Microsemi LAWRENCE

TECHNICAL DATA

N-CHANNEL J-FET

Qualified per MIL-PRF-19500/385

Devices						***Qualified Level***
2N4856	**2N4857**	**2N4858**	**2N4859**	**2N4860**	**2N4861**	**JAN**
2N4856UB	**2N4857UB**	**2N4858UB**	**2N4859UB**	**2N4860UB**	**2N4861UB**	**JANTX**
						JANTXV

ABSOLUTE MAXIMUM RATINGS (T_C = +25^{0}C unless otherwise noted)

Parameters / Test Conditions	Symbol	2N4856 2N4857 2N4858	2N4859 2N4860 2N4861	Unit
Gate-Source Voltage	V_{GS}	-40	-30	V
Drain-Source Voltage	V_{DS}	40	30	V
Drain-Gate Voltage	V_{DG}	40	30	V
Gate Current	I_G	50		mA
Power Dissipation T_A = +25^{0}C (1) T_C = +25^{0}C (2)	P_T	 0.36 1.8		 W W
Operating Junction & Storage Temperature Range	T_j, T_{stg}	-65 to +200		^{0}C

(1) Derate linearly 2.06 mW/^{0}C for T_A > 25^{0}C.
(2) Derate linearly 10.3 mW/^{0}C for T_C > 25^{0}C.

TO-18*
(TO-206AA)

Surface Mount
(UB version)

*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	2N4856, 2N4857, 2N4858 2N4859, 2N4860, 2N4861	$V_{(BR)GSS}$	 -40 -30		Vdc
Gate-Source "Off" State Voltage V_{DS} = 15 Vdc, I_D = 0.5 ηAdc	 2N4856, 2N4859 2N4857, 2N4860 2N4858, 2N4861	$V_{GS(on)}$	 -4.0 -2.0 -0.8	 -10 -6.0 -4.0	Vdc
Gate Reverse Current V_{DS} = 0, V_{GS} = -20 Vdc V_{DS} = 0, V_{GS} = -15 Vdc	 2N4856, 2N4857, 2N4858 2N4859, 2N4860, 2N4861	I_{GSS}		 -0.25 -0.25	ηA
Drain Current V_{GS} = -10 Vds, V_{DS} = 15 Vdc		$I_{D(off)}$		0.25	ηA

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

Parameters / Test Conditions			Symbol	Min.	Max.	Units
Drain Current						
V_{GS} = 0, V_{DS} = 15 Vdc	2N4856, 2N4859		I_{DSS}	50	175	
	2N4857, 2N4860			20	100	mA
	2N4858, 2N4861			8.0	80	
Static Drain - Source "On" State Resistance						
V_{GS} = 0, I_D = 1.0 mAdc	2N4856, 2N4859				25	
	2N4857, 2N4860		$r_{ds(on)}$		40	Ω
	2N4858, 2N4861				60	
Drain-Source "On" State Voltage						
V_{GS} = 0, I_D = 20 mAdc	2N4856, 2N4859				0.75	
V_{GS} = 0, I_D = 10 mAdc	2N4857, 2N4860		$V_{DS(on)}$		0.50	Vdc
V_{GS} = 0, I_D = 5.0 mAdc	2N4858, 2N4861				0.50	
Small-Signal, Common-Source Reverse Transfer Capacitance						
V_{GS} = -10 Vdc, V_{DS} = 0, f = 1.0 MHz			C_{rss}		8.0	pF
C_1 = 0.1µF, L_1 = L_2 ≥ 500 µH						
Small-Signal, Common-Source Short-Circuit Input Capacitance						
V_{GS} = -10 Vdc, V_{DS} = 0, f = 1.0 MHz			C_{iss}		18	pF
C_1 = 0.1µF, C_2 = 20.1 m						
FL_1 = L_2 ≥ 500 µH						
Turn-On Delay Time	2N4856, 2N4859	See Figure 3 of MIL-PRF-19500/385			6	
	2N4857, 2N4860		$^td_{on}$		6	ηs
	2N4858, 2N4861				10	
Rise Time	2N4856, 2N4859				3	
	2N4857, 2N4860		^tr		4	ηs
	2N4858, 2N4861				10	
Turn-Off Delay Time	2N4856, 2N4859				25	
	2N4857, 2N4860		$^td_{off}$		50	ηs
	2N4858, 2N4861				100	