2N7000

TO-92 Plastic-Encapsulate MOSFET

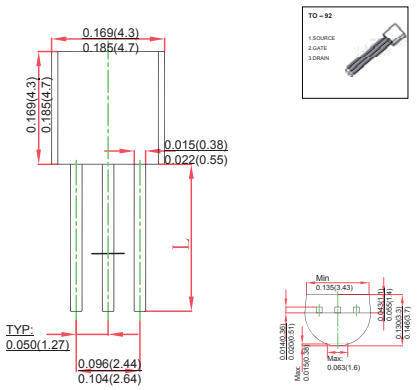
FEATURE

- ●High density cell design for low RDS(ON
- ●Voltage controlled small signal switch
- ●Rugged and reliabl
- ●High saturation current capability
- ●MOSFET (N-Channel)

MECHANICAL DATA

- ●Case style:TO-92 molded plastic
- ●Mounting position:any

TO-92



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (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	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55 ~+150	

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

MOSFET ELECTRICAL CHARACTERISTICS T_A=25℃ unless otherwise specified

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

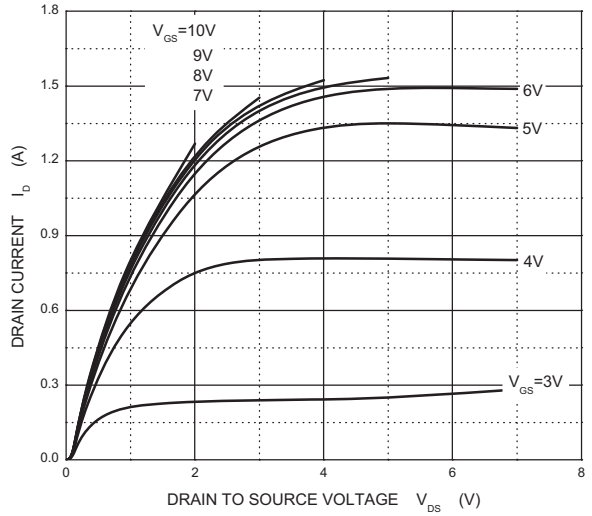
*Pulse test

**These parameters have no way to verify.

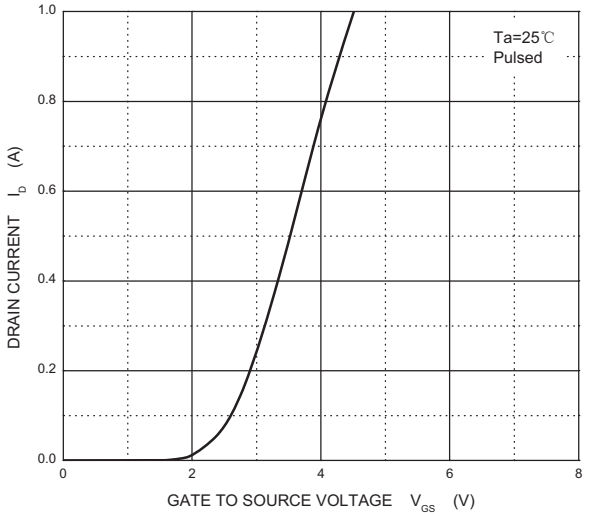
RATINGS AND CHARACTERISTIC CURVES

■ Typical Characterisitics

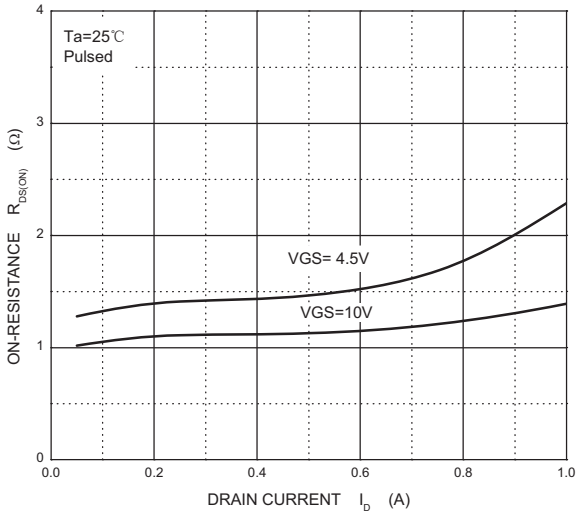
Output Characteristics



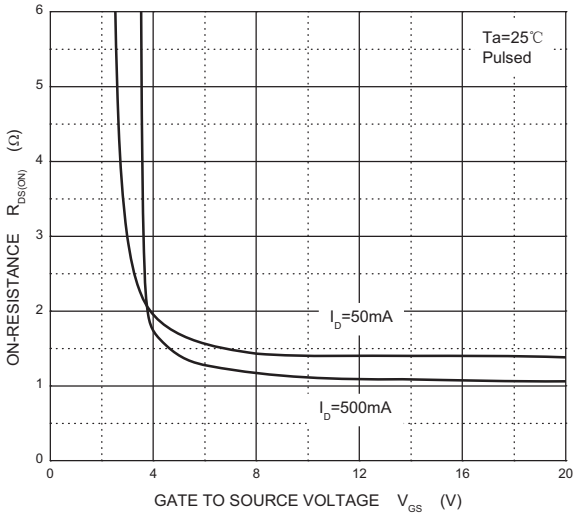
Transfer Characteristics



$R_{DS(ON)}$ —— I_D



$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}