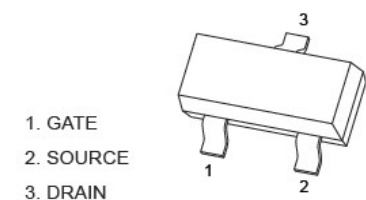




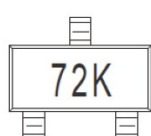
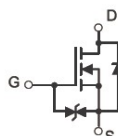
2N7002K MOSFET(N-Channel)

V(BR)DSS	RDS(ON)MAX	ID
60V	5Ω@10V	340mA
	5.3Ω@4.5V	

SOT-23

Equivalent circuit

MARKING

**SOT-23 贴片塑封场效应管**
SOT-23 Plastic-Encapsulate MOSFET**特征 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.

机械数据 Mechanical Data

- 封装: SOT-23 封装 SOT-23 Small Outline Plastic Package.
- 环氧树脂 UL 易燃等级 Epoxy UL: 94V-0.
- 安装位置: 任意 Mounting Position: Any.

极限值和温度特性(TA = 25°C 除非另有规定)

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

参数 Parameters	符号 Symbol	数值 Value	单位 Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 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

电特性 (TA = 25°C 除非另有规定)

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

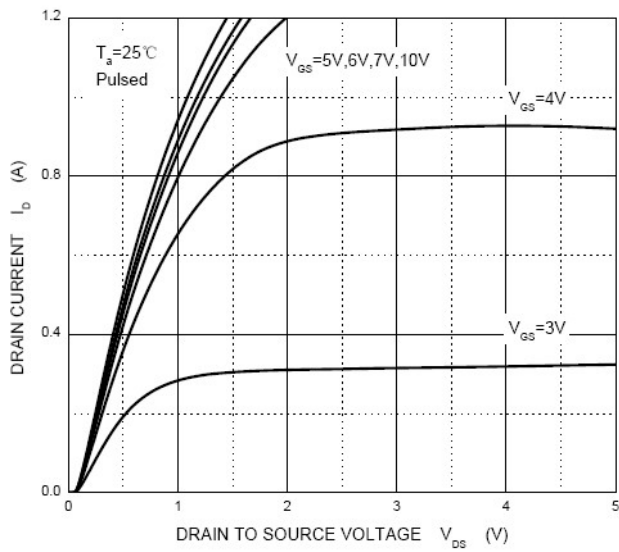
参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits			单位 Unit
			Min	Typ	Max	
Drain-Source Breakdown Voltage	VDS	VGS=0V, ID=250uA	60			V
Gate-Threshold voltage*	Vth(GS)	VDS=VGS, ID=1mA	1	1.3	2.5	V
Gate-body Leakage	IGSS1	VDS=0V, VGS=±20V			±10	uA
	IGSS	VDS=0V, VGS=±10V			±200	nA
	IGSS	VDS=0V, VGS=±5V			±100	nA
Zero Gate Voltage Drain current	IDSS	VDS=48V, VGS=0V			1	uA
Drain-Source On-Resistance*	RDS(ON)	VGS=10V, ID=500mA		0.9	5	Ω
		VGS=4.5V, IC=200mA		1.1	5.3	
Diode Forward voltage	VSD	IS=300mA, VGS=0V			1.50	V
Input capacitance**	Ciss	VDS=10V, VGS=0V,f=1MHz			40	pF
Output capacitance**	Coss				30	
Reverse Transfer capacitance**	Crss				10	
SWITCHING TIME						
Turn-on Time**	td(on)	VDD=50V, RL=250Ω, VGS=10V, RGS=50Ω, RG=50Ω			10	ns
Turn-off Time**	td(off)				15	
Reverse recovery Time	trr	VGS=0V, IS=300mA, VR=25V, Dis/dt=-100a/uS		30		ns
GATE-SOURCE ZENER DIODE						
Gate-Source Breakdown Voltage	BVGso	Igs=±1mA(Open Drain)	±21.5		±30	V

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

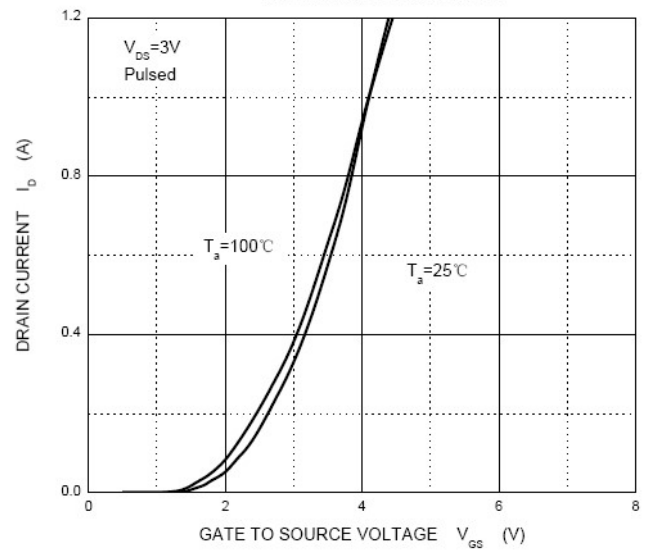
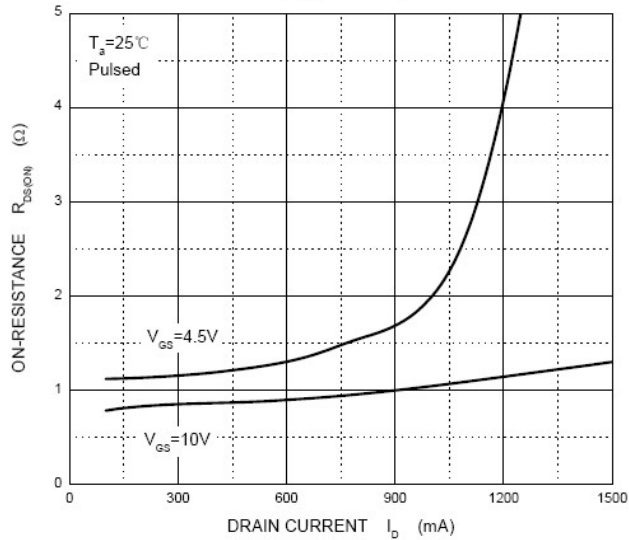
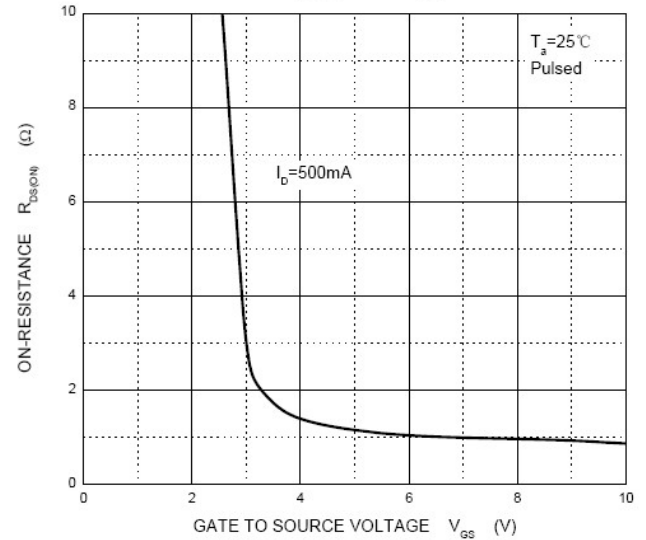
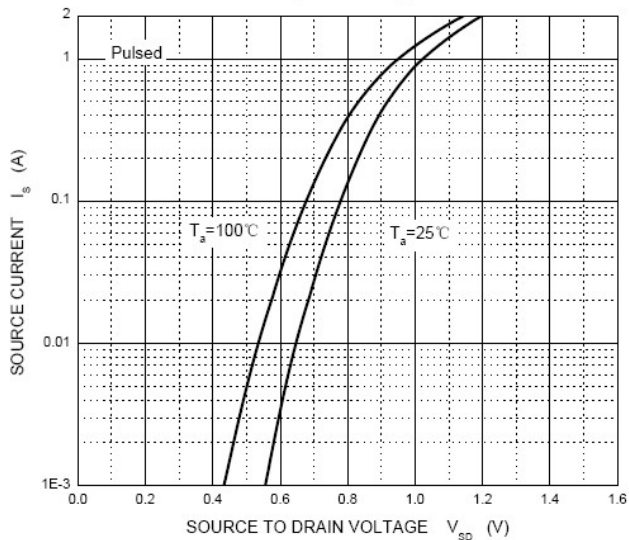
** These parameters have on way to verify.

Typical characteristics

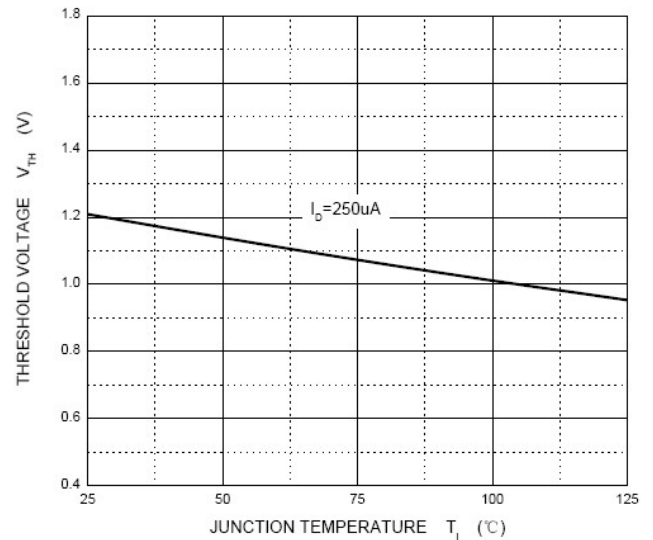
Output Characteristics



Transfer Characteristics

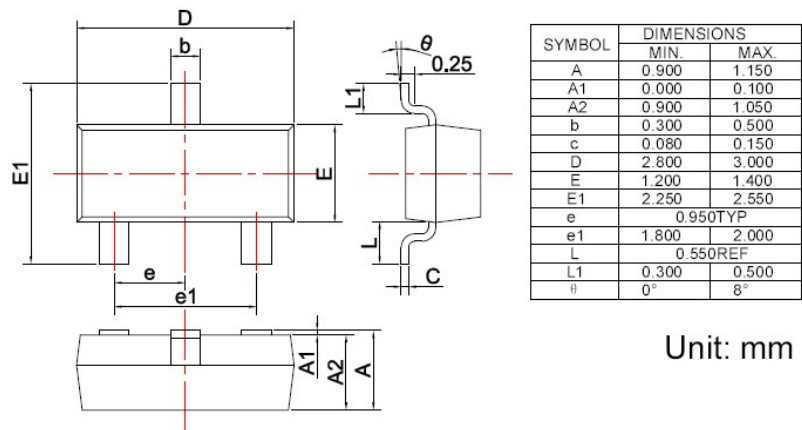
 $R_{DS(ON)}$ — I_D  $R_{DS(ON)}$ — V_{GS}  I_S — V_{SD} 

Threshold Voltage

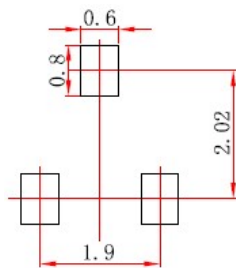




SOT-23 PACKAGE OUTLINE Plastic surface mounted package



焊盘设计参考Precautions: PCB Design
Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



Note:
1.Controlling dimension;In millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.