

N-CHANNEL J-FET

Devices

2N4091

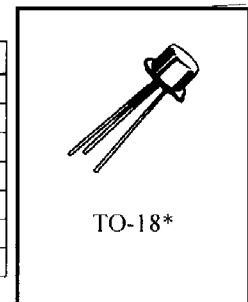
2N4092

2N4093

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	$^{\circ}\text{C}$

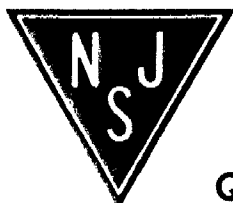
(1) Derate linearly 2.4 mW/ $^{\circ}\text{C}$ for $T_A > 25^{\circ}\text{C}$.



*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	$I_{D(on)}$		0.1	ηA
Drain Current $V_{GS} = 0, V_{DS} = 20 \text{Vdc}$ 2N4091 2N4092 2N4093	I_{DSS}	30 15 8.0		mA



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Quality Semi-Conductors

2N4091, 2N4092, 2N4093

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 2N4093			80			
Drain - Source On-State Voltage $V_{GS} = 0, I_D = 6.6 \text{ mAdc}$ $V_{GS} = 0, I_D = 4.0 \text{ mAdc}$ $V_{GS} = 0, I_D = 2.5 \text{ mAdc}$		$V_{DS(on)}$		0.2	Vdc	
2N4091			0.2			
2N4092 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 2N4092 2N4093	See Figure 3 of MIL-PRF- 19500/431	t_{don}	15	ηs	
Rise Time	2N4091 2N4092 2N4093			t_r		10
						20 40
Turn-Off Delay Time	2N4091 2N4092 2N4093	t_{doff}	40		ηs	
			60			
			80			