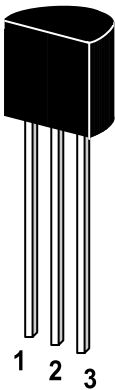
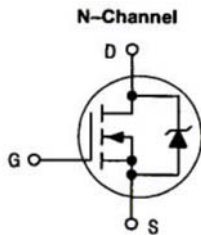


ST 2N7000

Small Signal MOSFET
200mAmps, 60 Volts
N-Channel

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1. Source 2. Gate 3. Drain

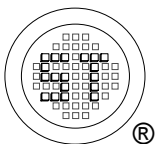
TO-92 Plastic Package
Weight approx. 0.19g

Absolute Maximum Ratings

Rating	Symbol	Value	Unit
Drain Source Voltage	V_{DSS}	60	V
Drain-Gate Voltage ($R_{GS}=1M\Omega$)	V_{DGR}	60	V
Gate-source Voltage	V_{GS}	± 20	V
- Continuous	V_{GSM}	± 40	Vpk
Drain Current	I_D	200	mA
- Continuous	I_{DM}	500	mA
- Pulsed			
Total Power Dissipation @ $T_C=25^{\circ}C$	P_D	350	mW
Derate above $25^{\circ}C$		2.8	mW/ $^{\circ}C$
Junction Temperature	T_j	150	$^{\circ}C$
Storage Temperature Range	T_s	-55 to +150	$^{\circ}C$

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}C/W$



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ST 2N7000

Characteristics at T_C=25 °C

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Characteristic	Symbol	Min.	Typ.	Max.	Unit
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Off Characteristics

Drain-Source Breakdown Voltage at V _{GS} =0, I _D =10μA	V _{(BR)DSS}	60	-	-	V
Zero Gate Voltage Drain Current at V _{DS} =48V, V _{GS} =0	I _{DSS}	-	-	1	μA
at V _{DS} =48V, V _{GS} =0, T _J =125°C		-	-	1	mA
Gate-Body Leakage Current, Forward at V _{GSF} =15V, V _{DS} =0	I _{GSSF}	-	-	10	nA
Gate-Body Leakage Current, Reverse at V _{GSR} =-15V, V _{DS} =0	I _{GSSR}	-	-	-10	nA

On Characteristics¹⁾

Gate Threshold Voltage at V _{DS} =V _{GS} , I _D =1mA	V _{GS(th)}	0.8	-	3	V
Static Drain-Source On-Resistance at V _{GS} =10V, I _D =500mA	r _{DS(on)}	-	-	5	Ohm
at V _{GS} =4.5V, I _D =75mA		-	-	6	
Drain-Source On-Voltage at V _{GS} =10V, I _D =500mA	V _{DS(on)}	-	-	2.5	V
at V _{GS} =4.5V, I _D =75mA		-	-	0.45	
On-State Drain Current at V _{GS} =4.5V, V _{DS} =10V	I _{D(on)}	75	-	-	mA
Forward Transconductance at V _{DS} =10V, I _D =200mA	g _{fs}	100	-	-	μmhos

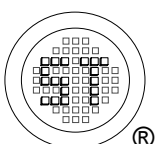
Dynamic Characteristics

Input Capacitance	at V _{DS} =25V	C _{iss}	-	-	60	pF
Output Capacitance	V _{GS} =0	C _{oss}	-	-	25	
Reverse Transfer Capacitance	f=1MHz	C _{rss}	-	-	5	

Switching Characteristics¹⁾

Turn-On Delay Time	at V _{DD} =15V, I _D =500mA, R _G =25Ω, R _L =30Ω	t _{on}	-	-	10	ns
Turn-Off Delay Time	V _{gen} =10V	t _{off}	-	-	10	ns

¹⁾ Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%.



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