

N-CHANNEL J-FET

Qualified per MIL-PRF-19500/431

Devices

2N4091

2N4092

2N4093

Qualified Level

JANTX
JANTXV

ABSOLUTE MAXIMUM RATINGS ($T_A = +25^{\circ}\text{C}$ unless otherwise noted)

Parameters / Test Conditions	Symbol	Value	Units
Gate-Source Voltage	V_{GS}	-40	V
Drain-Source Voltage	V_{DS}	40	V
Drain-Gate Voltage	V_{DG}	40	V
Gate Current	I_G	10	mAdc
Power Dissipation ⁽¹⁾ $T_A = +25^{\circ}\text{C}$	P_T	0.36	W
Operating Junction	T_j	-65 to +175	$^{\circ}\text{C}$
Operating Storage Temperature Range	T_{stg}	-65 to +200	$^{\circ}\text{C}$

(1) Derate linearly 2.4 mW/ $^{\circ}\text{C}$ for $T_A > 25^{\circ}\text{C}$.



TO-18*
(TO-206AA)

*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 $V_{DS} = 0, I_G = -1.0 \mu\text{Adc}$	$V_{(BR)GSS}$	-40		Vdc
Gate Reverse Current $V_{DS} = 0, V_{GS} = -20 \text{ Vdc}$	I_{GSS}		-0.1	ηA
Drain Current $V_{GS} = -12, V_{DS} = 20 \text{ Vdc}$ 2N4091 $V_{GS} = -8.0, V_{DS} = 20 \text{ Vdc}$ 2N4092 $V_{GS} = -6.0, V_{DS} = 20 \text{ Vdc}$ 2N4093	$I_{D(off)}$		0.1	ηA
Drain Current $V_{GS} = 0, V_{DS} = 20 \text{ Vdc}$ 2N4091 2N4092 2N4093	I_{DSS}	30 15 8.0		mA

2N4091, 2N4092, 2N4093 JAN SERIES

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

PARAMETERS / TEST CONDITIONS			Symbol	Min.	Max.	Units
Static Drain - Source On-State Resistance $V_{GS} = 0, I_D = 1.0 \text{ mAdc}$			$r_{DS(on)}$		30	Ω
	2N4091				50	
	2N4092				80	
	2N4093					
Drain - Source On-State Voltage $V_{GS} = 0, I_D = 6.6 \text{ mAdc}$			$V_{DS(on)}$		0.2	Vdc
	2N4091				0.2	
	2N4092				0.2	
	2N4093				0.2	
Small-Signal, Common-Source Reverse Transfer Capacitance $V_{GS} = 20 \text{ Vdc}, V_{DS} = 0, f = 1.0 \text{ MHz}$			C_{rss}		5.0	pF
Small-Signal, Common-Source Short-Circuit Input Capacitance $V_{GS} = 0, V_{DS} = 20 \text{ Vdc}, f = 1.0 \text{ MHz}$			C_{iss}		16	pF
Turn-On Delay Time	2N4091	See Figure 3 of MIL-PRF- 19500/431	t_{don}		15	ηs
	2N4092				15	
	2N4093				15	
Rise Time	2N4091		t_r		10	ηs
	2N4092				20	
	2N4093				40	
Turn-Off Delay Time	2N4091		t_{doff}		40	ηs
	2N4092				60	
	2N4093				80	

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