

特征 Features

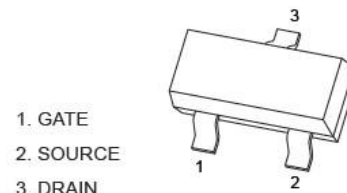
- High density cell design for low $R_{DS(ON)}$.
- Voltage controlled small signal switch.
- Rugged and reliable.
- High saturation current capability.
- Load Switch for Portable Devices.
- DC/DC Converter.

V(BR)DSS	RDS(ON)MAX	ID
60V	5Ω@10V	115mA
	7Ω@5V	

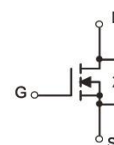
机械数据 Mechanical Data

- 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.

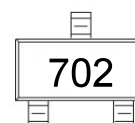
SOT-23



Equivalent Circuit



MARKING



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	115	mA
Power Dissipation	P _D	225	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-50-+150	°C
Thermal Resistance From Junction to Ambient	R _{θJA}	556	°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.)

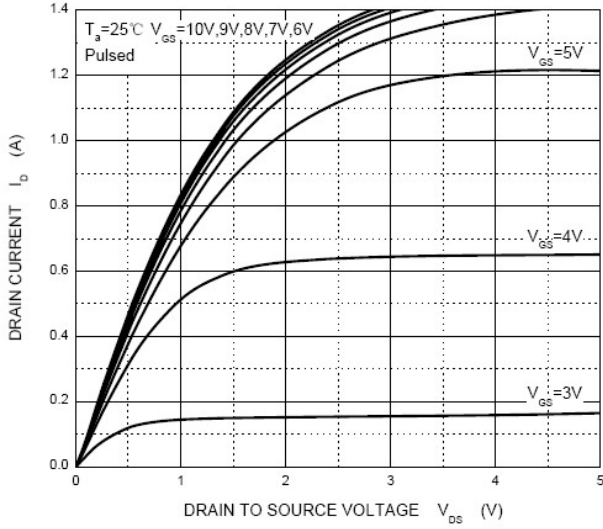
参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits		单位 Unit
			Min	Max	
Drain-Source Breakdown Voltage	V(BR)DSS	V _{GS} =0V, I _D =250uA	60		V
Gate-Threshold voltage	V _{th(GS)}	V _{DS} =V _{GS} , I _D =250uA	1	2.5	V
Gate-body Leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±20V		±80	nA
Zero Gate Voltage Drain current	I _{DSS}	V _{DS} =60V, V _{GS} =0V		80	nA
On-state Drain current	I _{D(ON)}	V _{GS} =10V, V _{DS} =7V	500		mA
Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =500mA		5	Ω
		V _{GS} =5V, I _C =50mA		7	
Forward Trans conductance	g _{fs}	V _{DS} =10V, I _D =200mA	80		ms
Drain-source on-voltage	V _{DS(ON)}	V _{GS} =10V, I _D =500mA		3.75	V
		V _{GS} =5V, I _D =50mA		0.375	V
Diode Forward voltage	V _{SD}	I _S =115mA, V _{GS} =0V	0.55	1.20	V
Input capacitance*	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz		50	pF
Output capacitance*	C _{oss}		25		
Reverse Transfer capacitance*	C _{rss}		5		
SWITCHING TIME					
Turn-on Time*	td(on)	V _{DD} =25V, R _L =50Ω, I _D =500mA, V _{GEN} =10V, R _G =25Ω		20	ns
Turn-off Time*	td(off)		40		

* These parameters have on way to verify.

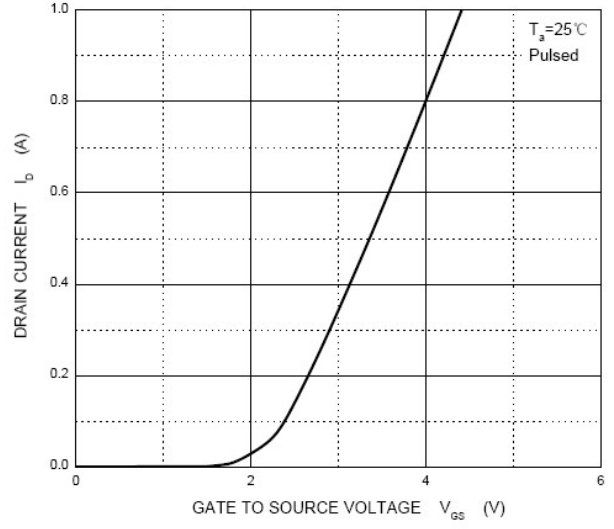
2N7002

Typical characteristics

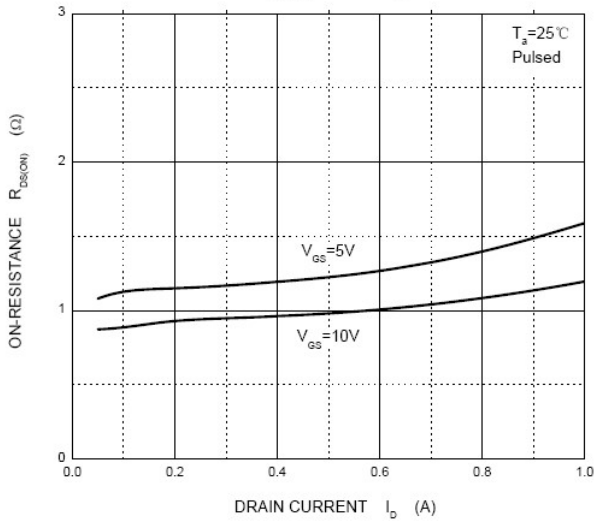
Output Characteristics



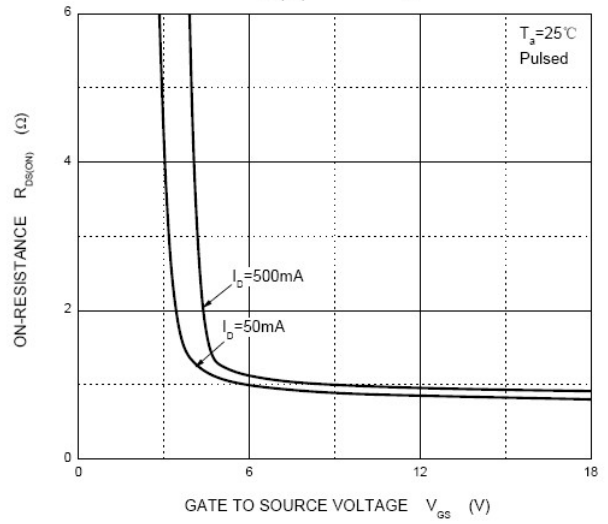
Transfer Characteristics



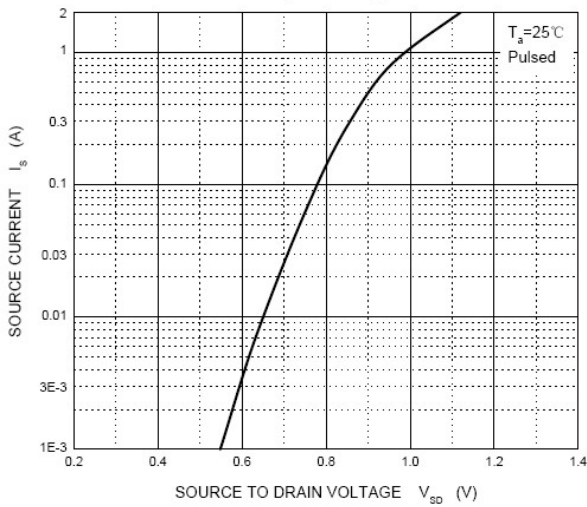
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}

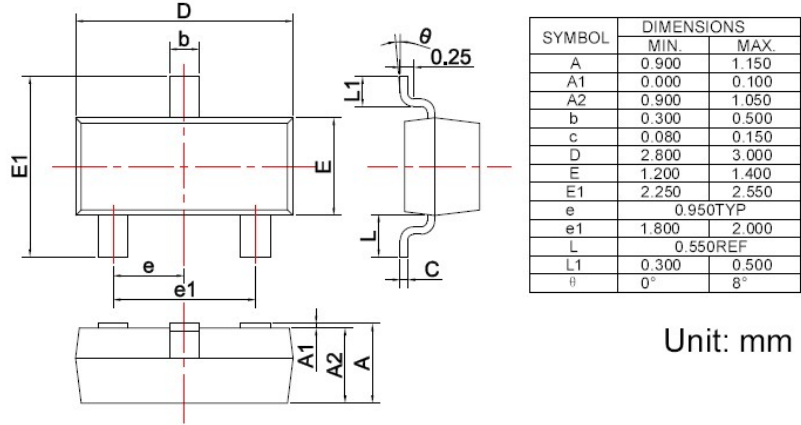


I_S — V_{SD}



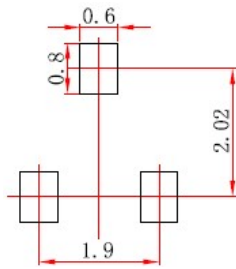
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SOT-23 PACKAGE OUTLINE Plastic surface mounted package



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: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

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