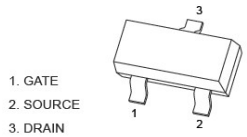
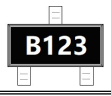
V(BR)DSS	RDS(ON)MAX	ID
100V	6Ω@10V	0.17A
	10Ω@4.5V	

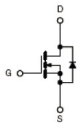
SOT-23



MARKING



Equivalent Circuit



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

特征 Features

- TrenchFET Power MOSFET
- 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℃ 除非另有规定)

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

参数 Parameters	符号 Symbol	数值 Value	单位 Unit
Drain-Source Voltage	V_{DS}	100	V
Drain-Source Voltage R_{GS}≤20KΩ	V_{DRG}	100	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current (note1)	I_D	0.17	A
Pulsed Drain Current (tp=10us)	I_{DM}	0.68	A
Power Dissipation	P_D	350	mW
Junction Temperature	T_j	150	℃
Storage Temperature	Tstg	-50-+150	℃
Thermal Resistance From Junction to Ambient (note1)	$R_{\theta JA}$	357	℃/W

电特性 (TA = 25℃ 除非另有规定)

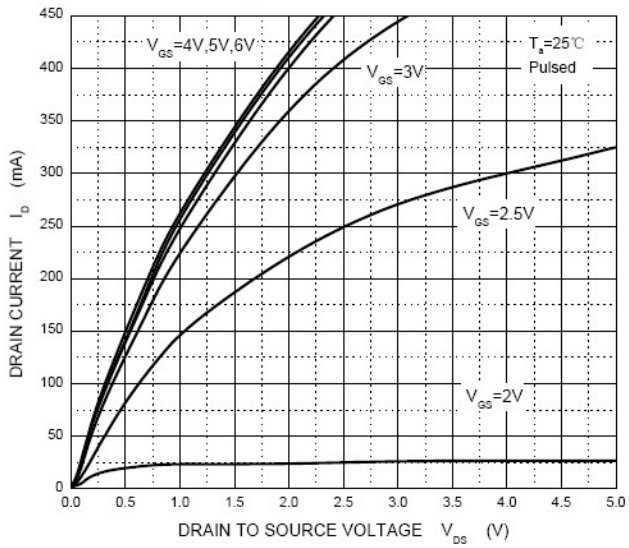
Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified).

参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits			单位 Unit
			Min	Typ	Max	
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250uA	100			V
Gate-Threshold voltage(note2)	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	1.0	1.6	2.8	V
Gate-body Leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±50	nA
Zero Gate Voltage Drain current	I_{DSS}	V_{DS}=100V, V_{GS}=0V			1.00	uA
		V_{DS}=20V, V_{GS}=0V			0.01	
Drain-Source On-Resistance (note2)	$R_{DS(ON)}$	V_{GS}=10V, I_D=0.17A			6	Ω
		V_{GS}=4.5V, I_C=0.17A			10	
Forward trans conductance (note2)	gfs	V_{DS}=10V, I_D=0.17A	80			mS
Diode forward voltage	V_{SD}	I_S=0.34A, V_{GS}=0V			1.3	V
Dynamic(note4)						
Input capacitance	Ciss	V_{DS}=25V, V_{GS}=0V,f=1MHz		29	60	pF
Output capacitance	Coss			10	15	
Reverse Transfer capacitance	Crss			2	6	
Switching(note3,4)						
Turn-on Time	td(on)	V_{DD}=30V, R_{GEN}=50Ω, V_{GS}=10V, I_D≈0.28A,			8	ns
Rise time	tr				8	
Turn-off Time	td(off)				13	
Fall time	tf				16	
Total Gage Charge	Qg	V_{DS}=10V, V_{GS}=10V, I_D=0.22A,		1.4	2	nC
Gate-Source Charge	Qgs			0.15	0.25	
Gate-Drain Charge	Qgd			0.2	0.4	

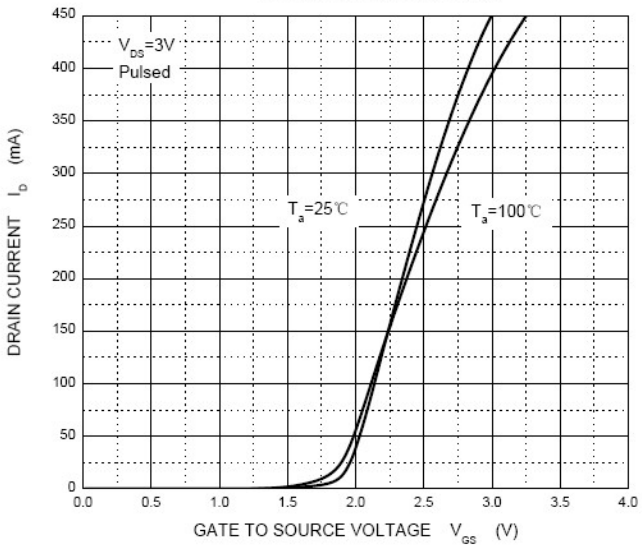
Notes: 1). Surface mounted on FR4 board using the minimum recommended pad size.
2). Pulse Test: Pulse Width ≤300us, Duty Cycle≤2%.
3). Switching characteristics are independent of operating junction temperature.

Typical characteristics

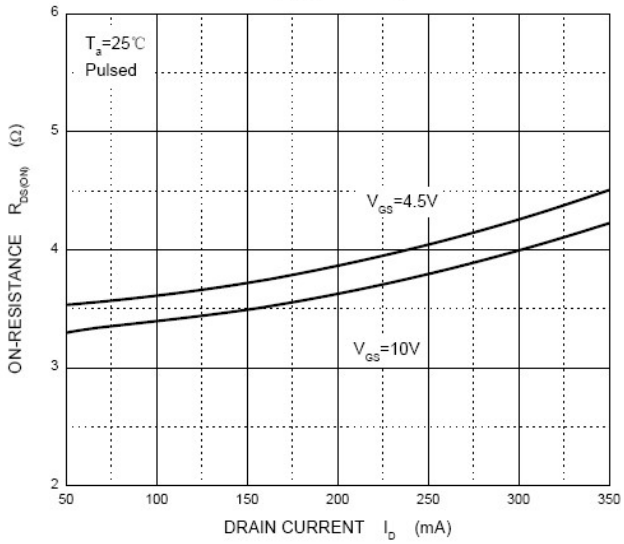
Output Characteristics



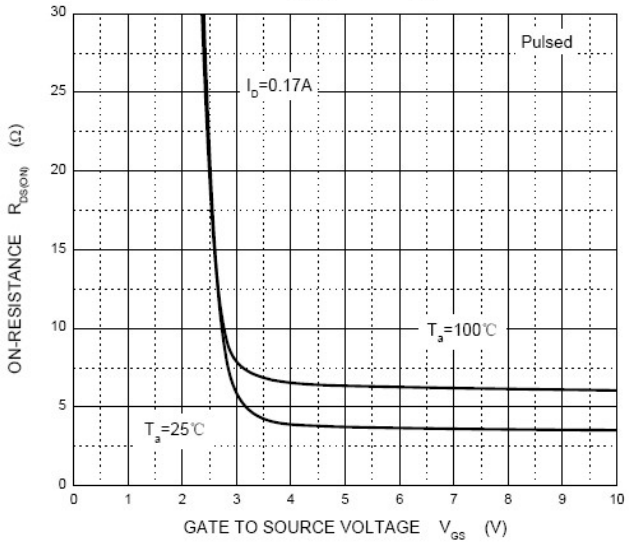
Transfer Characteristics



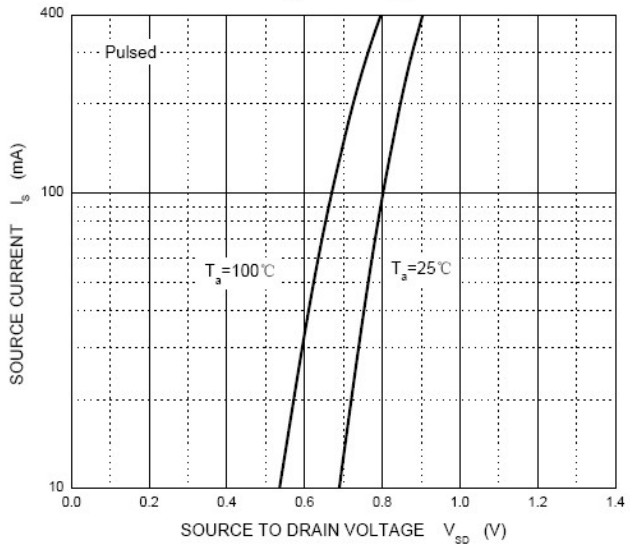
$R_{DS(ON)}$ — I_D



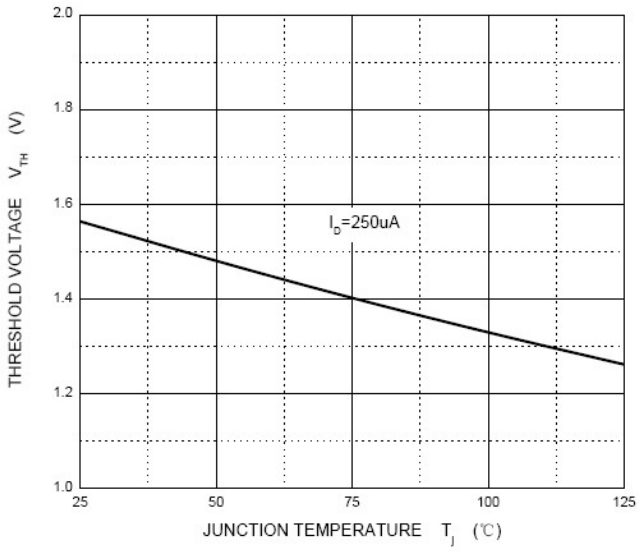
$R_{DS(ON)}$ — V_{GS}



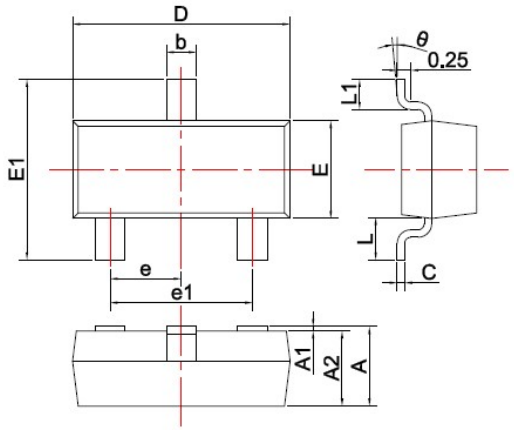
I_S — V_{SD}



Threshold Voltage



SOT-23 PACKAGE OUTLINE Plastic surface mounted package

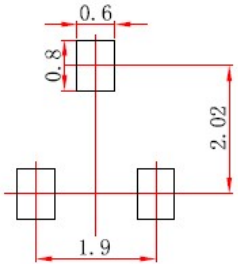


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

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.