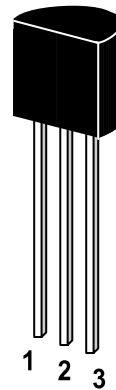
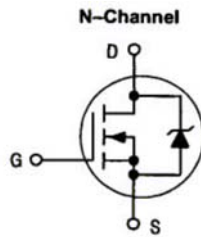


ST 2N7000

Small Signal MOSFET
200mAmps, 60 Volts
N-Channel



1. Source 2.Gate 3.Drain

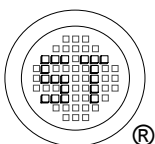
TO-92 Plastic Package
Weight approx. 0.19g

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
- Non-repetitive ($t_p \leq 50\mu s$)			
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

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 at V _{DS} =48V, V _{GS} =0, T _J =125°C	I _{DSS}	-	-	1	μA 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 at V _{GS} =4.5V, I _D =75mA	r _{DS(on)}	-	-	5 6	Ohm
Drain-Source On-Voltage at V _{GS} =10V, I _D =500mA at V _{GS} =4.5V, I _D =75mA	V _{DS(on)}	-	-	2.5 0.45	V
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

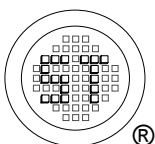
Dynamic Characteristics

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

Switching Characteristics¹⁾

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

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



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