

N-CHANNEL J-FET

Qualified per MIL-PRF-19500/385

Devices

2N4856 2N4857 2N4858 2N4859 2N4860 2N4861

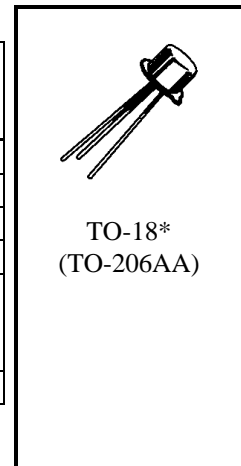
Qualified Level

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	P_T	$T_A = +25^{\circ}\text{C}^{(1)}$		W
		$T_C = +25^{\circ}\text{C}^{(2)}$		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 $T_C > 25^{\circ}\text{C}$.



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

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	$V_{GS} = 0, V_{DS} = 15 \text{ Vdc}$	I_{DSS}	50	175	mA	
	2N4856, 2N4859		20	100		
	2N4857, 2N4860 2N4858, 2N4861		8.0	80		
Static Drain - Source "On" State Resistance	$V_{GS} = 0, I_D = 1.0 \text{ mAdc}$	$r_{ds(on)}$		25	Ω	
	2N4856, 2N4859			40		
	2N4857, 2N4860 2N4858, 2N4861			60		
Drain-Source "On" State Voltage	$V_{GS} = 0, I_D = 20 \text{ mAdc}$	$V_{DS(on)}$		0.75	Vdc	
	$V_{GS} = 0, I_D = 10 \text{ mAdc}$			0.50		
	$V_{GS} = 0, I_D = 5.0 \text{ mAdc}$			0.50		
Small-Signal, Common-Source Reverse Transfer Capacitance	$V_{GS} = -10 \text{ Vdc}, V_{DS} = 0, f = 1.0 \text{ MHz}$ $C_1 = 0.1\mu\text{F}, L_1 = L_2 \geq 500 \mu\text{H}$	C_{rss}		8.0	pF	
Small-Signal, Common-Source Short-Circuit Input Capacitance	$V_{GS} = -10 \text{ Vdc}, V_{DS} = 0, f = 1.0 \text{ MHz}$ $C_1 = 0.1\mu\text{F}, C_2 = 20.1 \text{ m}$ $FL_1 = L_2 \geq 500 \mu\text{H}$	C_{iss}		18	pF	
Turn-On Delay Time	2N4856, 2N4859 2N4857, 2N4860 2N4858, 2N4861	See Figure 3 of MIL-PRF- 19500/385	t_{don}	6	ηs	
Rise Time	2N4856, 2N4859 2N4857, 2N4860 2N4858, 2N4861			t_r		3
						4
Turn-Off Delay Time	2N4856, 2N4859 2N4857, 2N4860 2N4858, 2N4861	t_{doff}	25		ηs	
			50			
			100			

