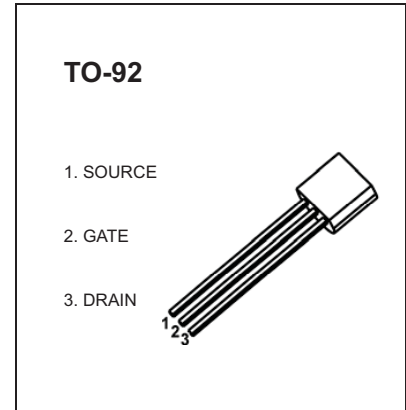


2N7000 MOSFET (N-Channel)

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60V	5Ω@10V	200mA
	6Ω@4.5V	



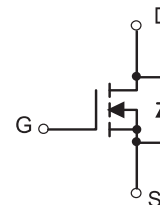
FEATURE

- High density cell design for low $R_{DS(ON)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability

APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2N7000	TO-92	Bulk	1000pcs/Bag
2N7000-TA	TO-92	Tape	2000pcs/Box

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Continuous Drain Current	I_D	0.2	A
Power Dissipation	P_D	0.625	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	200	$^{\circ}C/W$
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55 ~ +150	$^{\circ}C$

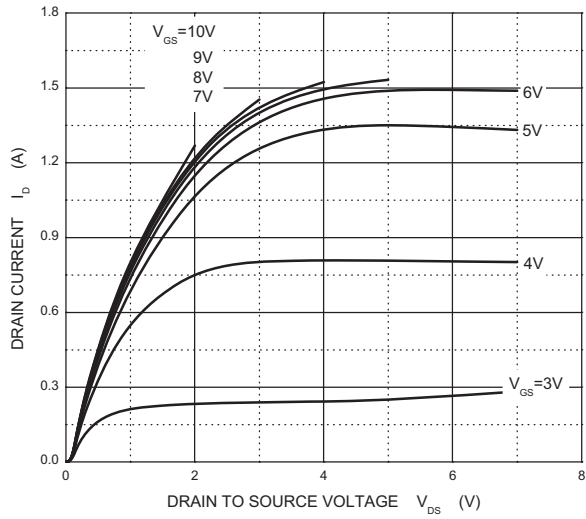
$T_a=25^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0\text{ V}, I_D=10\mu\text{A}$	60			V
Gate-Threshold Voltage*	$V_{(GS)th}$	$V_{DS}=V_{GS}, I_D=1\text{mA}$	0.8		3	
Gate-body Leakage	I_{GSS}	$V_{DS}=0\text{ V}, V_{GS}=\pm 15\text{ V}$			± 10	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60\text{ V}, V_{GS}=0\text{ V}$			1	μA
On-state Drain Current	$I_{D(ON)}$	$V_{GS}=4.5\text{ V}, V_{DS}=10\text{ V}$	75			mA
Drain-Source On-Resistance*	$R_{DS(on)}$	$V_{GS}=4.5\text{V}, I_D=75\text{mA}$			6	Ω
		$V_{GS}=10\text{V}, I_D=500\text{mA}$			5	
Forward Trans conductance*	g_{fs}	$V_{DS}=10\text{ V}, I_D=200\text{mA}$	100			ms
Drain-source on-voltage*	$V_{DS(on)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$			2.5	V
		$V_{GS}=4.5\text{V}, I_D=75\text{mA}$			0.45	V
Input Capacitance **	C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$			60	pF
Output Capacitance **	C_{oss}				25	
Reverse Transfer Capacitance **	C_{rss}				5	
Turn-on Time **	$t_{d(on)}$	$V_{DD}=15\text{ V}, R_L=30\Omega$			10	ns
Turn-off Time **	$t_{d(off)}$	$I_D=500\text{mA}, V_{GEN}=10\text{ V}$ $R_G=25\Omega$			10	

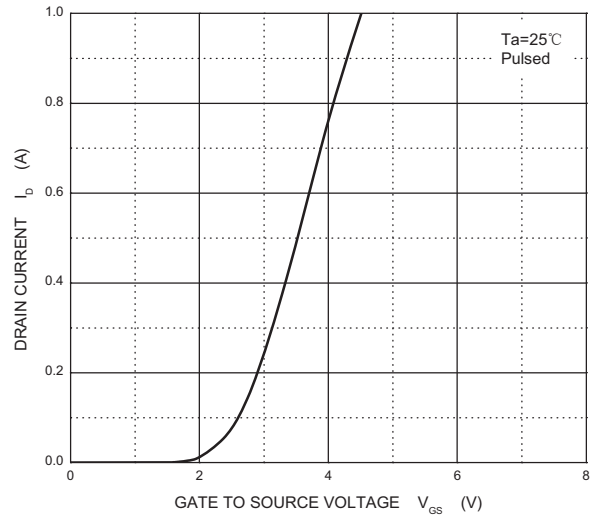
*Pulse test

**These parameters have no way to verify.

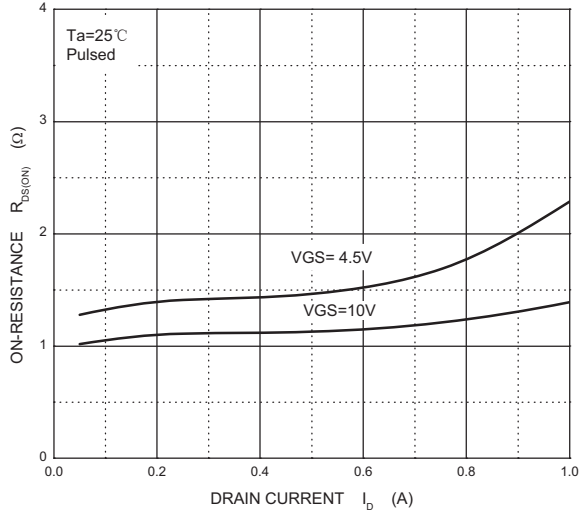
Output Characteristics



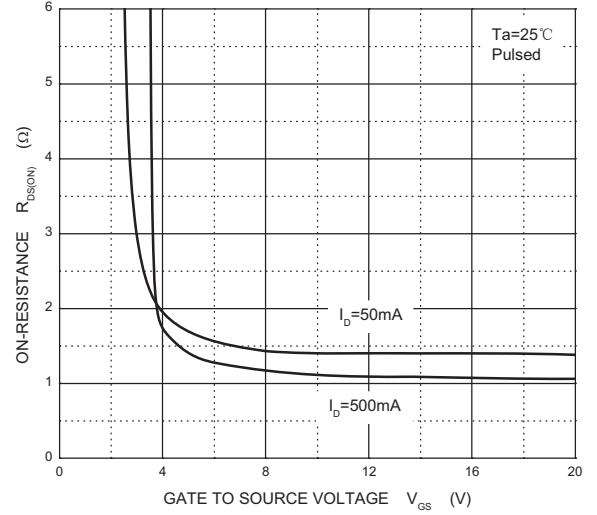
Transfer Characteristics



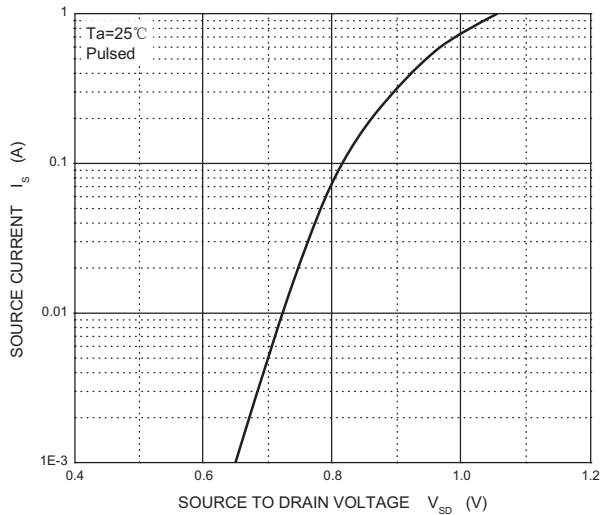
$R_{DS(ON)}$ — I_D

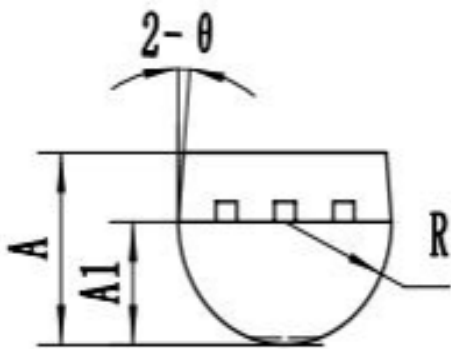
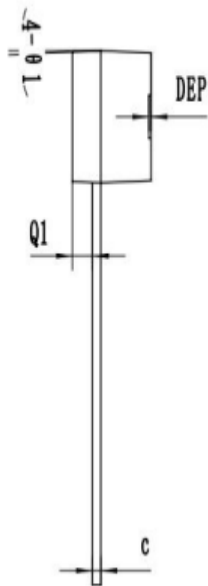
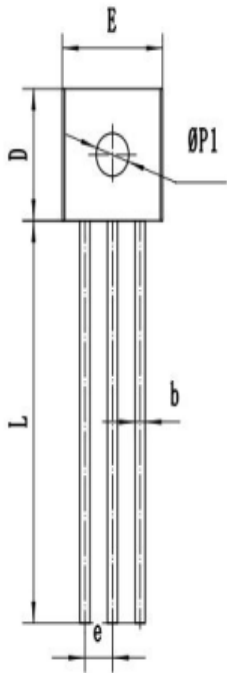


$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}





SYMBOL	MM		
	MIN	NOM	MAX
*A	3.00	3.25	3.50
A1	2.20	2.30	2.40
*b	0.40	0.45	0.50
*c	0.25	0.30	0.35
*D	4.50	4.60	4.70
*E	4.50	4.60	4.70
*e	1.22	1.27	1.32
*L	14.00	14.30	14.60
R	2.20	2.30	2.40
Q1	0.85	0.90	0.95
θ	3°	5°	7°
Ø1	1°	3°	5°
ØP1	1.40	1.50	1.60
DEP	0.05	0.10	0.20
带*为检验尺寸			