

## POWER MOSFET P CHANNEL

### Devices

**2N6898**

**25 AMPERE  
100 VOLTS  
0.2 Ω**

- HIGH INPUT IMPEDANCE
- LOW  $R_{DS(ON)}$
- MAJORITY CARRIER DEVICE
- LINEAR TRANSFER CHARACTERISTICS

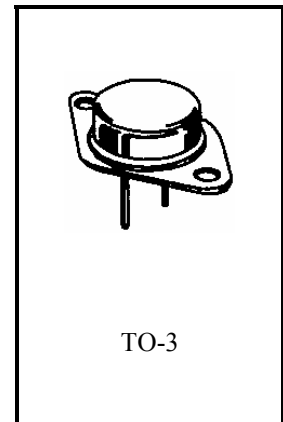
### ABSOLUTE MAXIMUM RATINGS ( $T_C = 25^{\circ}C$ unless otherwise noted)

Parameters/Test Conditions		Symbol	Value	Units
Drain-Source Voltage		$V_{DS}$	-100	V
Gate-Source Voltage		$V_{GS}$	+/-20	V
Continuous Drain Current	$T_C = 250C$	$I_D$	-25	A
Pulsed Drain Current(1)		$I_{DM}$	-60	A
Power Dissipation	$T_C = 250C$	$P_D$	150	W
Operating Junction & Storage Temperature Range		$T_J, T_{stg}$	-55 to +150	$^{\circ}C$
Lead Temperature (1/16" from case for 10 secs.)		$T_L$	260	$^{\circ}C$

### THERMAL RESISTANCE RATINGS

Thermal Resistance	Symbol	Max.	Unit
Junction-to-Case	$R_{thJC}$	0.83	$^{\circ}C/W$

(1) Pulse width limited by maximum junction temperature



### ELECTRICAL CHARACTERISTICS ( $T_C = 25^{\circ}C$ unless otherwise noted)

Parameters/Test Conditions	Symbol	Min.	Max.	Unit
Drain-Source Breakdown Voltage $V_{GS} = 0 V, I_D = 1000 \mu A$	$V_{(BR)DSS}$	-100		V
Gate Threshold Voltage $I_D = 250 \mu A$	$V_{GS(th)}$	-2	-4	V
Gate-Body Leakage $V_{GS} = \text{At Rated } V_{GS}$	$I_{GSS}$		100	nA
Zero Gate Voltage Drain Current $V_{DS} = -80 V$	$I_{DSS}$		1	$\mu A$
Zero Gate Voltage Drain Current $V_{DS} = -80V, T_J = 125^{\circ}C$	$I_{DSS}$		50	$\mu A$
Drain-Source On-State Resistance (2) $V_{GS} = -10V, I_D = 15.8 A$	$r_{DS(on)}$		0.2	$\Omega$
Forward Transconductance (2) $V_{DS} = -10 V, I_D = 15.8 A$	$g_{fs}$	4	15	mho

**ELECTRICAL CHARACTERISTICS (con't)**

Parameters/Test Conditions		Symbol	Min.	Max.	Unit
Input Capacitance	$V_{GS} = 0$	$C_{iss}$		3000	
Output Capacitance	$V_{DS} = -25$ V	$C_{oss}$		1500	pF
Reverse Transfer Capacitance	$f = 0.1$ MHz	$C_{rss}$		500	
Turn-On Delay Time	$V_{ds} = -50$ V	$t_{d(on)}$		50	
Rise Time	$I_D = 12.5$ A	$t_r$		250	
Turn-Off Delay Time	$R_G = 50 \Omega$	$t_{d(off)}$		400	ns
Fall Time	(Switching time is essentially independent of operating temperature.)	$t_f$		250	

**SOURCE-DRAIN DIODE RATINGS & CHARACTERISTICS ( $T_J = 25^\circ\text{C}$  unless otherwise noted)**

Continuous Current	$I_D$		25	A
Pulsed Current(1)	$I_{DM}$		60	A
Forward Voltage (2) $I_{SD} = 25$ A	$V_{SD}$	0.8	1.6	V
Reverse Recovery Time $I_F = 4$ A, $dI/dt = 100$ A/ $\mu$ S	$t_{rr}$		750	ns

- (1) Pulse width limited by maximum junction temperature  
(2) Pulse Test: Pulse width < 300  $\mu$ sec. Duty Cycle  $\leq$  2%

