

P-CHANNEL J-FET

Qualified per MIL-PRF-19500/476

Devices

Qualified Level

2N5114 2N5115 2N5116

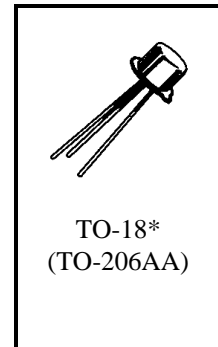
JAN
JANTX
JANTXV

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 Vdc	2N5114								
V _{GS} = 0, V _{DS} = -15 Vdc	2N5115								
V _{GS} = 0, V _{DS} = -15 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 mAdc	2N5114								
	2N5115								
	2N5116								
V _{GS} = 0, I _D = 0; f = 1 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 mAdc	2N5114								
V _{DS} = -15, I _D = 1.0 mAdc	2N5115								
V _{DS} = -15, I _D = 1.0 mAdc	2N5116								
Small-Signal, Common-Source Short-Circuit Reverse Transfer Capacitance		C _{rss}		7.0	pF				
V _{GS} = 12 Vdc, V _{DS} = 0	2N5114								
V _{GS} = 7.0 Vdc, V _{DS} = 0	2N5115								
V _{GS} = 5.0 Vdc, V _{DS} = 0	2N5116								
Small-Signal, Common-Source Short-Circuit Input Capacitance		C _{iss}		25 27	pF				
V _{GS} = 0, V _{DS} = -15Vdc, f = 1.0 MHz	2N5114, 2N5115								
	2N5116								
Turn-On Delay Time	2N5114 2N5115 2N5116	t _{d(on)}		6 10 25	ηs				
Rise Time	2N5114					See Figure 2 of MIL-PRF- 19500/476		10 20 35	ηs
	2N5115								
	2N5116								
Turn-Off Delay Time	2N5114 2N5115 2N5116	t _{d(off)}		6 8 20	ηs				