

N-CHANNEL J-FET

Qualified per MIL-PRF-19500/385

Devices

2N4856 2N4857 2N4858 2N4859 2N4860 2N4861
 2N4856UB 2N4857UB 2N4858UB 2N4859UB 2N4860UB 2N4861UB

Qualified Level

JAN
 JANTX
 JANTXV

ABSOLUTE MAXIMUM RATINGS ($T_C = +25^{\circ}\text{C}$ 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 $T_A = +25^{\circ}\text{C}^{(1)}$ $T_C = +25^{\circ}\text{C}^{(2)}$	P_T	0.36		W
		1.8		W
Operating Junction & Storage Temperature Range	T_J, T_{stg}	-65 to +200		$^{\circ}\text{C}$

(1) Derate linearly 2.06 mW/ $^{\circ}\text{C}$ for $T_A > 25^{\circ}\text{C}$.

(2) Derate linearly 10.3 mW/ $^{\circ}\text{C}$ for $T_C > 25^{\circ}\text{C}$.



TO-18*
(TO-206AA)



Surface Mount
(UB version)

*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 $V_{DS} = 0, I_G = 1.0 \mu\text{A dc}$ 2N4856, 2N4857, 2N4858 2N4859, 2N4860, 2N4861	$V_{(BR)GSS}$	-40 -30		Vdc
Gate-Source "Off" State Voltage $V_{DS} = 15 \text{ Vdc}, I_D = 0.5 \mu\text{A dc}$ 2N4856, 2N4859 2N4857, 2N4860 2N4858, 2N4861	$V_{GS(on)}$	-4.0 -2.0 -0.8	-10 -6.0 -4.0	Vdc
Gate Reverse Current $V_{DS} = 0, V_{GS} = -20 \text{ Vdc}$ 2N4856, 2N4857, 2N4858 $V_{DS} = 0, V_{GS} = -15 \text{ Vdc}$ 2N4859, 2N4860, 2N4861	I_{GSS}		-0.25 -0.25	μA
Drain Current $V_{GS} = -10 \text{ Vds}, V_{DS} = 15 \text{ Vdc}$	$I_{D(off)}$		0.25	μA

2N4856, 2N4857, 2N4858, 2N4859, 2N4860, 2N24861 JAN SERIES

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

Parameters / Test Conditions		Symbol	Min.	Max.	Units
Drain Current V _{GS} = 0, V _{DS} = 15 Vdc 2N4856, 2N4859 2N4857, 2N4860 2N4858, 2N4861		I _{DSS}	50 20 8.0	175 100 80	mA
Static Drain - Source “On” State Resistance V _{GS} = 0, I _D = 1.0 mAdc 2N4856, 2N4859 2N4857, 2N4860 2N4858, 2N4861		r _{ds(on)}		25 40 60	
Drain-Source “On” State Voltage V _{GS} = 0, I _D = 20 mAdc V _{GS} = 0, I _D = 10 mAdc V _{GS} = 0, I _D = 5.0 mAdc 2N4856, 2N4859 2N4857, 2N4860 2N4858, 2N4861		V _{DS(on)}		0.75 0.50 0.50	Vdc
Small-Signal, Common-Source Reverse Transfer Capacitance V _{GS} = -10 Vdc, V _{DS} = 0, f = 1.0 MHz C ₁ = 0.1μF, L ₁ = L ₂ ≥ 500 μH		C _{rss}		8.0	pF
Small-Signal, Common-Source Short-Circuit Input Capacitance V _{GS} = -10 Vdc, V _{DS} = 0, f = 1.0 MHz C ₁ = 0.1μF, C ₂ = 20.1 m FL ₁ = L ₂ ≥ 500 μH		C _{iss}		18	pF
Turn-On Delay Time	2N4856, 2N4859 2N4857, 2N4860 2N4858, 2N4861	See Figure 3 of MIL-PRF- 19500/385	t _{d(on)}	6 6 10	ηs
Rise Time	2N4856, 2N4859 2N4857, 2N4860 2N4858, 2N4861		t _r	3 4 10	ηs
Turn-Off Delay Time	2N4856, 2N4859 2N4857, 2N4860 2N4858, 2N4861		t _{d(off)}	25 50 100	ηs