* Minimum land pad size.

## Electrical Characteristics\* T<sub>c</sub> = 25°C unless otherwise noted

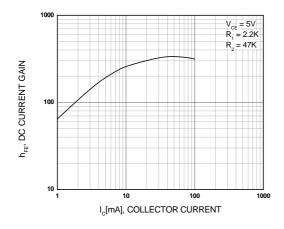
Symbol	Parameter	Test Condition	MIN	Тур	MAX	Units
V(BR)CBO	Collector-Emitter Breakdown Voltage	Ic = 10 uA, IE = 0	50			V
V(BR)CEO	Collector-Base Breakdown Voltage	Ic = 100 uA, I <sub>B</sub> = 0	50			V
Ісво	Collector-Cutoff Current	$V_{CB} = 40 \text{ V}, I_E = 0$			0.1	uA
hfe	DC Current Gain	Vce = 5 V, Ic = 5 mA	56			
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	Ic = 10 mA, I <sub>B</sub> = 0.5 mA			0.3	V
f⊤	Current Gain - Bandwidth Product	Vce = 10V, Ic = 5 mA		250		MHz
Ccb	Output Capacitance	Vcb = 10 V, IE = 0, f = 1.0 MHz		3.7		pF
VI(off)	Input Off Voltage	Vce = 5 V, Ic = 100uA	0.5			V
VI(on)	Input On Voltage	$V_{CE} = 0.2V, I_{C} = 5mA$			1.1	V
R1	Input Resistor		1.5	2.2	2.9	KΩ
R1/R2	Resistor Ratio		0.042	0.047	0.052	
Pulse Test: PW≤3	300μs, Duty Cycle≤2%	-				

©2006 Fairchild Semiconductor Corporation FJY3013R Rev. B

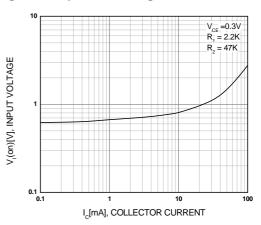
July 2007

## **Typical Performance Characteristics**

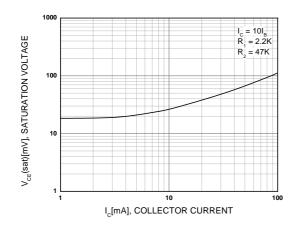
#### Figure 1. DC current Gain



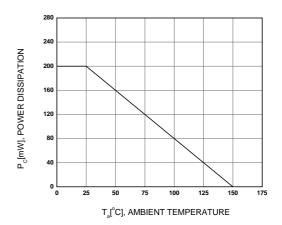
#### Figure 2. Input On Voltage

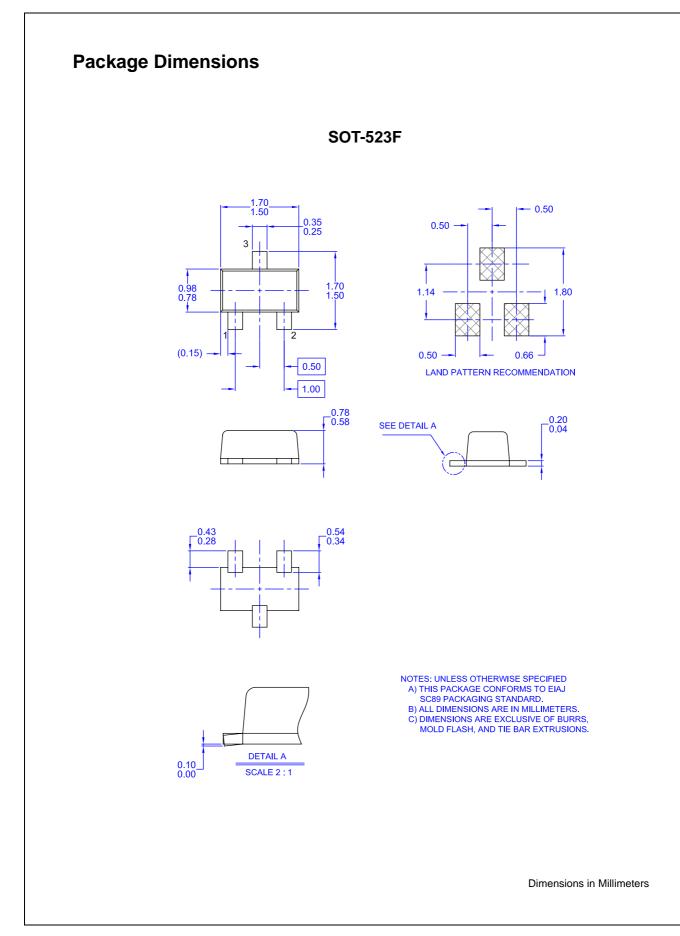


#### Figure 3. Collector-Emitter Saturation Voltage



#### Figure 4. Power Derating







SEMICONDUCTOR

#### 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.

ACE $x^{@}$ Across the board. Around the world. <sup>TM</sup> ActiveArray <sup>TM</sup> Bottomless <sup>TM</sup> Build it Now <sup>TM</sup> CoolFET <sup>TM</sup> COOLFET <sup>TM</sup> CROSSVOLT <sup>TM</sup> CTL <sup>TM</sup> Current Transfer Logic <sup>TM</sup> DOME <sup>TM</sup> E <sup>2</sup> CMOS <sup>TM</sup> EcoSPARK <sup>®</sup> Ensigna <sup>TM</sup> FACT <sup>®</sup> FAST <sup>®</sup>	HiSeC <sup>TM</sup> <i>i-Lo</i> <sup>TM</sup> ImpliedDisconnect <sup>TM</sup> IntelliMAX <sup>TM</sup> ISOPLANAR <sup>TM</sup> MICROCOUPLER <sup>TM</sup> MicroPak <sup>TM</sup> MICROWIRE <sup>TM</sup> MICROWIRE <sup>TM</sup> MOTOIO-SPM <sup>TM</sup> MSX <sup>TM</sup> MSXPro <sup>TM</sup> OCX <sup>TM</sup> OCX <sup>TM</sup> OCXPro <sup>TM</sup> OPTOLOGIC <sup>®</sup> OPTOLOGIC <sup>®</sup> OPTOPLANAR <sup>®</sup> PACMAN <sup>TM</sup> PDP-SPM <sup>TM</sup> POP <sup>TM</sup> Power220 <sup>®</sup> Power247 <sup>®</sup>	PowerSaver <sup>™</sup> PowerTrench <sup>®</sup> Programmable Active Droop <sup>™</sup> QFET <sup>®</sup> QS <sup>™</sup> QT Optoelectronics <sup>™</sup> Quiet Series <sup>™</sup> RapidConfigure <sup>™</sup> RapidConnect <sup>™</sup> ScalarPump <sup>™</sup> SMART START <sup>™</sup> SMART START <sup>™</sup> SMART START <sup>™</sup> SUP STEALTH <sup>™</sup> SuperFET <sup>™</sup> SuperSOT <sup>™</sup> -3 SuperSOT <sup>™</sup> -6 SuperSOT <sup>™</sup> -8 SyncFET <sup>™</sup> TCM <sup>™</sup> The Power Franchise <sup>®</sup>	TinyBoost™ TinyBuck™ TinyLogic® TINYOPTO™ TinyPower™ TruTranslation™ µSerDes™ UHC® UniFET™ VCX™ Wire™
GlobalOptoisolator™ GTO™	Power247 <sup>®</sup> PowerEdge™	The Power Franchise <sup>®</sup>	
	0		

#### DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

#### LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION.

As used herein:

- which, (a) are intended for surgical implant into the body or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
- 1. Life support devices or systems are devices or systems 2. A critical component in any component of a life support, device, or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT S	STATUS DE	FINITIONS
-----------	-----------	-----------

#### **Definition of Terms**

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
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.



# **OUR CERTIFICATE**

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we striciy control the quality of products and services. Welcome your RFQ to Email: Info@DiGi-Electronics.com

DCI	DCI	DCI	
QUALITY MANAGEMENT SYSTEM	ENVIRONMENTAL MANAGEMENT SYSTEM	OCCUPATIONAL HEALTH & SAFETY	0428248
CERTIFICATE	CERTIFICATE	MANAGEMENT SYSTEM CERTIFICATE	CERTIFICATE OF INCORPORATION
DIGI ELECTRONICS HK LIMITED	DIGI ELECTRONICS HK LIMITED	DIGI ELECTRONICS HK LIMITED	A. A. B. A. B. W. Dentify weldy that
FLAT RENOS 1054, NO HANG COMMERCIAL CONTREL OVERTA NUCH STREET, MONGHO	PLATERALISE 25/7, HO HORD COMMERCIAL COMMERCIAL MATA YORK STREET, MONORO	PLATERALIS 25/7, HO HONG COMMITTING COMMITTING A MATA YORN STREET, MONORO	DELE REACTION OF A COMPANY OF
TLATING STAF. HO HAVE COMMERCIAL COLUMN 2 FIETA TURN STREET, MCMORD	RAMEANING 2547, HO HONO COMMINICAL DI NERA VIEN STREET, INCHORO	RAMENDE 254, HO HING COMMITCIN, EN HINA VUEN STREET, MONGHO	
GB/T 19001-2016 kdt ISO9001:2015	GB/T 24001-2016 idt ISO14001:2015	GB/T45001-2020 idt ISO45001:2018	It is it is it is a start in the start in the start is a start in the start in the start is a start in the start in the start is a start in the start in the start is a start in the start in th
No file	for the	To the second of the second se	A=0 , $A=A=A=0$ , $A=0$ , $A=0$ , $C=0$ (Theoler 422 of the Laws of Hang Kong), and that this company is $X=A=0$ , $A=0$
			* Smith company.
	Indicational and Party and Indiana	terturinen Hill	farmed on 23 James 201.
endowthater bes. H. An HED Contraction Theory Contraction Theory	Mark 1991 Annu 1991 Hans 1991 Annu 1991 Constants Resuge	Interfactions fam Wilks 2001	Kin
000			●混合約51日の日本式を発展か MAABLE DEMO
			Perghanar of Companies Hung-Keng Special Administrative Region
Territoria de la 163 Centra la 164	Gentland inter H an Hit Gentland faith an Hit	Gentrate Insuring Mark Mills Gentrate Fairly Security Security	4. Npm: 公司委員会司的政策改將:並不見不僅從了但公司並承兑其他的部分必須發展或各所 其他的意思報。
The state is a state of the sta	The adults areas of the indicates of the adult has been been been to reach the adult of the adults are solved, seen of the or reach the adult of the product of the adult of the product of the adult of the adult of the adult of the adult of the adult of	The states sense (1) is addressed of the states and particle sequences and not so under the states are obligations and it is addressed and addressed and particle sequences and the state and the states are obligations and the states and the states and the states are statestates are states are statestates are statestatestatestatestatesta	Pageteleter of a company same with the Companies Rigging takes not confer any tools main lights or any other Reliastual pagenty rights to request of the sampany, same or any part Remail.
A delay de 2014 sector del referencien bezar bas dels tels metal seto sec	DEI Certification Ltd	Access for 12 for any has been been been been been and the second second	





Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.