



Micro Commercial Components



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2N7000

N-Channel MOSFET

Features

- High density cell design for low $R_{DS(ON)}$
- Voltage controlled small signal switch
- Rugged and reliable
- Halogen free available upon request by adding suffix "-HF"
- Marking: 2N7000
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings @ $T_A=25^{\circ}C$ Unless Otherwise Noted

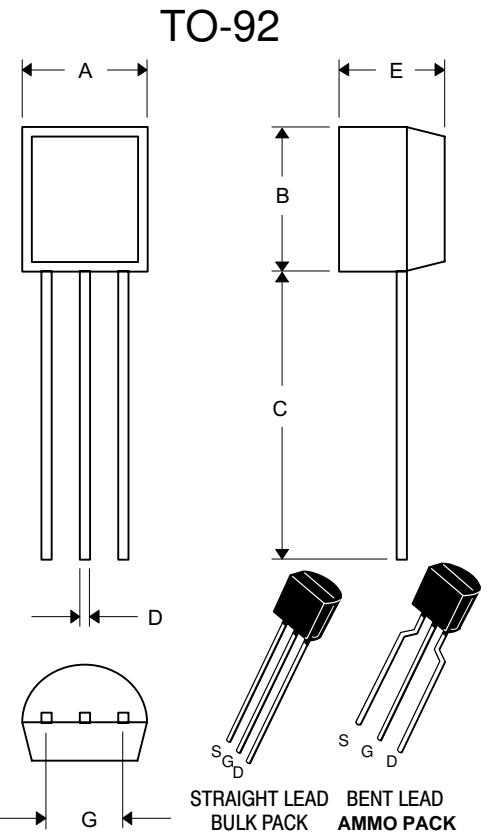
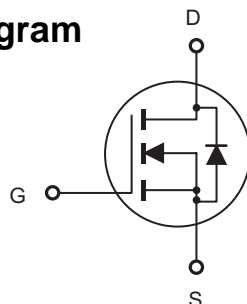
- Operation Temperature: $-55^{\circ}C$ to $+150^{\circ}C$
- Storage Temperature: $-55^{\circ}C$ to $+150^{\circ}C$
- Maximum Thermal Resistance: $200^{\circ}C/W$ Junction to Ambient

Parameter	Symbol	Value	Unit
Drain-Source-Voltage	V_{DS}	60	V
Gate-Source-Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	200	mA
Power Dissipation	P_D	625	mW

Electrical Characteristics @ $T_A=25^{\circ}C$ Unless Otherwise Noted

Parameter	Symbol	Min	Typ	Max	Test Condition
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	60V	---	---	$I_D=100\mu A, V_{GS}=0$
Gate-Body Leakage Current	I_{GSS}	---	---	$\pm 10nA$	$V_{GS}=\pm 15V, V_{DS}=0V$
Drain Cutoff Current	I_{DSS}	---	---	$1.0\mu A$	$V_{DS}=48V, V_{GS}=0V$
Gate-Source Threshold Voltage	$V_{GS(th)}$	0.8V	---	3.0V	$V_{GS}=V_{DS}, I_D=1.0mA$
On-state Drain Current	$I_{D(ON)}$	75mA	---	---	$V_{GS}=4.5V, V_{DS}=10V$
Drain-Source On-State Resistance	$R_{DS(on)}$	---	---	5.0 Ω	$V_{GS}=10V, I_D=500mA$
Forward Trans Conductance	g_{fs}	100ms	---	---	$V_{DS}=10V, I_D=200mA$
Drain-source on-voltage	$V_{DS(ON)}$	---	---	2.5V 0.45V	$V_{GS}=10V, I_D=500mA$ $V_{GS}=4.5V, I_D=75mA$
Input Capacitance	C_{iss}	---	60pF	---	$V_{DS}=25V, V_{GS}=0, f=1MHz$
Output Capacitance	C_{oss}	---	25pF	---	
Reverse Transfer Capacitance	C_{rss}	---	5pF	---	
Turn-On Time	$t_{d(on)}$	---	---	10ns	$V_{DD}=15V, V_{GEN}=10V, R_L=30\Omega, I_D=500mA$
Turn-Off Time	$t_{d(off)}$	---	---	10ns	

Internal Block Diagram

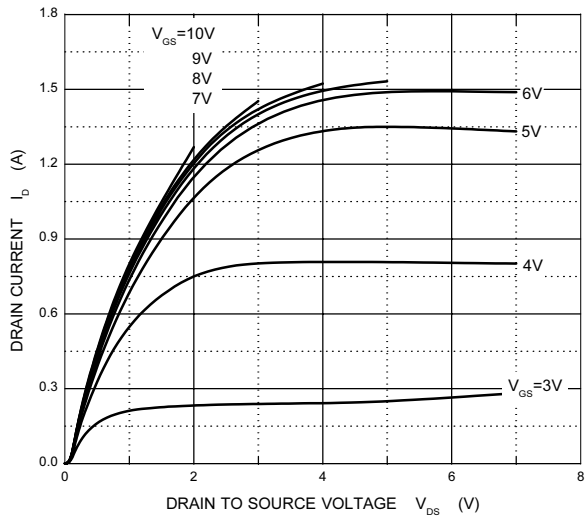


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.175	.185	4.45	4.70	
B	.175	.185	4.45	4.70	
C	.500	---	12.70	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	Straight Lead
	.173	.220	4.40	5.60	

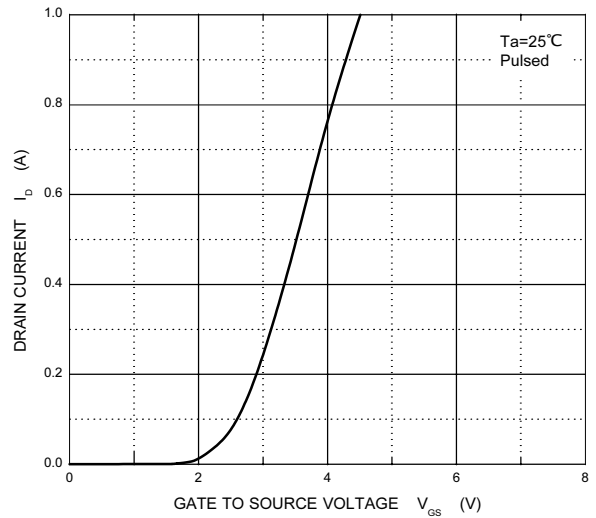
* For ammo packing detailed specification, click here to visit our website of product packaging for details.

2N7000

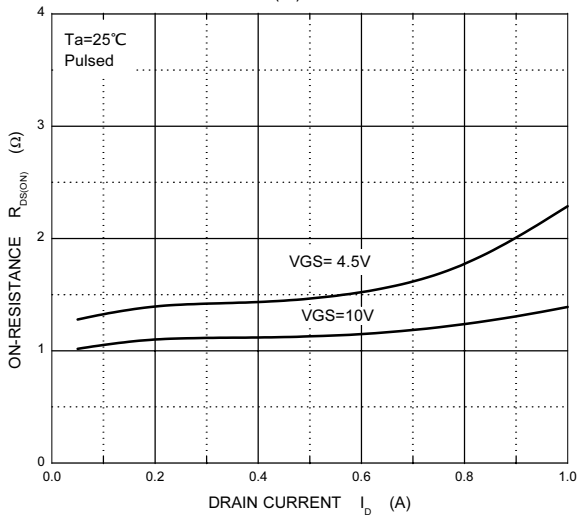
Output Characteristics



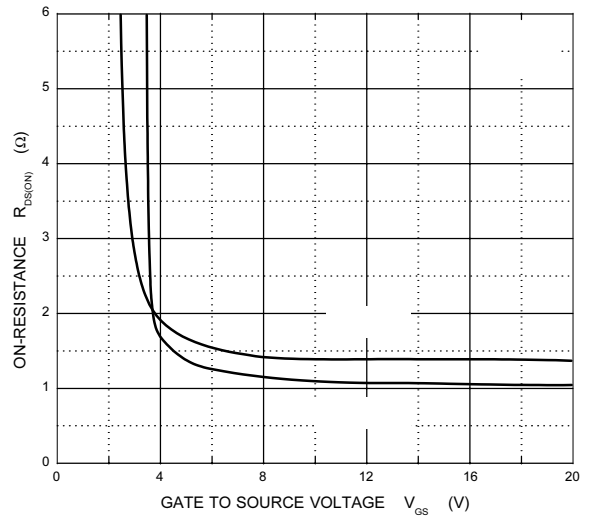
Transfer Characteristics



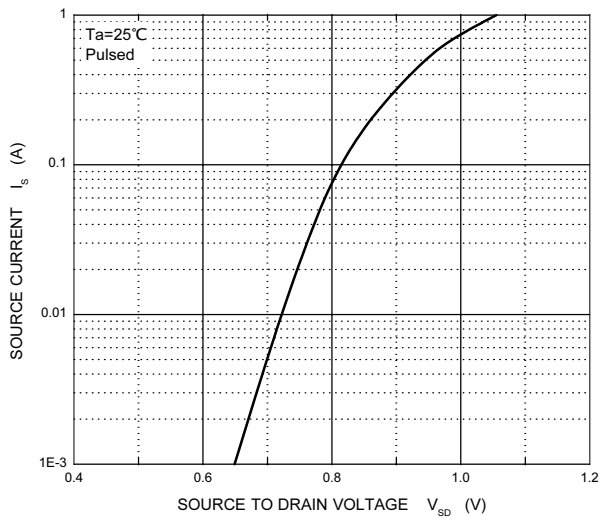
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}





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Ordering Information :

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk: 100Kpcs/Carton

Note : Adding "-HF" suffix for halogen free, eg. Part Number-AP-HF

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