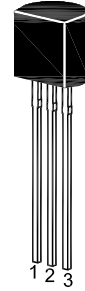
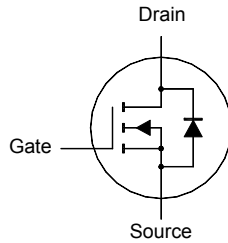


# 2N7000

## Small Signal MOSFET

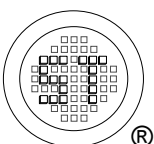
200 mA, 60 V  
N-Channel



1. Source 2. Gate 3. Drain  
TO-92 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit	
Drain Source Voltage	$V_{DSS}$	60	V	
Drain-Gate Voltage ( $R_{GS} = 1\text{ M}\Omega$ )	$V_{DGR}$	60	V	
Gate-source Voltage	Continuous	$V_{GS}$	$\pm 20$	V
	Non-repetitive ( $t_p \leq 50\text{ }\mu\text{s}$ )	$V_{GSM}$	$\pm 40$	V
Drain Current	Continuous	$I_D$	200	mA
	Pulsed	$I_{DM}$	500	mA
Total Power Dissipation	$P_D$	350	mW	
Junction Temperature	$T_j$	150	$^\circ\text{C}$	
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$	



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ISO 9001 : 2008  
Certificate No. 50713410



ISO 14001 : 2004  
Certificate No. 7116



ISO 9001 : 2008  
Certificate No. 50713410



BS-OHSAS 18001 : 2007  
Certificate No. 7116

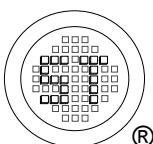


IECQ QC 080000  
Certificate No. PFC-HSPM-1484

# 2N7000

## Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Drain-Source Breakdown Voltage at $V_{GS} = 0$ , $I_D = 10\text{ }\mu\text{A}$	$V_{(BR)DSS}$	60	-	V
Zero Gate Voltage Drain Current at $V_{DS} = 48\text{ V}$ , $V_{GS} = 0$	$I_{DSS}$	-	1	$\mu\text{A}$
Gate-Body Leakage Current at $V_{GS} = \pm 15\text{ V}$ , $V_{DS} = 0$	$\pm I_{GSS}$	-	10	nA
Gate Threshold Voltage at $V_{DS} = V_{GS}$ , $I_D = 1\text{ mA}$	$V_{GS(th)}$	0.8	3	V
Static Drain-Source On-Resistance at $V_{GS} = 10\text{ V}$ , $I_D = 500\text{ mA}$ at $V_{GS} = 4.5\text{ V}$ , $I_D = 75\text{ mA}$	$r_{DS(on)}$	- -	5 6	$\Omega$
Drain-Source On-Voltage at $V_{GS} = 10\text{ V}$ , $I_D = 500\text{ mA}$ at $V_{GS} = 4.5\text{ V}$ , $I_D = 75\text{ mA}$	$V_{DS(on)}$	- -	2.5 0.45	V
On-State Drain Current at $V_{GS} = 4.5\text{ V}$ , $V_{DS} = 10\text{ V}$	$I_{D(on)}$	75	-	mA
Forward Transconductance at $V_{DS} = 10\text{ V}$ , $I_D = 200\text{ mA}$	$g_{fs}$	100	-	mS
Input Capacitance at $V_{DS} = 25\text{ V}$ , $V_{GS} = 0$ , $f = 1\text{ MHz}$	$C_{iss}$	-	60	pF
Output Capacitance at $V_{DS} = 25\text{ V}$ , $V_{GS} = 0$ , $f = 1\text{ MHz}$	$C_{oss}$	-	25	pF
Reverse Transfer Capacitance at $V_{DS} = 25\text{ V}$ , $V_{GS} = 0$ , $f = 1\text{ MHz}$	$C_{rss}$	-	5	pF
Turn-On Delay Time at $V_{DD} = 15\text{ V}$ , $I_D = 500\text{ mA}$ , $R_G = 25\text{ }\Omega$ , $R_L = 30\text{ }\Omega$ , $V_{gen} = 10\text{ V}$	$t_{on}$	-	10	ns
Turn-Off Delay Time at $V_{DD} = 15\text{ V}$ , $I_D = 500\text{ mA}$ , $R_G = 25\text{ }\Omega$ , $R_L = 30\text{ }\Omega$ , $V_{gen} = 10\text{ V}$	$t_{off}$	-	10	ns



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