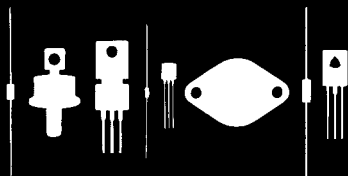


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145 Adams Avenue  
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2N5114  
2N5115  
2N5116

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 <sub>GD</sub>	30	V
Gate-Source Voltage	V <sub>GS</sub>	30	V
Gate Current	I <sub>G</sub>	50	mA
Power Dissipation	P <sub>D</sub>	500	mW
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>STG</sub>	-65 TO +200	°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 <sub>GSS</sub>	V <sub>GS</sub> =20V		500		500		500	pA
I <sub>GSS</sub>	V <sub>GS</sub> =20V, T <sub>A</sub> =150°C		1.0		1.0		1.0	μA
I <sub>DSS</sub>	V <sub>DS</sub> =18V	30	90	-	-	-	-	mA
I <sub>DSS</sub>	V <sub>DS</sub> =15V	-	-	15	60	5.0	25	mA
I <sub>D</sub> (OFF)	V <sub>DS</sub> =15V, V <sub>GS</sub> =12V		500		-		-	pA
I <sub>D</sub> (OFF)	V <sub>DS</sub> =15V, V <sub>GS</sub> =7.0V		-		500		-	pA
I <sub>D</sub> (OFF)	V <sub>DS</sub> =15V, V <sub>GS</sub> =5.0V		-		-		500	pA
I <sub>D</sub> (OFF)	V <sub>DS</sub> =15V, V <sub>GS</sub> =12V, T <sub>A</sub> =150°C		1.0		-		-	μA
I <sub>D</sub> (OFF)	V <sub>DS</sub> =15V, V <sub>GS</sub> =7.0V, T <sub>A</sub> =150°C		-		1.0		-	μA
I <sub>D</sub> (OFF)	V <sub>DS</sub> =15V, V <sub>GS</sub> =5.0V, T <sub>A</sub> =150°C		-		-		1.0	μA
BV <sub>GSS</sub>	I <sub>G</sub> =1.0μA	30		30		30		V
V <sub>GS</sub> (OFF)	V <sub>DS</sub> =15V, I <sub>D</sub> =1.0nA	5.0	10	3.0	6.0	1.0	4.0	V
V <sub>GS</sub> (f)	I <sub>G</sub> =1.0mA		1.0		1.0		1.0	V
V <sub>DS</sub> (ON)	I <sub>D</sub> =15mA		1.3		-		-	V
V <sub>DS</sub> (ON)	I <sub>D</sub> =7.0mA		-		0.8		-	V
V <sub>DS</sub> (ON)	I <sub>D</sub> =3.0mA		-		-		0.6	V
r <sub>DS</sub> (ON)	I <sub>D</sub> =1.0mA, V <sub>GS</sub> =0		75		100		150	Ω
r <sub>ds</sub> (ON)	V <sub>GS</sub> =0, I <sub>D</sub> =0, f=1.0kHz		75		100		150	Ω
C <sub>iss</sub>	V <sub>DS</sub> =15V, V <sub>GS</sub> =0, f=1.0MHz		25		25		25	pF
C <sub>rss</sub>	V <sub>GS</sub> =12V, V <sub>DS</sub> =0, f=1.0MHz		7.0		-		-	pF
C <sub>rss</sub>	V <sub>GS</sub> =7.0V, V <sub>DS</sub> =0, f=1.0MHz		-		7.0		-	pF
C <sub>rss</sub>	V <sub>GS</sub> =5.0V, V <sub>DS</sub> =0, f=1.0MHz		-		-		7.0	pF
t <sub>ON</sub>	V <sub>DD</sub> =10V, V <sub>GS</sub> =12V, I <sub>D</sub> =15mA, R <sub>L</sub> =580Ω		16		-		-	ns
t <sub>ON</sub>	V <sub>DD</sub> =6.0V, V <sub>GS</sub> =7.0V, I <sub>D</sub> =7.0mA, R <sub>L</sub> =743Ω		-		30		-	ns
t <sub>ON</sub>	V <sub>DD</sub> =6.0V, V <sub>GS</sub> =5.0V, I <sub>D</sub> =3.0mA, R <sub>L</sub> =1800Ω		-		-		42	ns
t <sub>OFF</sub>	V <sub>DD</sub> =10V, V <sub>GS</sub> =12V, I <sub>D</sub> =15mA, R <sub>L</sub> =580Ω		21		-		-	ns
t <sub>OFF</sub>	V <sub>DD</sub> =6.0V, V <sub>GS</sub> =7.0V, I <sub>D</sub> =7.0mA, R <sub>L</sub> =743Ω		-		38		-	ns
t <sub>OFF</sub>	V <sub>DD</sub> =6.0V, V <sub>GS</sub> =5.0V, I <sub>D</sub> =3.0mA, R <sub>L</sub> =1800Ω		-		-		60	ns

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