

## P-CHANNEL J-FET

Qualified per MIL-PRF-19500/476

### Devices

### Qualified Level

2N5114                      2N5115                      2N5116

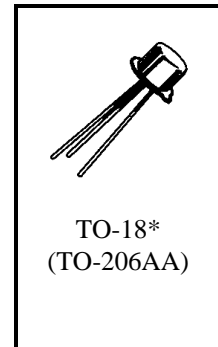
JAN  
JANTX  
JANTXV

### ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub> = +25<sup>0</sup>C unless otherwise noted)

Parameters / Test Conditions	Symbol	All Devices	Unit
Gate-Source Voltage <sup>(1)</sup>	V <sub>GS</sub>	30	Vdc
Drain-Source Voltage <sup>(1)</sup>	V <sub>DS</sub>	30	Vdc
Drain-Gate Voltage	V <sub>DG</sub>	30	Vdc
Gate Current	I <sub>G</sub>	50	mAdc
Power Dissipation                      T <sub>A</sub> = +25 <sup>0</sup> C <sup>(2)</sup>	P <sub>T</sub>	0.500	W
Storage Temperature Range	T <sub>stg</sub>	-65 to +200	<sup>0</sup> C

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

(2) Derate linearly 3.0 mW/<sup>0</sup>C for T<sub>A</sub> > 25<sup>0</sup>C.



\*See appendix A for package outline

### ELECTRICAL CHARACTERISTICS (T<sub>C</sub> = +25<sup>0</sup>C unless otherwise noted)

Parameters / Test Conditions	Symbol	Min.	Max.	Units
Gate-Source Breakdown Voltage V <sub>DS</sub> = 0, I <sub>G</sub> = 1.0 μAdc	V <sub>(BR)GSS</sub>	30		Vdc
Drain-Source "On" State Voltage V <sub>GS</sub> = 0 Vdc, I <sub>D</sub> = -15 mAdc	V <sub>DS(on)</sub>		1.3	Vdc
V <sub>GS</sub> = 0 Vdc, I <sub>D</sub> = -7.0 mAdc			0.8	
V <sub>GS</sub> = 0 Vdc, I <sub>D</sub> = -3.0 mAdc			0.6	
Gate Reverse Current V <sub>DS</sub> = 0, V <sub>GS</sub> = 20 Vdc	I <sub>GSS</sub>		500	pAdc
Drain Current Cutoff V <sub>GS</sub> = 12 Vdc, V <sub>DS</sub> = -15 Vdc	I <sub>D(off)</sub>		-500	pAdc
V <sub>GS</sub> = 7.0 Vdc, V <sub>DS</sub> = -15 Vdc			-500	pAdc
V <sub>GS</sub> = 5.0 Vdc, V <sub>DS</sub> = -15 Vdc			-500	pAdc

**2N5114, 2N5115, 2N5116 JAN SERIES**

**ELECTRICAL CHARACTERISTICS ( $T_C = 25^{\circ}C$  unless otherwise noted) (con't)**

Parameters / Test Conditions		Symbol	Min.	Max.	Units
Zero Gate Voltage Drain Current $V_{GS} = 0, V_{DS} = -18 \text{ Vdc}$ 2N5114 $V_{GS} = 0, V_{DS} = -15 \text{ Vdc}$ 2N5115 $V_{GS} = 0, V_{DS} = -15 \text{ Vdc}$ 2N5116		$I_{DSS}$	-30 -15 -5.0	-90 -60 -25	mAdc
Small-Signal Drain - Source "On" State Resistance $V_{GS} = 0, I_D = -1.0 \text{ mAdc}$ 2N5114 2N5115 2N5116  $V_{GS} = 0, I_D = 0; f = 1 \text{ kHz}$ 2N5114 2N5115 2N5116		$r_{ds(on)}$		75 100 175  75 100 175	$\Omega$
Gate-Source Cutoff $V_{DS} = -15, I_D = 1.0 \text{ mAdc}$ 2N5114 $V_{DS} = -15, I_D = 1.0 \text{ mAdc}$ 2N5115 $V_{DS} = -15, I_D = 1.0 \text{ mAdc}$ 2N5116		$V_{GS(off)}$	5.0 3.0 1.0	10 6.0 4.0	Vdc
Small-Signal, Common-Source Short-Circuit Reverse Transfer Capacitance $V_{GS} = 12 \text{ Vdc}, V_{DS} = 0$ 2N5114 $V_{GS} = 7.0 \text{ Vdc}, V_{DS} = 0$ 2N5115 $V_{GS} = 5.0 \text{ Vdc}, V_{DS} = 0$ 2N5116		$C_{rss}$		7.0	pF
Small-Signal, Common-Source Short-Circuit Input Capacitance $V_{GS} = 0, V_{DS} = -15 \text{ Vdc}, f = 1.0 \text{ MHz}$ 2N5114, 2N5115 2N5116		$C_{iss}$		25 27	pF
Turn-On Delay Time      2N5114 2N5115 2N5116	See Figure 2 of MIL-PRF- 19500/476	$t_{don}$		6 10 25	$\eta s$
Rise Time      2N5114 2N5115 2N5116		$t_r$		10 20 35	$\eta s$
Turn-Off Delay Time      2N5114 2N5115 2N5116		$t_{doff}$		6 8 20	$\eta s$