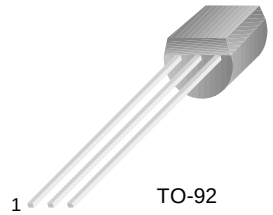
FAIRCHILD
SEMICONDUCTOR®

2N5401

Amplifier Transistor

- Collector-Emitter Voltage: V_{CEO}= 150V
- Collector Dissipation: P_C (max)=625mW
- Suffix “-C” means Conter Collector (1. Emitter 2. Collector 3. Base)



TO-92

1. Emitter 2. Base 3. Collector

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-160	V
V_{CEO}	Collector-Emitter Voltage	-150	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-600	mA
P_C	Collector Dissipation	625	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C= -100μA, I_E=0	-160			V
BV_{CEO}	* Collector-Emitter Breakdown Voltage	I_C= -1mA, I_B=0	-150			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E= -10μA, I_C=0	-5			V
I_{CBO}	Collector Cut-off Current	V_{CB}= -120V, I_E=0			-50	nA
I_{EBO}	Emitter Cut-off Current	V_{EB}= -3V, I_C=0			-50	nA
h_{FE}	* DC Current Gain	I_C= -1mA, V_{CE}= -5V I_C= -10mA, V_{CE}= -5V I_C= -50mA, V_{CE}= -5V	30 60 50		 240	
V_{CE} (sat)	* Collector-Emitter Saturation Voltage	I_C= -10mA, I_B= -1mA I_C= -50mA, I_B= -5mA			-0.2 -0.5	V V
V_{BE} (sat)	* Base-Emitter Saturation Voltage	I_C= -10mA, I_B= -1mA I_C= -50mA, I_B= -5mA			-1 -1	V V
f_T	Current Gain Bandwidth Product	I_C= -10mA, V_{CE}= -10V, f=100MHz	100		400	MHz
C_{ob}	Output Capacitance	V_{CB}= -10V, I_E=0, f=1MHz			6	pF
N_F	Noise Figure	I_C= -250μA, V_{CE}= -5V R_S=1KΩ f=10Hz to 15.7KHz			8	dB

* Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

Typical Characteristics

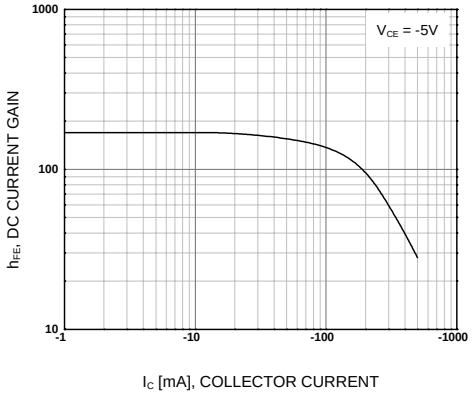


Figure 1. DC current Gain

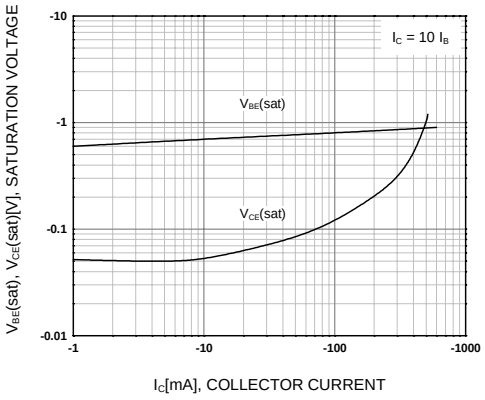


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

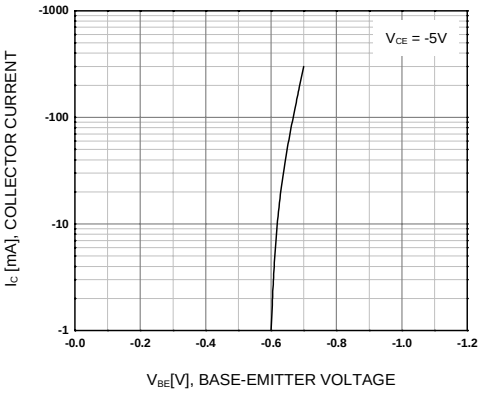


Figure 3. Base-Emitter On Voltage

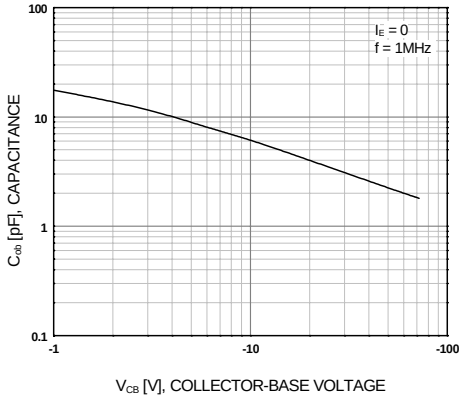


Figure 4. Output Capacitance

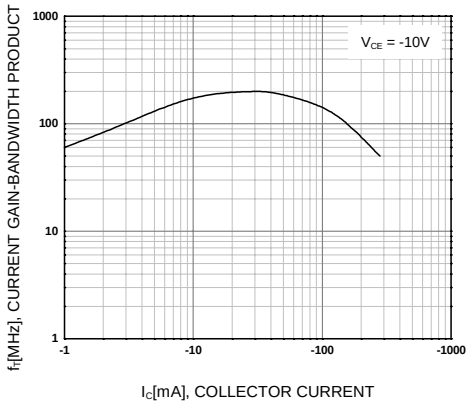
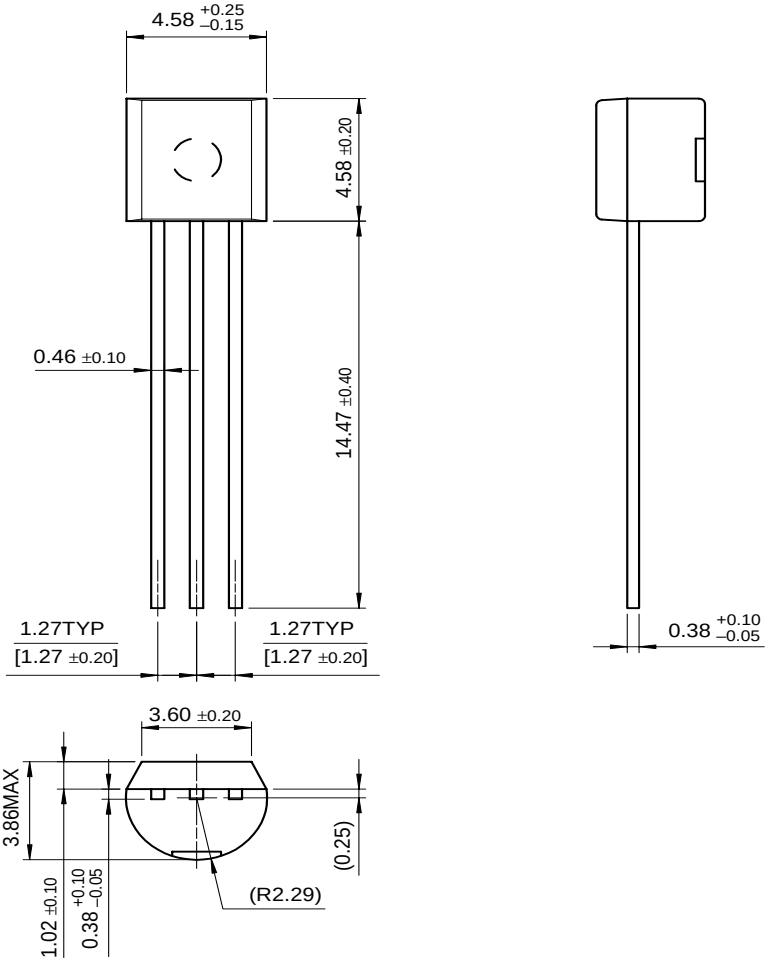


Figure 5. Current Gain Bandwidth Product

Package Dimensions

TO-92



Dimensions in Millimeters

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I^2C™
i-Lo™
ImpliedDisconnect™
ISOPLANAR™
LittleFET™
MICROCOUPLER™
MicroFET™
MicroPak™
MICROWIRE™
MSX™
MSXPro™
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PRODUCT STATUS DEFINITIONS

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, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order 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 in order 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.

2N5401

PNP General Purpose Amplifier

Contents

Features

- Collector-Emitter Voltage: VCEO= 150V
- Collector Dissipation: PC (max)=625mW
- Suffix “-C” means Conter Collector (1. Emitter 2. Collector 3. Base)

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BUY

Datasheet

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e-mail this datasheet

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Print version

Related Links

- Request samples
- How to order products
- Product Change Notices (PCNs)
- Support
- Sales support
- Quality and reliability
- Design center

Product status/pricing/packaging BUY

Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
2N5401BU	Full Production	Full Production	$0.0281	TO-92	3	BULK	Line 1: 2N Line 2: 5401 Line 3: -&3
2N5401CTA	Full Production	Full Production	$0.0281	TO-92	3	AMMO	Line 1: 2N Line 2: 5401 Line 3: C&3
2N5401NLBU	Full Production	Full Production	$0.0281	TO-92	3	BULK	Line 1: 2N Line 2: 5401 Line 3: -&3
2N5401TA	Full Production		$0.0281	TO-92	3	AMMO	Line 1: 2N Line 2: 5401 Line 3: -&3

		Full Production					
2N5401TAR	Full Production	Full Production	$0.0281	TO-92	3	AMMO	Line 1: 2N Line 2: 5401 Line 3: -&3
2N5401TF	Full Production	Full Production	$0.0281	TO-92	3	TAPE REEL	Line 1: 2N Line 2: 5401 Line 3: -&3
2N5401TFR	Full Production	Full Production	$0.0281	TO-92	3	TAPE REEL	Line 1: 2N Line 2: 5401 Line 3: -&3
2N5401_D81Z	Full Production	Full Production	N/A	TO-92	3	TAPE REEL	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: 2N Line 3: 5401
2N5401_J05Z	Full Production	Full Production	N/A	TO-92	3	BULK	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: 2N Line 3: 5401
2N5401_J61Z	Full Production	Full Production	N/A	TO-92	3	BULK	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: 2N Line 3: 5401

* Fairchild 1,000 piece Budgetary Pricing
** A sample button will appear if the part is available through Fairchild's on-line samples program. If there is no sample button, please contact a Fairchild distributor to obtain samples

Indicates product with Pb-free second-level interconnect. For more information click here.

Package marking information for product 2N5401 is available. Click here for more information .

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Models

Package & leads	Condition	Temperature range	Software version	Revision date
PSPICE				
TO-92-3	Electrical	25°C	N/A	N/A

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Qualification Support

Click on a product for detailed qualification data

Product
2N5401BU
2N5401CTA
2N5401NLBU
2N5401TA
2N5401TAR
2N5401TF
2N5401TFR
2N5401_D81Z
2N5401_J05Z
2N5401_J61Z

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