Microsemi LAWRENCE

TECHNICAL DATA

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^{0}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^{0}C (2)	P_T	0.500	W
Storage Temperature Range	T_{stg}	-65 to +200	^{0}C

(1) Symmetrical geometry allows operation of those units with source/drain leads interchanged.
(2) Derate linearly 3.0 mW/^{0}C for T_A > 25^{0}C.

TO-18*
(TO-206AA)

*See appendix A for package outline

ELECTRICAL CHARACTERISTICS (T_C = +25^{0}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		$V_{DS(on)}$			Vdc
V_{GS} = 0 Vdc, I_D = -15 mAdc	2N5114			1.3	
V_{GS} = 0 Vdc, I_D = -7.0 mAdc	2N5115			0.8	
V_{GS} = 0 Vdc, I_D = -3.0 mAdc	2N5116			0.6	
Gate Reverse Current V_{DS} = 0, V_{GS} = 20 Vdc		I_{GSS}		500	pAdc
Drain Current Cutoff		$I_{D(off)}$			
V_{GS} = 12 Vdc, V_{DS} = -15 Vdc	2N5114			-500	pAdc
V_{GS} = 7.0 Vdc, V_{DS} = -15 Vdc	2N5115			-500	pAdc
V_{GS} = 5.0 Vdc, V_{DS} = -15 Vdc	2N5116			-500	pAdc

ELECTRICAL CHARACTERISTICS (T_C = 25^{0}C unless otherwise noted) (con't)

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