

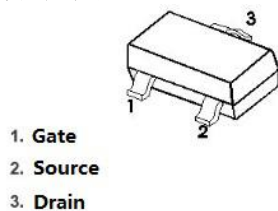
SOT-23

P沟道30V漏-源电压MOS管
P-Channel 30V(D-S) Mosfet

产品特性总结Product Summary	
VDS	-30V
RDSON(@VGS= -10V)	<55mΩ
RDSON(@VGS= -4.5V)	<85mΩ

根据客户要求打印 According to customer requirement

脚位定义Pin Definition



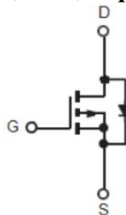
特征 Features

- 低导通电阻Low Rds(on)@VGS= -10V
- 沟道功率MOS管TrenchFET Power MOSFET
- 无卤、RoHS认证Halogen-free、RoHS Compliant
- 表贴型封装Surface Mount Package

应用 Applications

- 负载开关Load Switch
- 笔记本电脑Notebook
- 电池保护Battery Protection
- 手持式仪器Hand-Held Instruments

等效电路Equivalent circuit



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
漏源电压Drain-Source Voltage	V _{DS}	-30	V
栅源电压Gate-Source Voltage	V _{GS}	±20	V
漏极连续电流Continuous Drain Current	I _D	-4	A
漏极脉冲电流Pulsed Drain Current (note 1)	I _{DM}	-16	A
最大功耗Maximum Power Dissipation	P _D	1.25	W
结环热阻Thermal Resistance from Junction to Ambient (note 2)	R _{θJA}	100	°C/W
结温和存储温度Junction and Storage Temperature	T _J , T _{STG}	-50~+150	°C

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 Parameters	符号 Symbol	测试条件 Test Condition	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
静态特性Static Characteristics						
漏源击穿电压 Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-30	--	--	V
零栅压漏极电流 Zero gate voltage drain current	I _{DSS}	V _{DS} = -30V, V _{GS} = 0V	--	--	-1	μA
栅源漏电流Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V	--	--	±100	nA
栅源阈值电压 Gate threshold voltage (note 3)	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1	-1.6	-2.2	V
漏源极导通电阻 Drain-source on-resistance (note 3)	R _{DS(on)}	V _{GS} = -10V, I _D = -4A	--	44	55	mΩ
		V _{GS} = -4.5V, I _D = -3A	--	68	85	mΩ
二极管正向电压 Diode forward voltage (note 3)	V _{SD}	I _S = -3A, V _{GS} = 0V	--	-0.84	-1.2	V

动态特性Dynamic Characteristics (note4)						
输入电容Input Capacitance	Ciss	VDS= -15V,VGS=0V, f=1MHz	--	590	--	pF
输出电容Output Capacitance	Coss		--	62	--	pF
反向传输电容 Reverse Transfer Capacitance	Crss		--	43	--	pF
开关特性Switching Characteristics (note 4)						
开启延迟时间Turn-on delay time	td(on)	VDD= -15V,ID= -1A,RG= 3.3Ω, VGS= -10V	--	3.4	--	ns
开启上升沿时间Turn-on rise time	tr		--	10.8	--	ns
关断延迟时间Turn-off delay time	td(off)		--	26	--	ns
关断下降沿时间Turn-off fall time	tf		--	7	--	ns
总栅极电荷Total Gate Charge	Qg	VDS= -15V,ID=-4A, VGS=-4.5V	--	5.1	--	nC
栅源电荷Gate-Source Charge	Qgs		--	2	--	nC
栅漏电荷Gate-Drain Charge	Qgd		--	2.2	--	nC

***Notes :**

1. Repetitive rating: Pluse width limited by maximum junction temperature
2. Surface Mounted on FR4 board, t≤10 sec.
3. Pulse test : Pulse width≤300μs, duty cycle≤2%.
4. Guaranteed by design, not subject to production.

典型特性曲线 Typical characteristics

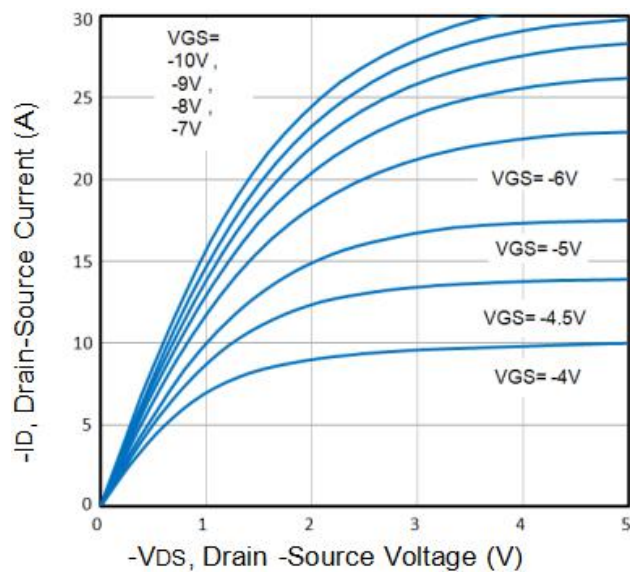


Fig1. Typical Output Characteristics

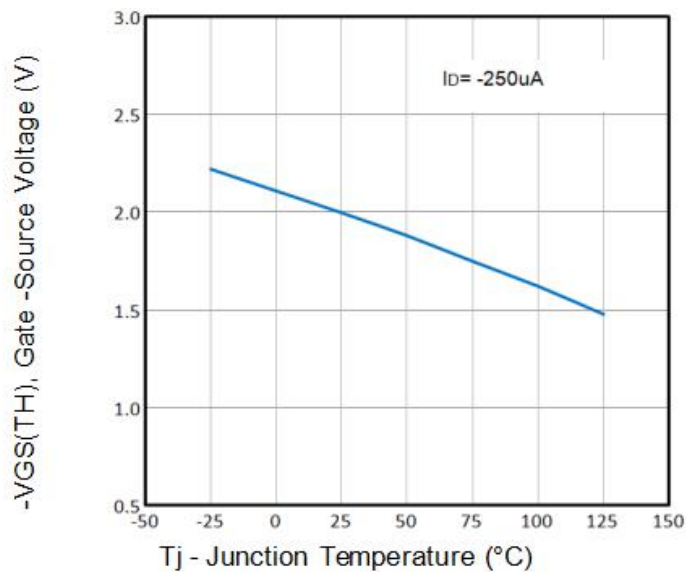


Fig2. Normalized Threshold Voltage Vs. Temperature

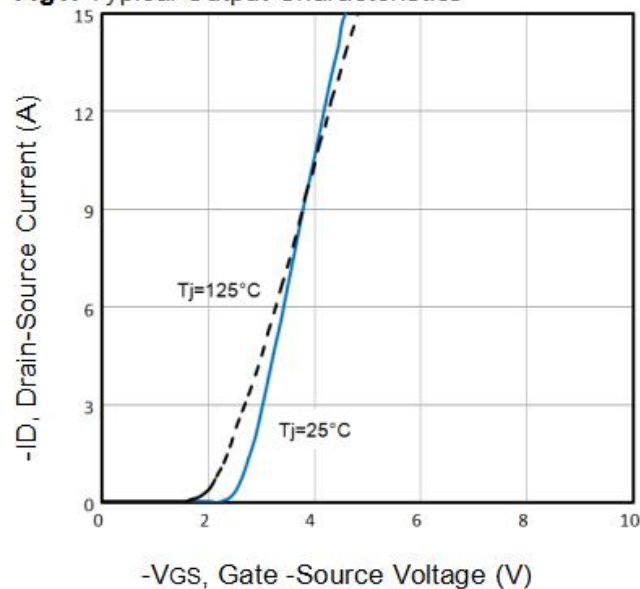


Fig3. Typical Transfer Characteristics

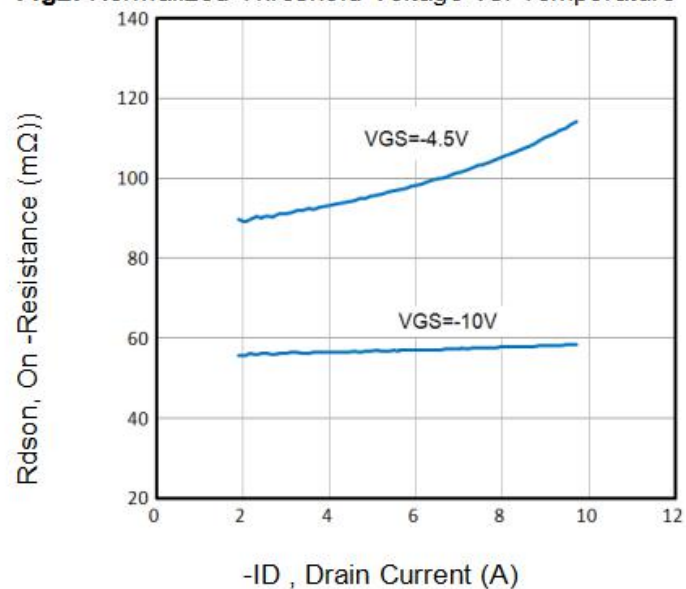


Fig4. On-Resistance vs. Drain Current and Gate

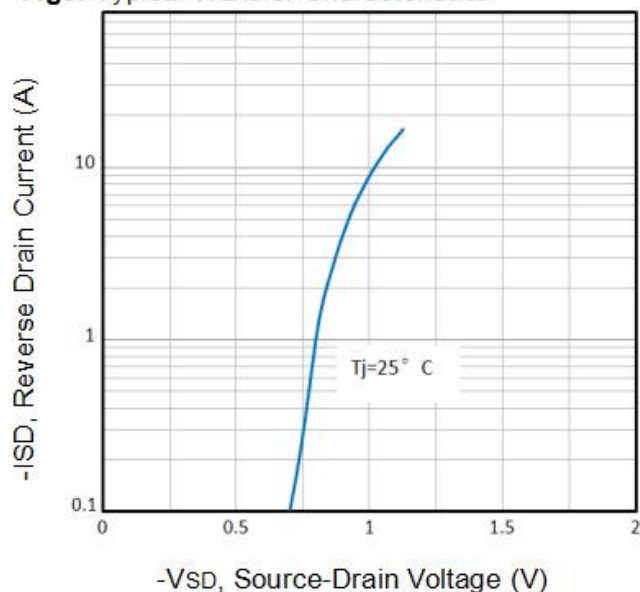


Fig5. Typical Source-Drain Diode Forward Voltage

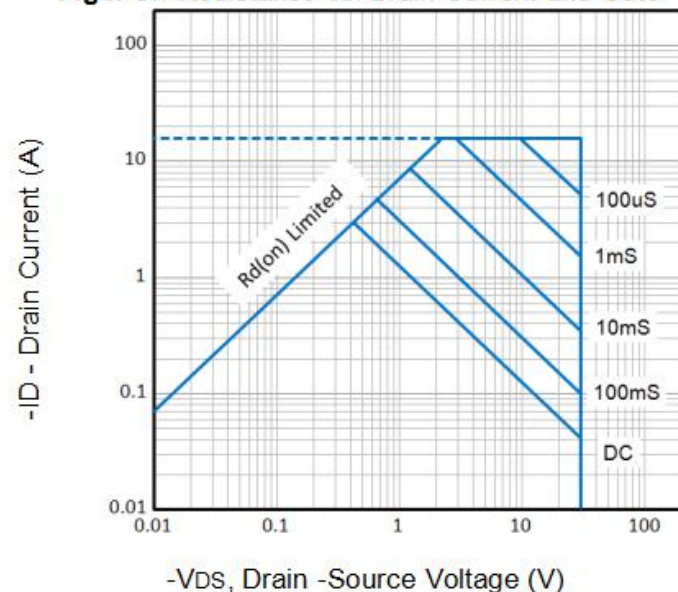


Fig6. Maximum Safe Operating Area

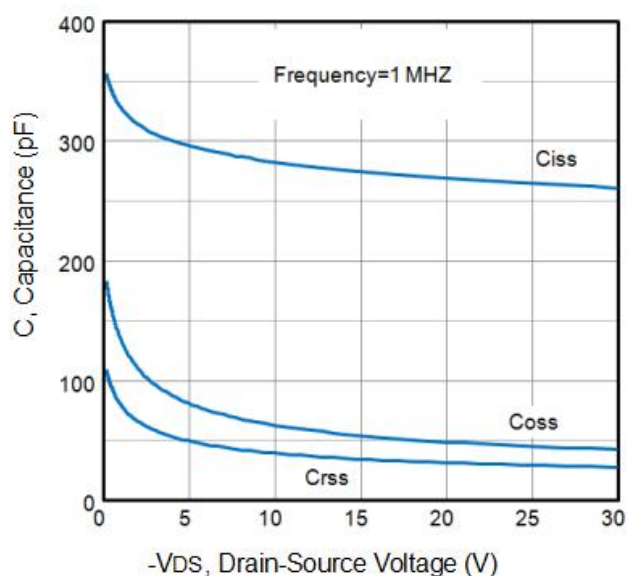


Fig7. Typical Capacitance Vs. Drain-Source Voltage

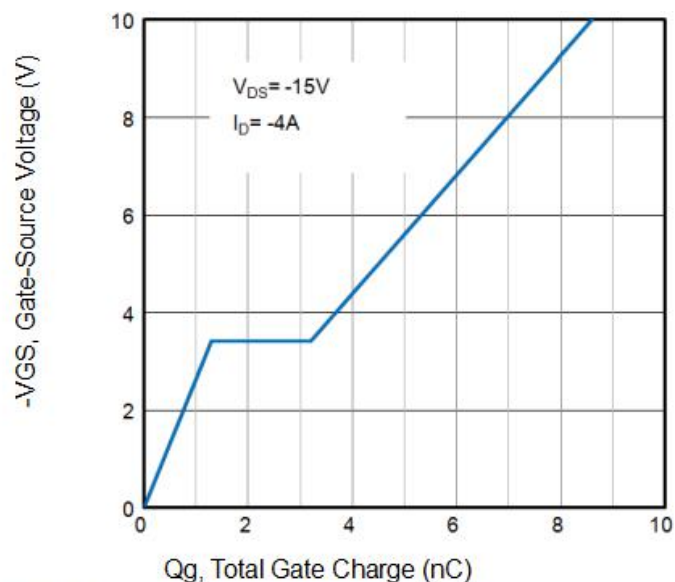
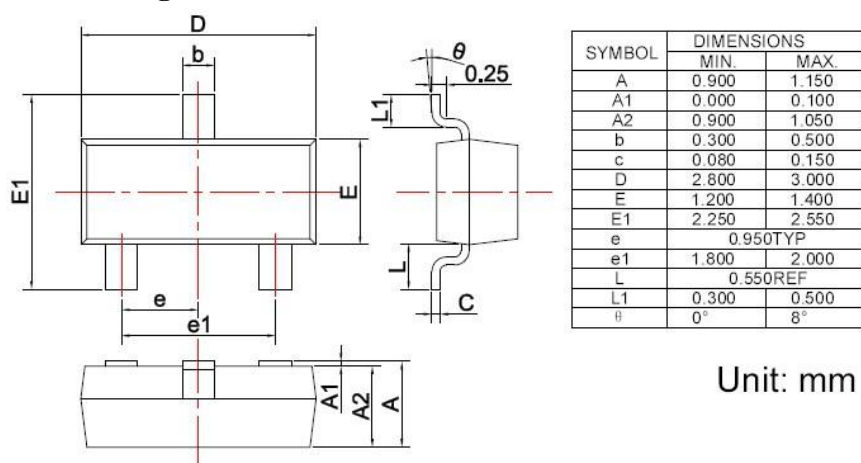
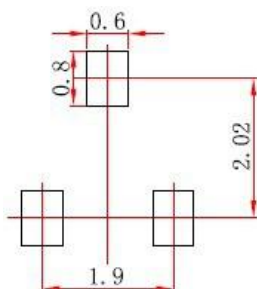


Fig8. Typical Gate Charge Vs. Gate-Source Voltage

封装外形图 SOT-23 Package Outline Dimensions



焊盘设计参考Precautions: PCB Design



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.