



# THE DATASHEET OF 2N5116



2N5114  
2N5115  
2N5116

SILICON  
P-CHANNEL JFETS



TO-18 CASE



www.centalsemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N5114, 2N5115, and 2N5116 are silicon P-Channel JFETs designed for switching applications.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

Gate-Drain Voltage  
Gate-Source Voltage  
Gate Current  
Power Dissipation  
Operating and Storage Junction Temperature

**SYMBOL**

$V_{GD}$  30  
 $V_{GS}$  30  
 $I_G$  50  
 $P_D$  500  
 $T_J, T_{stg}$  -65 to +200

**UNITS**

V  
V  
mA  
mW  
 $^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N5114		2N5115		2N5116		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
$I_{GSS}$	$V_{GS}=20V$	-	500	-	500	-	500	pA
$I_{GSS}$	$V_{GS}=20V, T_A=150^\circ\text{C}$	-	1.0	-	1.0	-	1.0	$\mu\text{A}$
$I_{DSS}$	$V_{DS}=18V$	30	90	-	-	-	-	mA
$I_{DSS}$	$V_{DS}=15V$	-	-	15	60	5.0	25	mA
$I_{D(OFF)}$	$V_{DS}=15V, V_{GS}=12V$	-	500	-	-	-	-	pA
$I_{D(OFF)}$	$V_{DS}=15V, V_{GS}=7.0V$	-	-	-	500	-	-	pA
$I_{D(OFF)}$	$V_{DS}=15V, V_{GS}=5.0V$	-	-	-	-	-	500	pA
$I_{D(OFF)}$	$V_{DS}=15V, V_{GS}=12V, T_A=150^\circ\text{C}$	-	1.0	-	-	-	-	$\mu\text{A}$
$I_{D(OFF)}$	$V_{DS}=15V, V_{GS}=7.0V, T_A=150^\circ\text{C}$	-	-	-	1.0	-	-	$\mu\text{A}$
$I_{D(OFF)}$	$V_{DS}=15V, V_{GS}=5.0V, T_A=150^\circ\text{C}$	-	-	-	-	-	1.0	$\mu\text{A}$
$BV_{GSS}$	$I_G=1.0\mu\text{A}$	30	-	30	-	30	-	V
$V_{GS(OFF)}$	$V_{DS}=15V, I_D=1.0\text{nA}$	5.0	10	3.0	6.0	1.0	4.0	V
$V_{GS(f)}$	$I_G=1.0\text{mA}$	-	1.0	-	1.0	-	1.0	V
$V_{DS(ON)}$	$I_D=15\text{mA}$	-	1.3	-	-	-	-	V
$V_{DS(ON)}$	$I_D=7.0\text{mA}$	-	-	-	0.8	-	-	V
$V_{DS(ON)}$	$I_D=3.0\text{mA}$	-	-	-	-	-	0.6	V
$r_{DS(ON)}$	$I_D=1.0\text{mA}, V_{GS}=0$	-	75	-	100	-	150	$\Omega$
$r_{ds(ON)}$	$V_{GS}=0, I_D=0, f=1.0\text{kHz}$	-	75	-	100	-	150	$\Omega$
$C_{iss}$	$V_{DS}=15V, V_{GS}=0, f=1.0\text{MHz}$	-	25	-	25	-	25	pF
$C_{rss}$	$V_{GS}=12V, V_{DS}=0, f=1.0\text{MHz}$	-	7.0	-	-	-	-	pF
$C_{rss}$	$V_{GS}=7.0V, V_{DS}=0, f=1.0\text{MHz}$	-	-	-	7.0	-	-	pF
$C_{rss}$	$V_{GS}=5.0V, V_{DS}=0, f=1.0\text{MHz}$	-	-	-	-	-	7.0	pF

R1 (4-March 2014)

2N5114  
2N5115  
2N5116

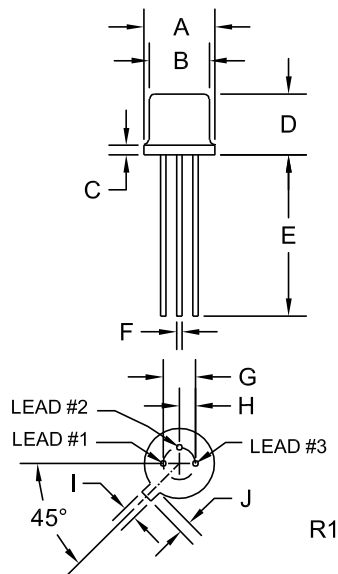
SILICON  
P-CHANNEL JFETS



**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N5114		2N5115		2N5116		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
$t_{on}$	$V_{DD}=10\text{V}, V_{GS}=12\text{V}, I_D=15\text{mA}, R_L=580\Omega$	-	16	-	-	-	-	ns
$t_{on}$	$V_{DD}=6.0\text{V}, V_{GS}=7.0\text{V}, I_D=7.0\text{mA}, R_L=743\Omega$	-	-	-	30	-	-	ns
$t_{on}$	$V_{DD}=6.0\text{V}, V_{GS}=5.0\text{V}, I_D=3.0\text{mA}, R_L=1.8\text{k}\Omega$	-	-	-	-	-	42	ns
$t_{off}$	$V_{DD}=10\text{V}, V_{GS}=12\text{V}, I_D=15\text{mA}, R_L=580\Omega$	-	21	-	-	-	-	ns
$t_{off}$	$V_{DD}=6.0\text{V}, V_{GS}=7.0\text{V}, I_D=7.0\text{mA}, R_L=743\Omega$	-	-	-	38	-	-	ns
$t_{off}$	$V_{DD}=6.0\text{V}, V_{GS}=5.0\text{V}, I_D=3.0\text{mA}, R_L=1.8\text{k}\Omega$	-	-	-	-	-	60	ns

**TO-18 CASE - MECHANICAL OUTLINE**



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.209	0.230	5.31	5.84
B (DIA)	0.178	0.195	4.52	4.95
C	-	0.030	-	0.76
D	0.170	0.210	4.32	5.33
E	0.500	-	12.70	-
F (DIA)	0.016	0.019	0.41	0.48
G (DIA)	0.100		2.54	
H	0.050		1.27	
I	0.036	0.046	0.91	1.17
J	0.028	0.048	0.71	1.22

TO-18 (REV: R1)

**LEAD CODE:**

- 1) Source
- 2) Gate
- 3) Drain

**MARKING: FULL PART NUMBER**

R1 (4-March 2014)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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# Product End of Life Notification

<b>PDN ID:</b>	PDN01101
<b>Notification Date:</b>	1/18/19
<b>Last Buy Date:</b>	7/18/19
<b>Last Shipment Date</b>	1/18/20

Summary: The Junction Field Effect Transistors (JFETs) listed below are discontinued and now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Management Process. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

<u>Central Part Number</u>	<u>Replacement</u>
BF244B	N/A, Stock Only
BF244C	N/A, Stock Only
BF246A	N/A, Stock Only
BSV79	N/A, Stock Only
BSV80	N/A, Stock Only
CMPFJ310 BK	N/A, Stock Only
CMPFJ310 TR	N/A, Stock Only
PN4302	N/A, Stock Only
PN5033	N/A, Stock Only
2N2608	N/A, Stock Only
2N3820	N/A, Stock Only
2N3955	N/A, Stock Only
2N4340	N/A, Stock Only
2N4341	N/A, Stock Only
2N5115	N/A, Stock Only
2N5953	N/A, Stock Only

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to [engineering@centralsemi.com](mailto:engineering@centralsemi.com).

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- [View 2N5116 on WIN SOURCE](#)
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