



ZIBO MICRO COMMERCIAL COMPONENTS CORP.



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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

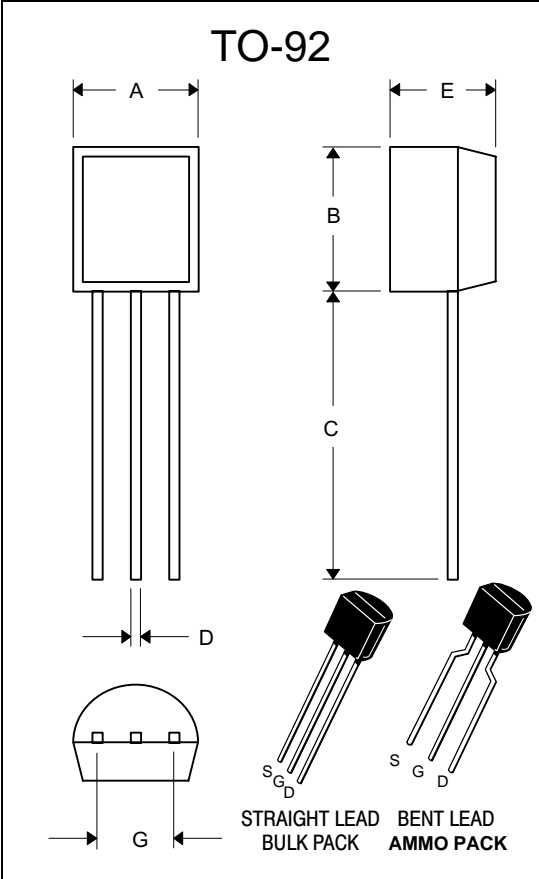
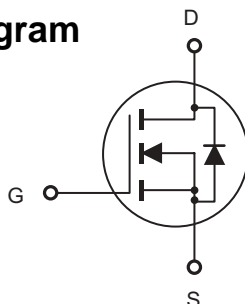
- Operation Temperature: $-55^{\circ}C$ to $+150^{\circ}C$
- Storage Temperature: $-55^{\circ}C$ to $+150^{\circ}C$
- Maximum Thermal Resistance: $200^{\circ}C/W$ Junction to Ambient

Parameter	Symbol	Value	Unit
Drain-Source-Voltage	V_{DSS}	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

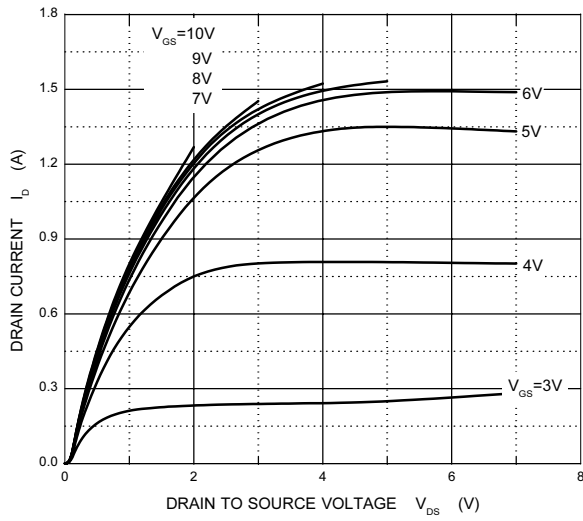


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.175	.185	4.45	4.70	
B	.175	.185	4.45	4.70	
C	.500	---	12.70	---	
D	.016	.020	0.41	0.63	
E	.135	.145	3.43	3.68	
G	.095	.105	2.42	2.67	Straight Lead
	.173	.220	4.40	5.60	

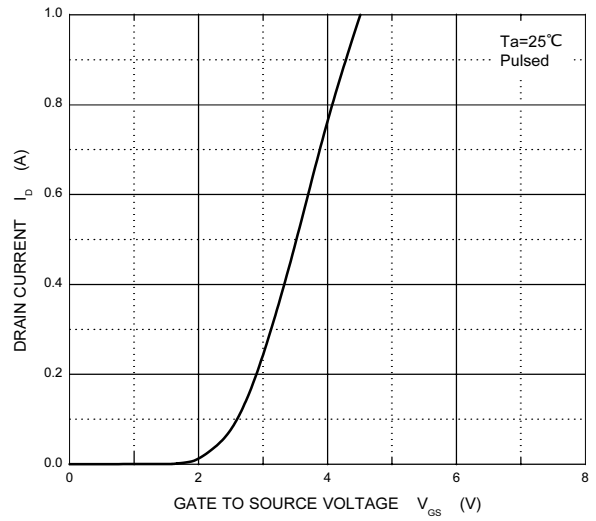
* For ammo packing detailed specification, click here to visit our website of product packaging for details.

2N7000

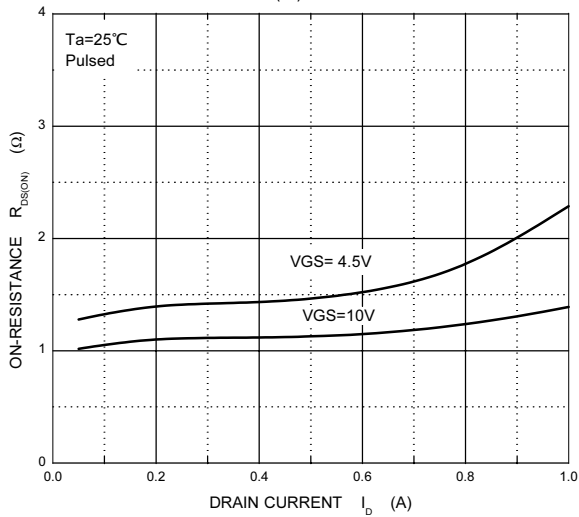
Output Characteristics



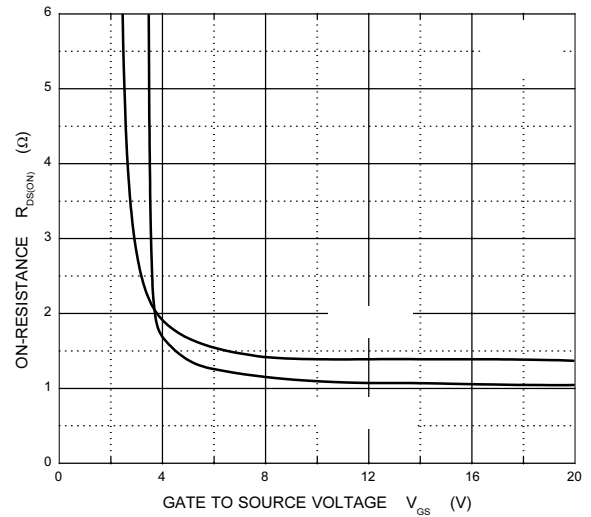
Transfer Characteristics



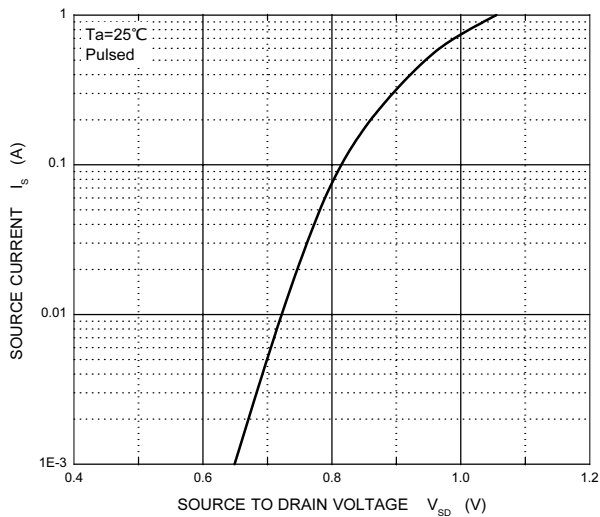
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — 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

*****LIFE SUPPORT*****

ZBMCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of ZiBo Micro Commercial Components Corp.

*****CUSTOMER AWARENESS*****

Counterfeiting of semiconductor parts is a growing problem in the industry. ZiBo Micro Commercial Components Corp. is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. ZBMCC strongly encourages customers to purchase ZBMCC parts either directly from ZBMCC or from Authorized ZBMCC Distributors who are listed by country on our web page cited below. Products customers buy either from ZBMCC directly or from Authorized ZBMCC Distributors are genuine parts, have full traceability, meet ZBMCC's quality standards for handling and storage. ZBMCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources. ZBMCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.