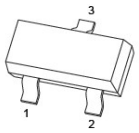
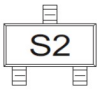
SOT-23

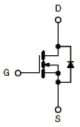


1. GATE
2. SOURCE
3. DRAIN

MARKING



Equivalent Circuit



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}	20	V
Gate-Source Voltage	V_{GS}	±8	V
Continuous Drain Current	I_D	3.2	A
Continuous Source-Drain Diode Current	I_S	0.6	
Maximum Power Dissipation(note1)	P_D	1250	mW
Junction Temperature	T_j	150	℃
Storage Temperature	Tstg	-50-+150	℃
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	100	℃/W

Note 1:Surface-mounted on FR4 board using 1 in sq pad size(Cu area=1.127 in sq[1 oz] including traces).

电特性 (TA = 25℃ 除非另有规定)

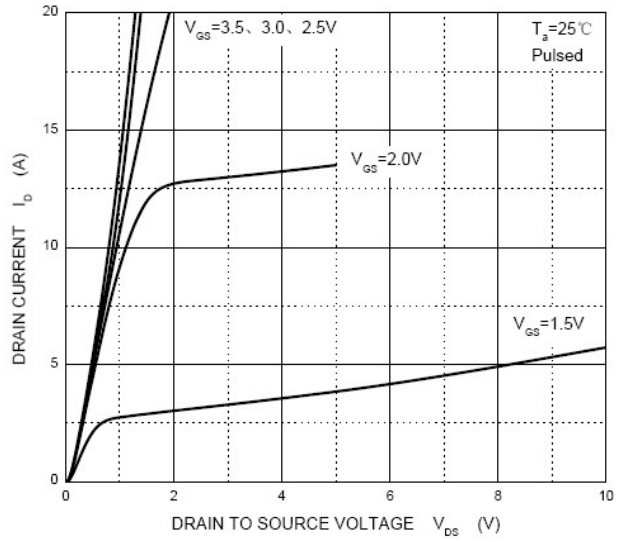
Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified).

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=10uA	20			V
Gate-Threshold voltage*	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=50uA	0.60	0.95	1.2	V
Gate-body Leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±8V			±100	nA
Zero Gate Voltage Drain current	I_{DSS}	V_{DS}=20V, V_{GS}=0V			1.5	uA
Drain-Source On-Resistance (a)	$R_{DS(ON)}$	V_{GS}=4.5V, I_D=3.6A		70	80	mΩ
		V_{GS}=2.5V, I_C=3.1A		85	115	
Forward trans conductance (a)	gfs	V_{DS}=5V, I_D=3.6A		8		S
Diode forward voltage	V_{SD}	I_S=0.94A, V_{GS}=0V		0.76	1.2	V
Dynamic						
Input capacitance(b)	Ciss	V_{DS}=10V, V_{GS}=0V,f=1MHz		300		pF
Output capacitance(b)	Coss			120		
Reverse Transfer capacitance(b)	Crss			80		
Total gate charge	Qg	V_{DS}=10V, V_{GS}=4.5V,I_D=3.6A		4.0	10	nC
Gate-source charge	Qgs			0.65		
Gate-drain charge	Qgd			1.5		
Switching (b)						
Turn-on Time	td(on)	V_{DD}=10V, R_L=5.5Ω, V_{GEN}=4.5V, I_D≈3.6A, R_G=6Ω		7	15	ns
Rise time	tr			55	80	
Turn-off Time	td(off)			16	60	
Fall time	tf			10	25	

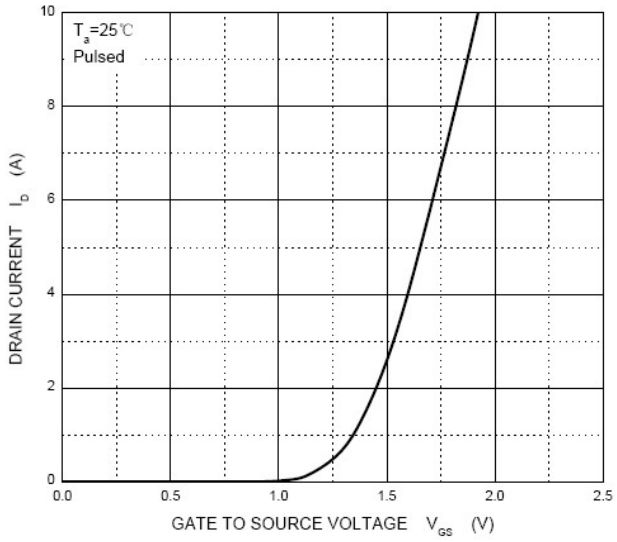
Notes: a. Pulse Test: Pulse Width ≤300us, Duty Cycle≤2%.

Typical characteristics

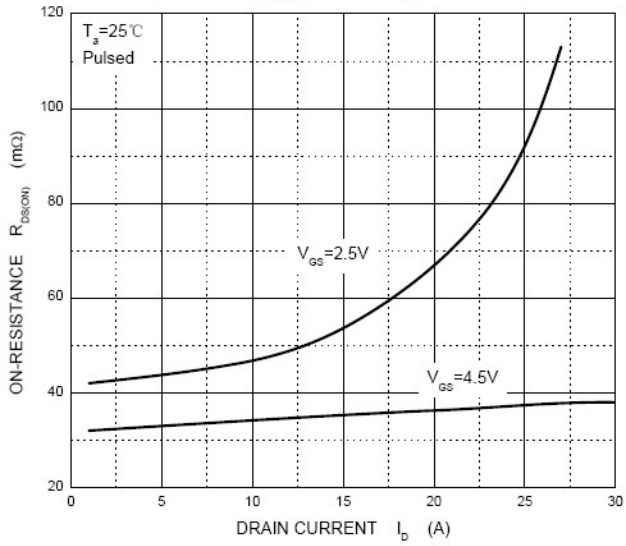
Output Characteristics



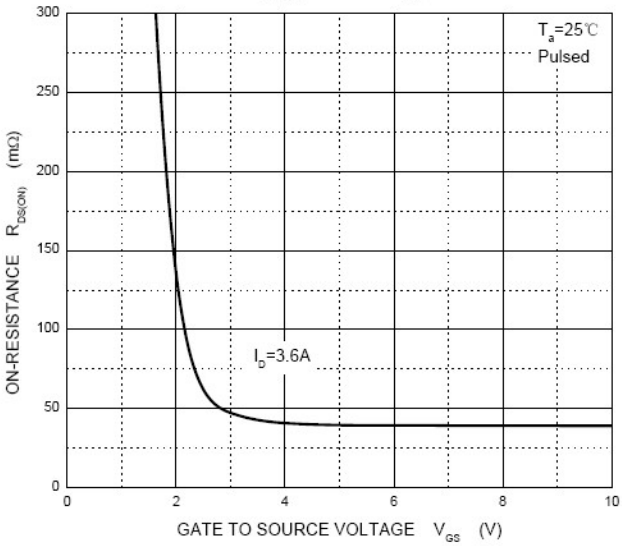
Transfer Characteristics



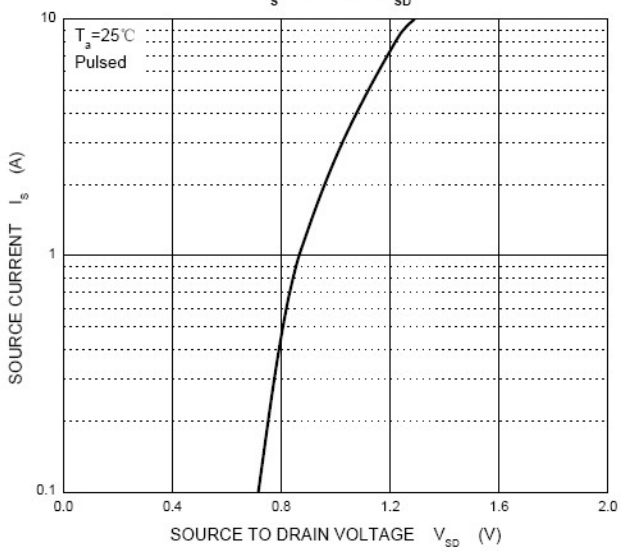
$R_{DS(ON)}$ —— I_D



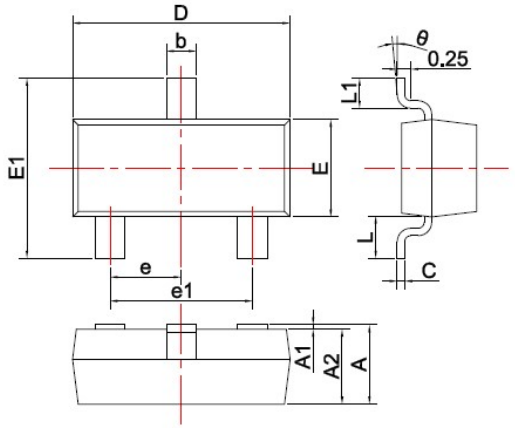
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



SOT-23 Package Information

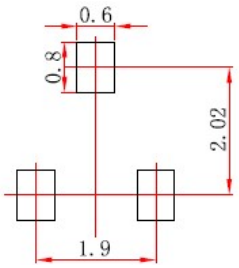


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

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.