

P-CHANNEL J-FET

Qualified per MIL-PRF-19500/476

Devices

Qualified Level

2N5114 2N5115 2N5116

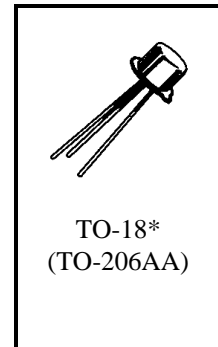
JAN
JANTX
JANTXV

ABSOLUTE MAXIMUM RATINGS (T_C = +25°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°C ⁽²⁾	P _T	0.500	W
Storage Temperature Range	T _{stg}	-65 to +200	°C

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

(2) Derate linearly 3.0 mW/°C for T_A > 25°C.



*See appendix A for package outline

ELECTRICAL CHARACTERISTICS (T_C = +25°C unless otherwise noted)

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

2N5114, 2N5115, 2N5116 JAN SERIES

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

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