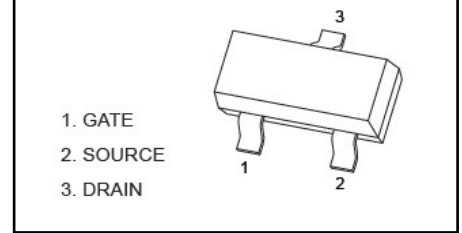


## Features

- ◆ High density cell design for low  $R_{DS(ON)}$ .
- ◆ Voltage controlled small signal switch.
- ◆ Rugged and reliable.
- ◆ High saturation current capability.
- ◆ ESD protected
- ◆ Load Switch for Portable Devices.
- ◆ DC/DC Converter.

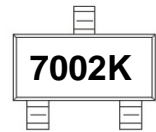
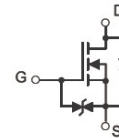
## Mechanical Data

- ◆ SOT-23 Small Outline Plastic Package.
- ◆ Epoxy UL: 94V-0.
- ◆ Mounting Position: Any.

**SOT-23**


Equivalent circuit

MARKING



### Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	340	mA
Power Dissipation	$P_D$	350	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-50-+150	°C
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	357	°C/W

### Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

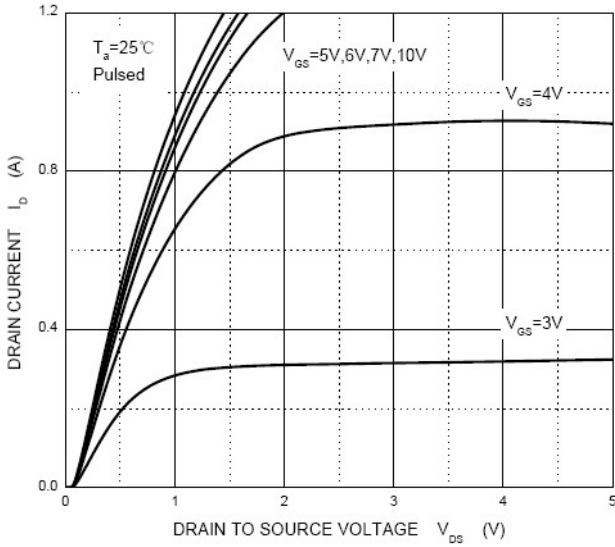
Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Drain-Source Breakdown Voltage	$V_{DS}$	$V_{GS}=0V, I_D=250\mu A$	60			V
Gate-Threshold voltage*	$V_{th(GS)}$	$V_{DS}=V_{GS}, I_D=1mA$	1	1.3	2.5	V
Gate-body Leakage	$I_{GSS1}$	$V_{DS}=0V, V_{GS}=\pm 20V$			$\pm 10$	$\mu A$
	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 10V$			$\pm 200$	nA
	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 5V$			$\pm 100$	nA
Zero Gate Voltage Drain current	$I_{DSS}$	$V_{DS}=48V, V_{GS}=0V$			1	$\mu A$
Drain-Source On-Resistance*	$R_{DS(ON)}$	$V_{GS}=10V, I_D=500mA$		0.9	5	$\Omega$
		$V_{GS}=4.5V, I_C=200mA$		1.1	5.3	
Diode Forward voltage	$V_{SD}$	$I_S=300mA, V_{GS}=0V$			1.50	V
Input capacitance**	$C_{iss}$	$V_{DS}=10V, V_{GS}=0V, f=1MHz$			40	pF
Output capacitance**	$C_{oss}$				30	
Reverse Transfer capacitance**	$C_{rss}$				10	
<b>SWITCHING TIME</b>						
Turn-on Time**	$t_{d(on)}$	$V_{DD}=50V, R_L=250\Omega, V_{GS}=10V,$			10	ns
Turn-off Time**	$t_{d(off)}$	$R_{GS}=50\Omega, R_G=50\Omega$			15	
Reverse recovery Time	$t_{rr}$	$V_{GS}=0V, I_S=300mA, V_R=25V,$ $Dis/dt=-100a/\mu S$		30		ns
<b>GATE-SOURCE ZENER DIODE</b>						
Gate-Source Breakdown Voltage	$BV_{GSO}$	$I_{GS}=\pm 1mA$ (Open Drain)	$\pm 21.5$		$\pm 30$	V

Notes: \* Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .

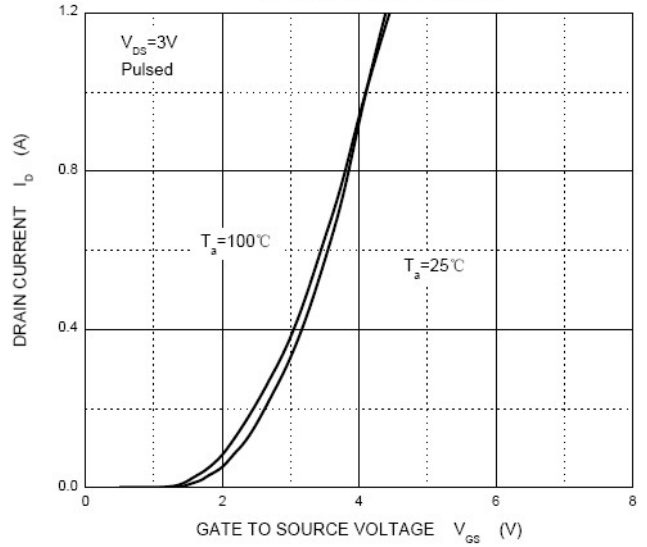
\*\* These parameters have on way to verify.

Typical characteristics

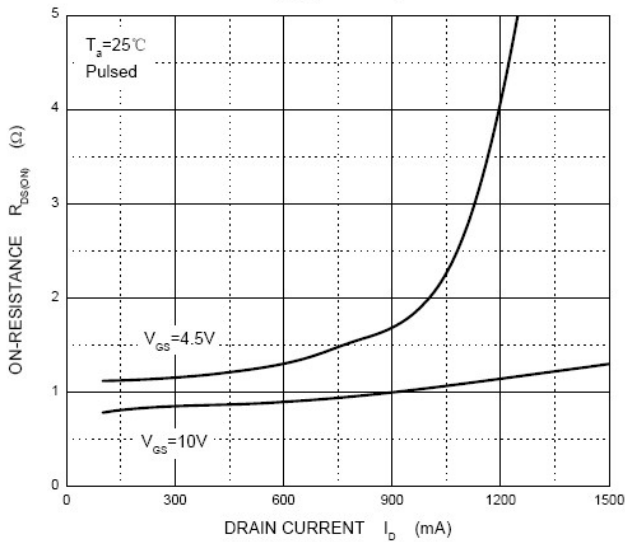
Output Characteristics



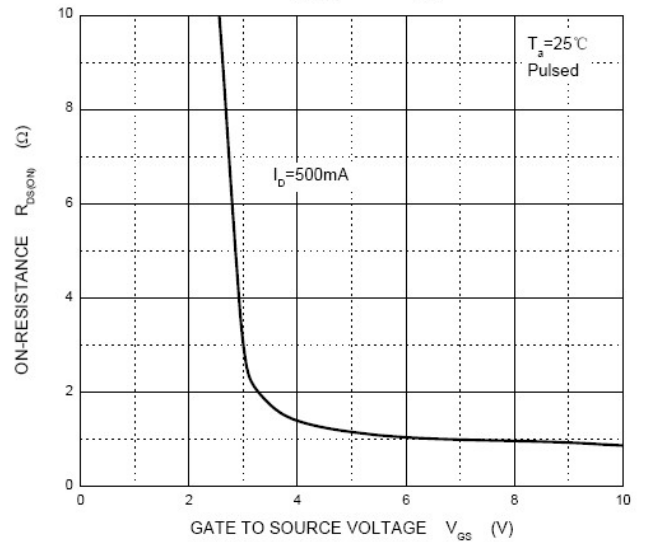
Transfer Characteristics



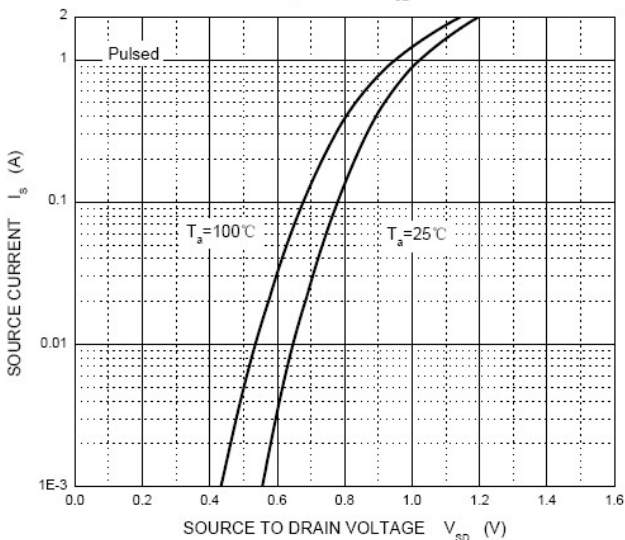
$R_{DS(ON)}$  —  $I_D$



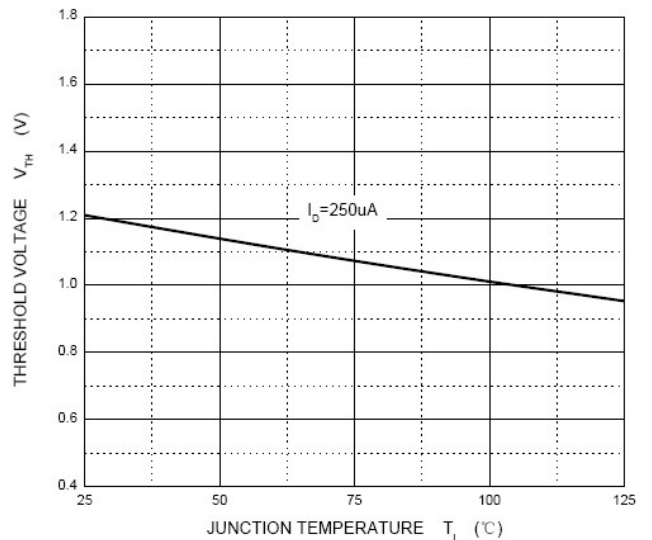
$R_{DS(ON)}$  —  $V_{GS}$



$I_S$  —  $V_{SD}$



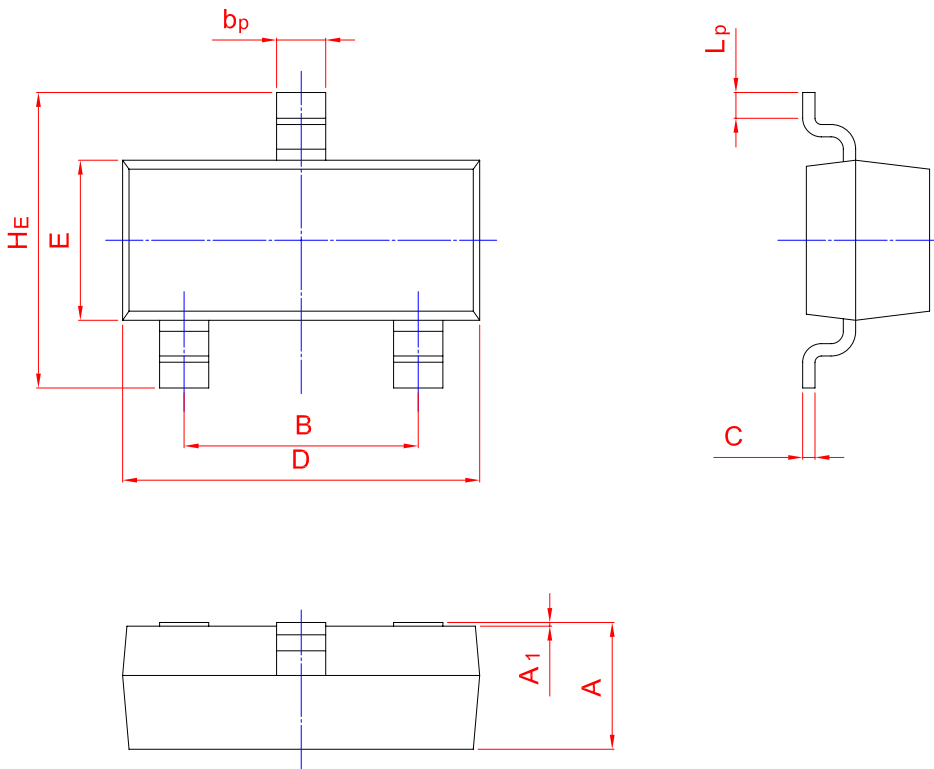
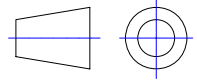
Threshold Voltage



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b <sub>p</sub>	C	D	E	H <sub>E</sub>	A <sub>1</sub>	L <sub>p</sub>
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20