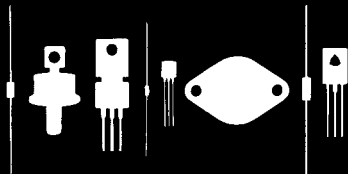


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145 Adams Avenue
Hauppauge, New York 11788



2N5114
2N5115
2N5116

P CHANNEL SILICON
FIELD EFFECT TRANSISTOR

JEDEC TO-18 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5114 series types are silicon P-Channel field effect transistors designed for switching applications.

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL		UNIT
Gate-Drain Voltage	V_{GD}	30	V
Gate-Source Voltage	V_{GS}	30	V
Gate Current	I_G	50	mA
Power Dissipation	P_D	500	mW
Operating and Storage Junction Temperature	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		UNIT
		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
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}	$V_{DD}=6.0\text{V}, V_{GS}=5.0\text{V}, I_D=3.0\text{mA}, R_L=1800\Omega$		-		-		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}	$V_{DD}=6.0\text{V}, V_{GS}=5.0\text{V}, I_D=3.0\text{mA}, R_L=1800\Omega$		-		-		60	ns