

P-CHANNEL J-FET

Qualified per MIL-PRF-19500/476

Devices

Qualified Level

2N5114 2N5115 2N5116

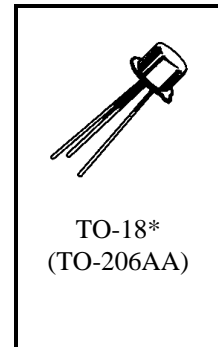
JAN
JANTX
JANTXV

ABSOLUTE MAXIMUM RATINGS ($T_C = +25^{\circ}\text{C}$ 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 $T_A > 25^{\circ}\text{C}$.



*See appendix A for package outline

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

Parameters / Test Conditions	Symbol	Min.	Max.	Units
Gate-Source Breakdown Voltage $V_{DS} = 0, I_G = 1.0 \mu\text{Adc}$	$V_{(BR)GSS}$	30		Vdc
Drain-Source "On" State Voltage $V_{GS} = 0 \text{ Vdc}, I_D = -15 \text{ mAdc}$	$V_{DS(on)}$		1.3	Vdc
$V_{GS} = 0 \text{ Vdc}, I_D = -7.0 \text{ mAdc}$			0.8	
$V_{GS} = 0 \text{ Vdc}, I_D = -3.0 \text{ mAdc}$			0.6	
Gate Reverse Current $V_{DS} = 0, V_{GS} = 20 \text{ Vdc}$	I_{GSS}		500	pAdc
Drain Current Cutoff $V_{GS} = 12 \text{ Vdc}, V_{DS} = -15 \text{ Vdc}$	$I_{D(off)}$		-500	pAdc
$V_{GS} = 7.0 \text{ Vdc}, V_{DS} = -15 \text{ Vdc}$			-500	pAdc
$V_{GS} = 5.0 \text{ Vdc}, V_{DS} = -15 \text{ Vdc}$			-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					See Figure 2 of MIL-PRF- 19500/476	t_r	10 20 35	ηs
	2N5115								
	2N5116								
Turn-Off Delay Time	2N5114 2N5115 2N5116	t_{doff}		6 8 20	ηs				



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