

P-CHANNEL J-FET

Equivalent To MIL-PRF-19500/476

DEVICES

2N5114
2N5115
2N5116

LEVELS

MQ = JAN Equivalent
MX = JANTX Equivalent
MV = JANTXV Equivalent

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

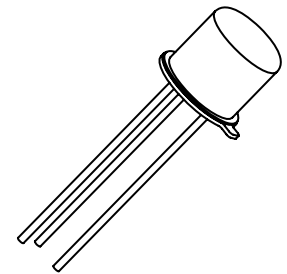
Parameters / Test Conditions	Symbol	All Devices	Unit
Gate-Source Voltage ⁽¹⁾	V_{GS}	30	Vdc
Drain-Source Voltage ⁽¹⁾	V_{DS}	30	Vdc
Drain-Gate Voltage	V_{DG}	30	Vdc
Gate Current	I_G	50	mAdc
Power Dissipation $T_A = +25^\circ\text{C}$ ⁽²⁾	P_T	0.500	W
Storage Temperature Range	T_{stg}	-65 to +200	$^\circ\text{C}$

(1) Symmetrical geometry allows operation of those units with source / drain leads interchanged.

(2) Derate linearly 3.0 mW/ $^\circ\text{C}$ for $T_A > 25^\circ\text{C}$.

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

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Gate-Source Breakdown Voltage $V_{DS} = 0, I_G = 1.0 \mu\text{A dc}$	$V_{(BR)GSS}$	30		Vdc
Drain-Source "On" State Voltage $V_{GS} = 0\text{V dc}, I_D = -15\text{mA dc}$ 2N5114 $V_{GS} = 0\text{V dc}, I_D = -7.0\text{mA dc}$ 2N5115 $V_{GS} = 0\text{V dc}, I_D = -3.0\text{mA dc}$ 2N5116	$V_{DS(on)}$		-1.3 -0.8 -0.6	Vdc
Gate Reverse Current $V_{DS} = 0, V_{GS} = 20\text{V dc}$	I_{GSS}		500	pAdc
Drain Current Cutoff $V_{GS} = 12\text{V dc}, V_{DS} = -15\text{V dc}$ 2N5114 $V_{GS} = 7.0\text{V dc}, V_{DS} = -15\text{V dc}$ 2N5115 $V_{GS} = 5.0\text{V dc}, V_{DS} = -15\text{V dc}$ 2N5116	$I_{D(off)}$		-500 -500 -500	pAdc
Zero Gate Voltage Drain Current $V_{GS} = 0, V_{DS} = -18\text{V dc}$ 2N5114 $V_{GS} = 0, V_{DS} = -15\text{V dc}$ 2N5115 $V_{GS} = 0, V_{DS} = -15\text{V dc}$ 2N5116	I_{DSS}	-30 -15 -5.0	-90 -60 -25	mAdc
Gate-Source Cutoff $V_{DS} = -15, I_D = -1.0\text{nA dc}$ 2N5114 $V_{DS} = -15, I_D = -1.0\text{nA dc}$ 2N5115 $V_{DS} = -15, I_D = -1.0\text{nA dc}$ 2N5116	$V_{GS(off)}$	5.0 3.0 1.0	10 6.0 4.0	Vdc



TO-18
(TO-206AA)

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DYNAMIC CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Small-Signal Drain-Source "On" State Resistance $V_{GS} = 0, I_D = -1.0\text{mA dc}$ 2N5114 2N5115 2N5116	$r_{ds(on)1}$		75 100 175	Ω
Small-Signal Drain-Source "On" State Resistance $V_{GS} = 0, I_D = 0; f = 1\text{kHz}$ 2N5114 2N5115 2N5116	$r_{ds(on)2}$		75 100 175	Ω
Small-Signal, Common-Source Short-Circuit Reverse Transfer Capacitance $V_{GS} = 12\text{V dc}, V_{DS} = 0$ $V_{GS} = 7.0\text{V dc}, V_{DS} = 0$ $V_{GS} = 5.0\text{V dc}, V_{DS} = 0$ 2N5114 2N5115 2N5116	C_{rss}		7.0	pF
Small-Signal, Common-Source Short-Circuit Input Capacitance $V_{GS} = 0, V_{DS} = -15\text{V dc}, f = 1.0\text{MHz}$ 2N5114, 2N5115 2N5116	C_{iss}		25 27	pF

SWITCHING CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Turn-On Delay Time 2N5114 2N5115 2N5116	t_{don}		6 10 25	ηs
Rise Time 2N5114 2N5115 2N5116	t_r		10 20 35	ηs
Turn-Off Delay Time 2N5114 2N5115 2N5116	t_{doff}		6 8 20	ηs

See Figure 2 of MIL-PRF-19500/476