

2N5114
2N5115
2N5116

**SILICON
P-CHANNEL JFETS**

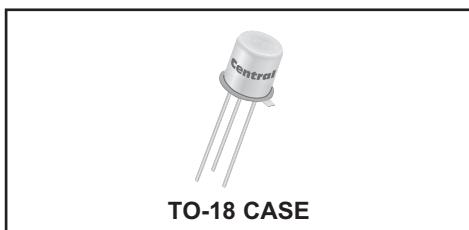


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DESCRIPTION:

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

MARKING: FULL PART NUMBER



TO-18 CASE

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

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

SYMBOL		UNITS
V_{GD}	30	V
V_{GS}	30	V
I_G	50	mA
P_D	500	mW
T_J, T_{stg}	-65 to +200	$^\circ\text{C}$

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}	$V_{GS}=20\text{V}$	-	500	-	500	-	500	pA
I_{GSS}	$V_{GS}=20\text{V}, T_A=150^\circ\text{C}$	-	1.0	-	1.0	-	1.0	μA
I_{DSS}	$V_{DS}=18\text{V}$	30	90	-	-	-	-	mA
I_{DSS}	$V_{DS}=15\text{V}$	-	-	15	60	5.0	25	mA
$I_D(\text{OFF})$	$V_{DS}=15\text{V}, V_{GS}=12\text{V}$	-	500	-	-	-	-	pA
$I_D(\text{OFF})$	$V_{DS}=15\text{V}, V_{GS}=7.0\text{V}$	-	-	-	500	-	-	pA
$I_D(\text{OFF})$	$V_{DS}=15\text{V}, V_{GS}=5.0\text{V}$	-	-	-	-	-	500	pA
$I_D(\text{OFF})$	$V_{DS}=15\text{V}, V_{GS}=12\text{V}, T_A=150^\circ\text{C}$	-	1.0	-	-	-	-	μA
$I_D(\text{OFF})$	$V_{DS}=15\text{V}, V_{GS}=7.0\text{V}, T_A=150^\circ\text{C}$	-	-	-	1.0	-	-	μA
$I_D(\text{OFF})$	$V_{DS}=15\text{V}, V_{GS}=5.0\text{V}, T_A=150^\circ\text{C}$	-	-	-	-	-	1.0	μA
BV_{GSS}	$I_G=1.0\mu\text{A}$	30	-	30	-	30	-	V
$V_{GS}(\text{OFF})$	$V_{DS}=15\text{V}, I_D=1.0\text{nA}$	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
$V_{DS}(\text{ON})$	$I_D=15\text{mA}$	-	1.3	-	-	-	-	V
$V_{DS}(\text{ON})$	$I_D=7.0\text{mA}$	-	-	-	0.8	-	-	V
$V_{DS}(\text{ON})$	$I_D=3.0\text{mA}$	-	-	-	-	-	0.6	V
$r_{DS}(\text{ON})$	$I_D=1.0\text{mA}, V_{GS}=0$	-	75	-	100	-	150	Ω
$r_{ds}(\text{ON})$	$V_{GS}=0, I_D=0, f=1.0\text{kHz}$	-	75	-	100	-	150	Ω
C_{iss}	$V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$	-	25	-	25	-	25	pF
C_{rss}	$V_{GS}=12\text{V}, V_{DS}=0, f=1.0\text{MHz}$	-	7.0	-	-	-	-	pF
C_{rss}	$V_{GS}=7.0\text{V}, V_{DS}=0, f=1.0\text{MHz}$	-	-	-	7.0	-	-	pF
C_{rss}	$V_{GS}=5.0\text{V}, V_{DS}=0, f=1.0\text{MHz}$	-	-	-	-	-	7.0	pF

R1 (4-March 2014)

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2N5116

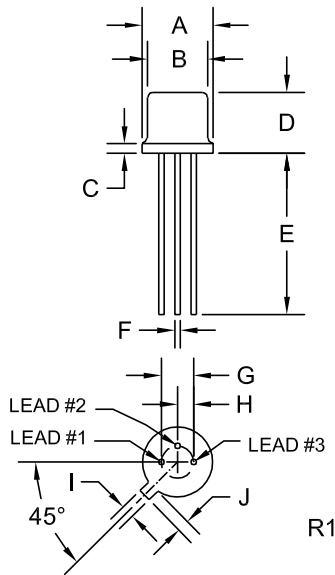
SILICON
P-CHANNEL JFETS



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)

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