

## Features

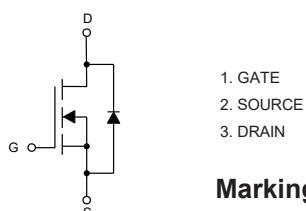
- High Density Cell Design for Low  $R_{DS(ON)}$
- Voltage Controlled Small Signal Switch
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Thermal Resistance: 417°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	$\pm 30$	V
Peak Gate-Source Voltage $T_p < 50\mu s$ , Duty Cycle=0.25	$V_{GSM}$	$\pm 40$	V
Drain Current-Continuous	$I_D$	0.115	A
Power Dissipation	$P_D$	0.3	W

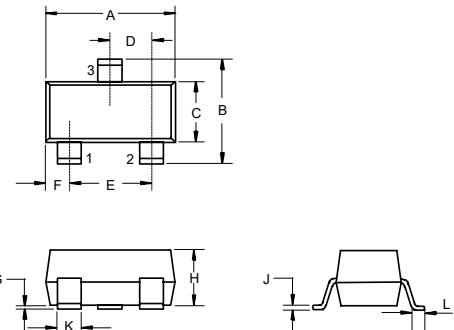
## Internal Structure



Marking:7002A

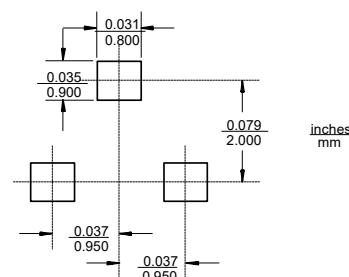
# N-Channel MOSFET

SOT-23



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.012	0.020	0.30	0.51	
I	0.007	0.020	0.20	0.50	

### Suggested Solder Pad Layout

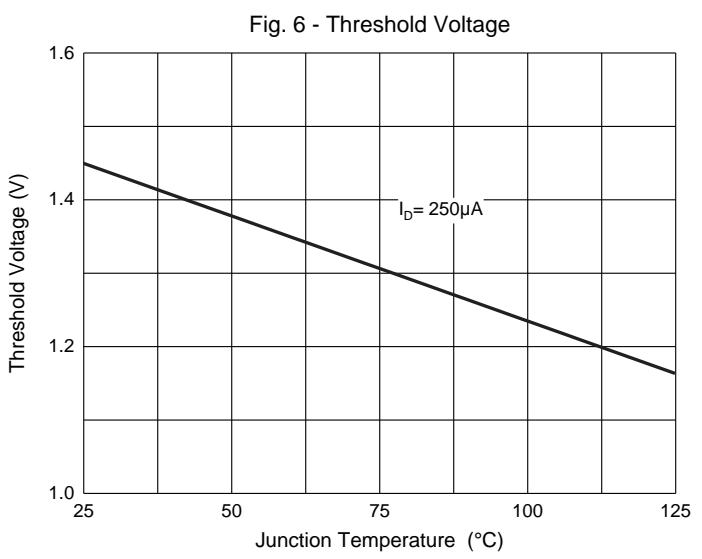
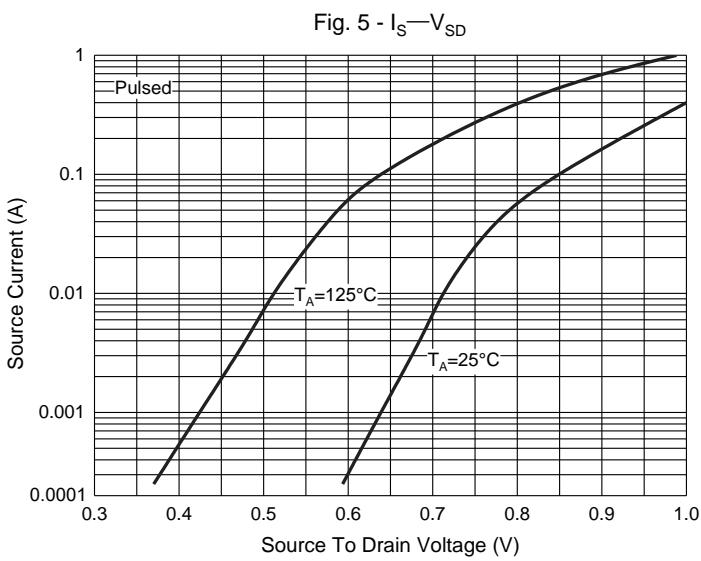
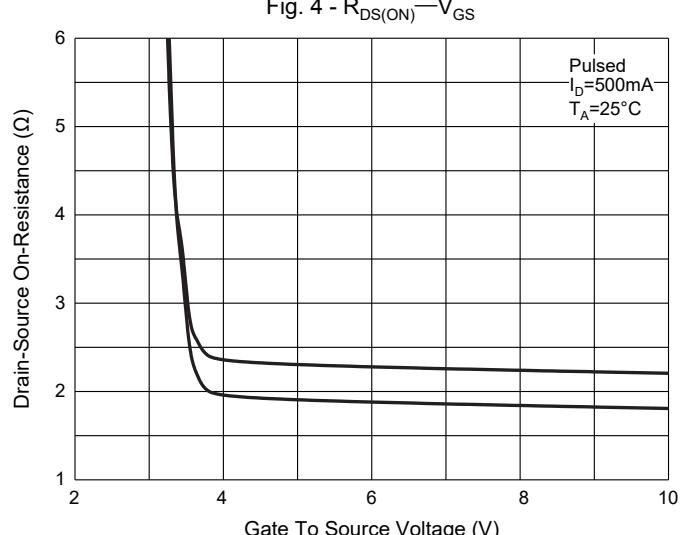
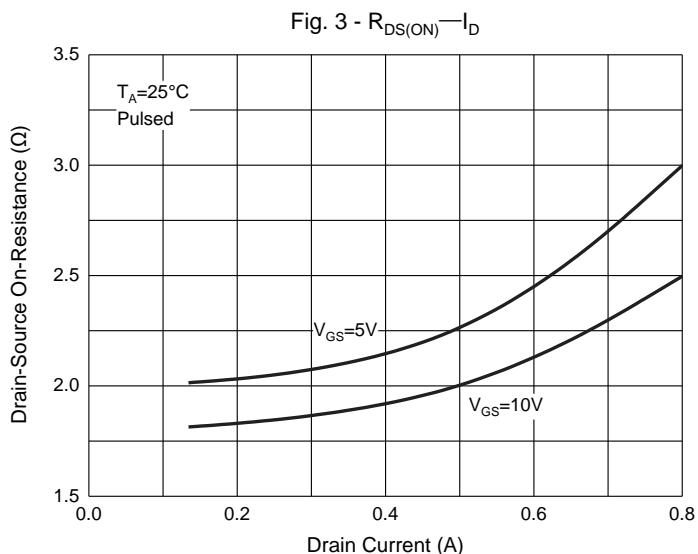
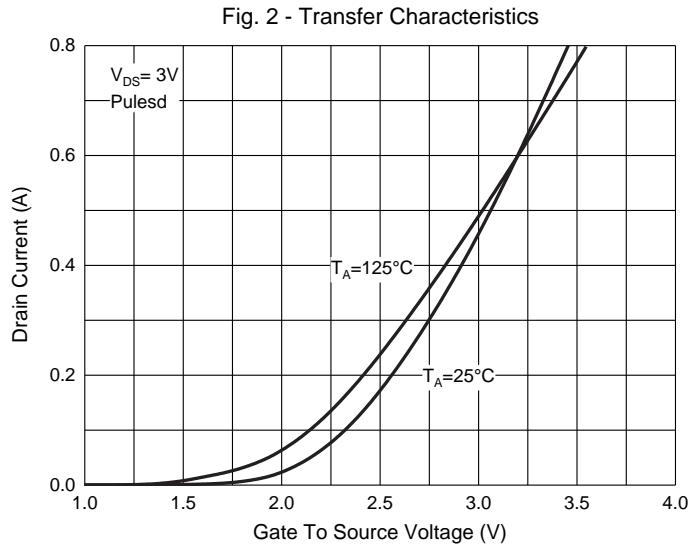
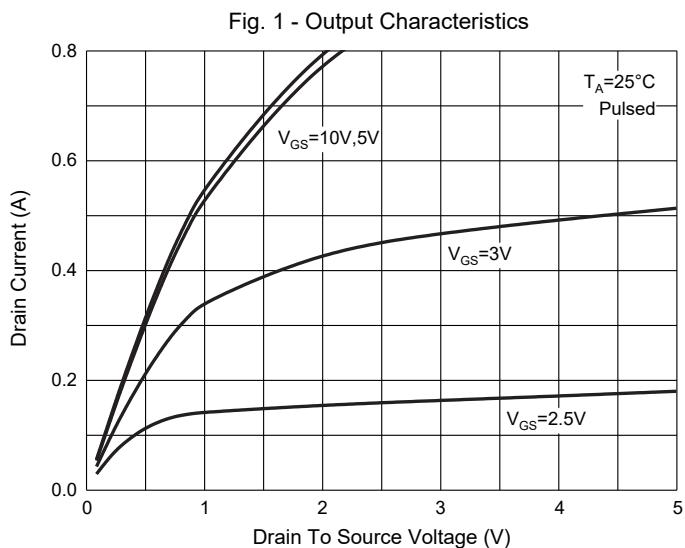


**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA	60			V
Gate-Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	1.0	1.4	2.5	V
Gate-Body Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±30V, V <sub>DS</sub> =0V			±1	μA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, V <sub>GS</sub> =0V			1	μA
On-State Drain Current	I <sub>D(on)</sub>	V <sub>DS</sub> =7.0V, V <sub>GS</sub> =10V	500			mA
Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =500mA			3	Ω
		V <sub>GS</sub> =4.5V, I <sub>D</sub> =200mA			4	
On-State Drain-Source Voltage	V <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =500mA			3	V
		V <sub>GS</sub> =5V, I <sub>D</sub> =50mA			0.375	
<b>Dynami Characteristics</b>						
Input Capacitance <sup>(1)</sup>	C <sub>iss</sub>	V <sub>DS</sub> =25V, V <sub>GS</sub> =0V, f=1MHz			50	pF
Output Capacitance <sup>(1)</sup>	C <sub>oss</sub>				25	
Reverse Transfer Capacitance <sup>(1)</sup>	C <sub>rss</sub>				5	
<b>Switching Characteristics</b>						
Turn-On Delay Time <sup>(1)</sup>	t <sub>d(on)</sub>	V <sub>DD</sub> =25V, V <sub>GEN</sub> =10V, R <sub>L</sub> =50Ω, I <sub>D</sub> =500mA, R <sub>GEN</sub> =25Ω			20	ns
Turn-Off Delay Time <sup>(1)</sup>	t <sub>d(off)</sub>				40	
<b>Source-Drain Diode Characteristics</b>						
Diode Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> =0V, I <sub>S</sub> =115mA	0.6	0.82	1	V
Source Current Continuous	I <sub>S</sub>				115	mA

Note: 1. These parameters have no way to verify.

## Curve Characteristics



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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