

2N5114
2N5115
2N5116

SILICON
P-CHANNEL JFETS



TO-18 CASE



www.centrasemi.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	μA
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	-	-	-	-	μA
$I_{D(OFF)}$	$V_{DS}=15V, V_{GS}=7.0V, T_A=150^\circ\text{C}$	-	-	-	1.0	-	-	μA
$I_{D(OFF)}$	$V_{DS}=15V, V_{GS}=5.0V, T_A=150^\circ\text{C}$	-	-	-	-	-	1.0	μA
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	Ω
$r_{ds(ON)}$	$V_{GS}=0, I_D=0, f=1.0\text{kHz}$	-	75	-	100	-	150	Ω
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

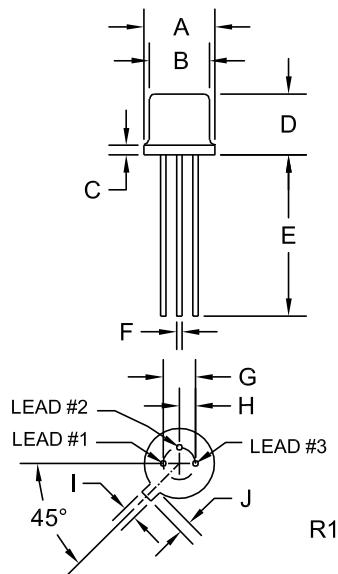
SILICON
P-CHANNEL JFETS



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



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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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

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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