



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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N-CHANNEL J-FET

Qualified per MIL-PRF-19500/ 431

Devices

2N4091

2N4092

2N4093

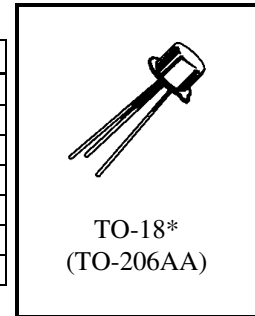
Qualified Level

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⁾	P_T	0.36	W
$T_A = +25^{\circ}\text{C}$			
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	$I_{D(off)}$		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 ($T_C = 25^{\circ}C$ 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	$t_{d_{on}}$	15	ηs	
Rise Time	2N4091 2N4092 2N4093			t_r		10
Turn-Off Delay Time	2N4091 2N4092 2N4093					$t_{d_{off}}$
		60				
		80				