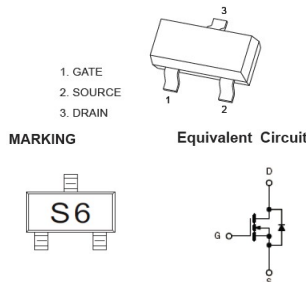




N-Channel Enhancement Mode Power MOSFET

V(BR)DSS	RDS(ON)MAX	ID
30V	47mΩ@10V	3.16A
	65mΩ@4.5V	

SOT-23



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°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	VDS	30	V
Gate-Source Voltage	VGS	±20	V
Continuous Drain Current	ID	3.16	A
Pulsed Drain Current	IDM	20	
Continuous Source-Drain Diode Current	IS	0.62	
Power Dissipation	PD	750	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-50-+150	°C
Thermal Resistance From Junction to Ambient	RθJA	100	°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	
Static						
Drain-Source Breakdown Voltage	V(BR)DSS	VGS=0V, ID=250uA	30			V
Gate-Threshold voltage*	VGS(th)	VDS=VGS, ID=250uA	1		3.0	V
Gate-body Leakage	IGSS	VDS=0V, VGS=±20V			±100	nA
Zero Gate Voltage Drain current	IDSS	VDS=30V, VGS=0V			0.5	uA
Drain-Source On-Resistance (a)	RDS(ON)	VGS=10V, ID=3.5A		38	47	mΩ
		VGS=4.5V, IC=2.8A		52	65	
Forward trans conductance (a)	gfs	VDS=4.5V, ID=2.5A		70		S
Diode forward voltage	VSD	IS=1.25A, VGS=0V		0.8	1.2	V
Dynamic						
Input capacitance(b)	Ciss	VDS=15V, VGS=0V, f=1MHz		305		pF
Output capacitance(b)	Coss			65		
Reverse Transfer capacitance(b)	Crss			29		
Gate Charge	Qg	VDS=15V, VGS=5V, ID=2.5A		3.0	4.5	nC
Total gate charge	Qgt	VDS=15V, VGS=10V, ID=2.5A		6	9	
Gate-source charge	Qgs			1.6		
Gate-drain charge	Qgd			0.6		
Gate resistance	Rg	f=1.0MHz	2.5	5	7.5	Ω
Switching (b)						
Turn-on Time	td(on)	VDD=15V, RL=15Ω, VGEN=10V, ID≈1A, RG=6Ω		7	11	ns
Rise time	tr			12	18	
Turn-off Time	td(off)			14	25	
Fall time	tf			6	10	

Notes: a. Pulse Test: Pulse Width ≤300us, Duty Cycles≤2%.
b. These parameters have no way to verify.

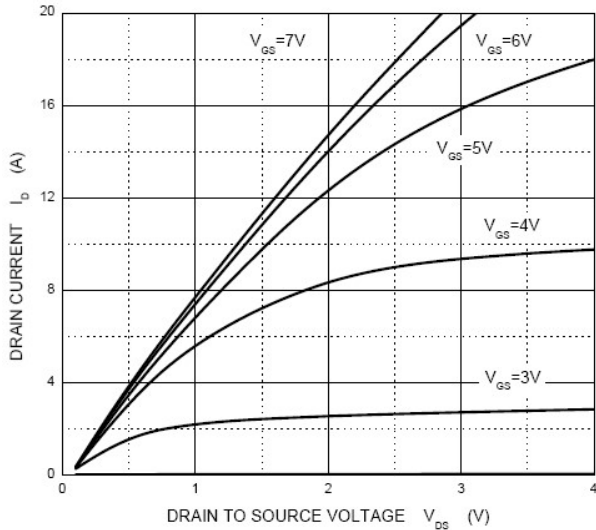




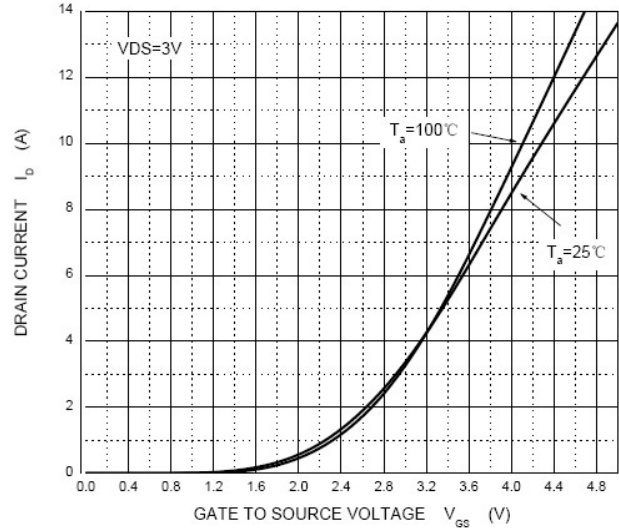
N-Channel Enhancement Mode Power MOSFET

Typical characteristics

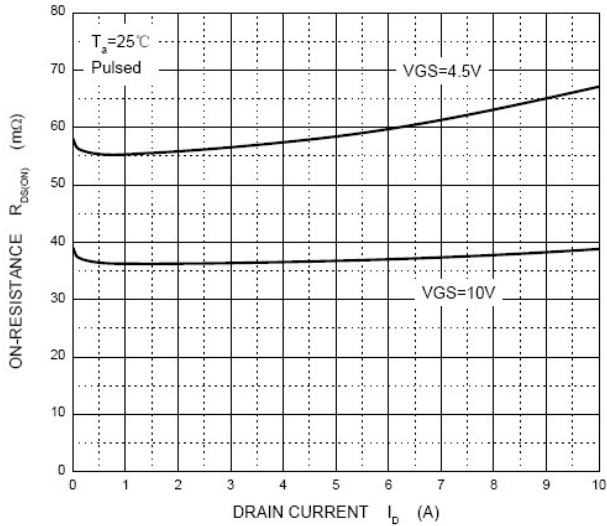
Output Characteristics



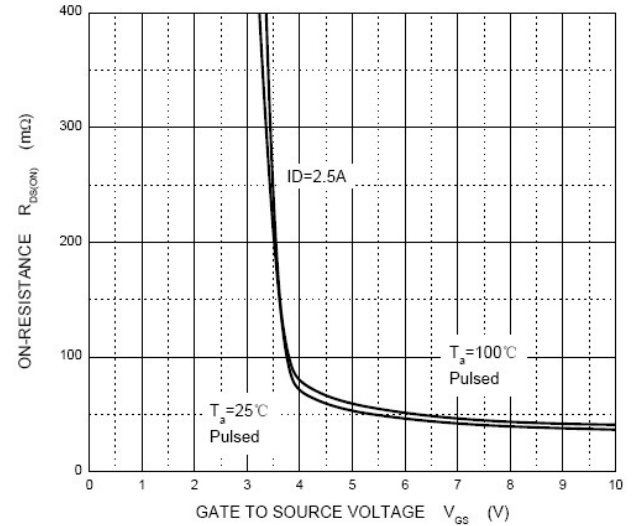
Transfer Characteristics



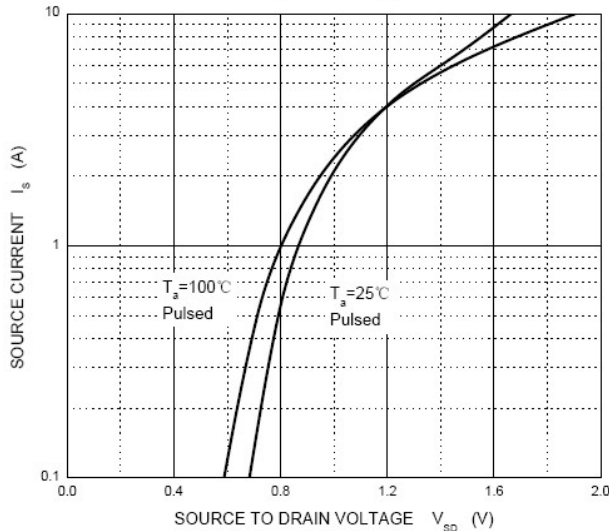
$R_{DS(ON)}$ — I_D



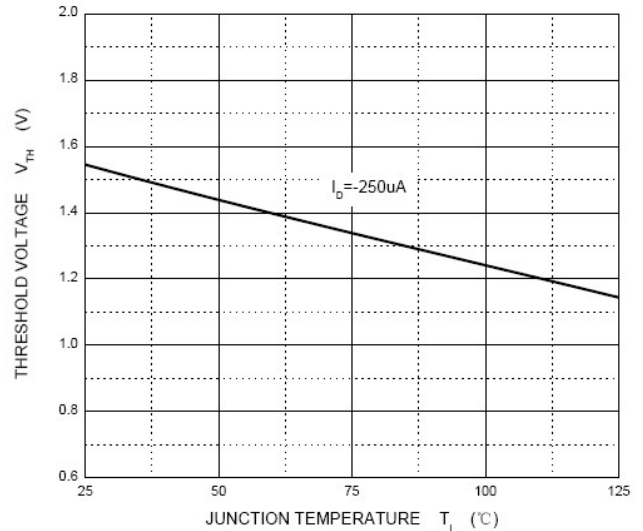
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



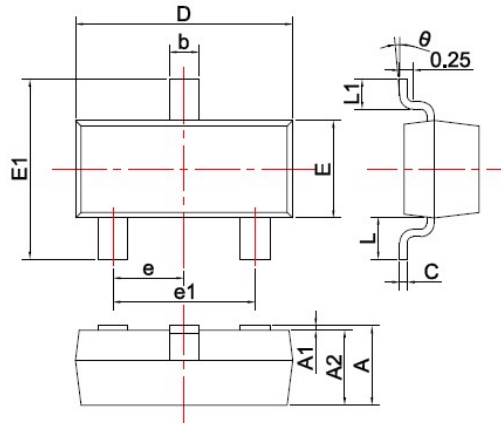
Threshold Voltage





N-Channel Enhancement Mode Power MOSFET

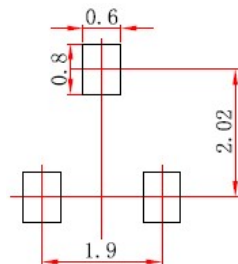
SOT-23 PACKAGE OUTLINE Plastic surface mounted package



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.