

### 描述 / Descriptions

SOT-23 塑封封装 N 沟道 MOS 场效应管。N-CHANNEL MOSFET in a SOT-23 Plastic Package.

### 特征 / Features

输出电阻小、性能高；SOT-23 封装，利于设计安装。静电保护达 1500V

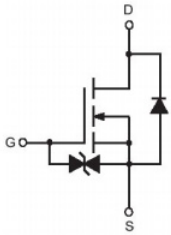
Low RDS(on), rugged and reliable, compact industry standard SOT-23 surface mount package. ESD protected up to 1500V

### 用途 / Applications

用于直流-直流转换器，电源管理便携式和电池供电的产品。

Typical applications are dc-dc converters, power management in portable and battery-powered products.

### 内部等效电路 / Equivalent Circuit



### 引脚排列 / Pinning



PIN 1 : G      PIN 2 : S      PIN 3 : D

### 印章代码 / Marking

Marking	HSTs
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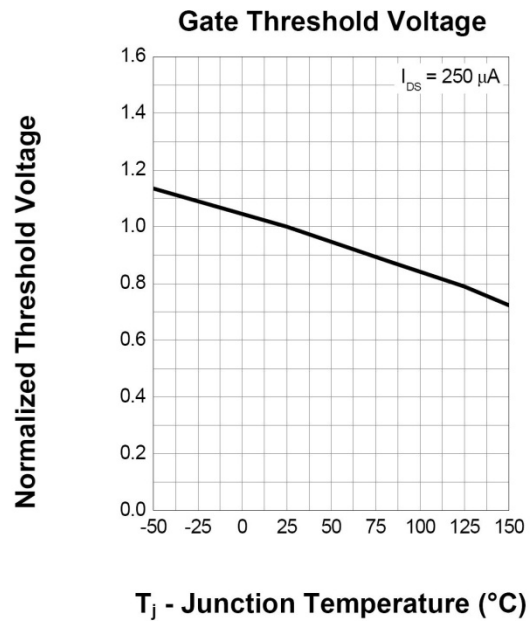
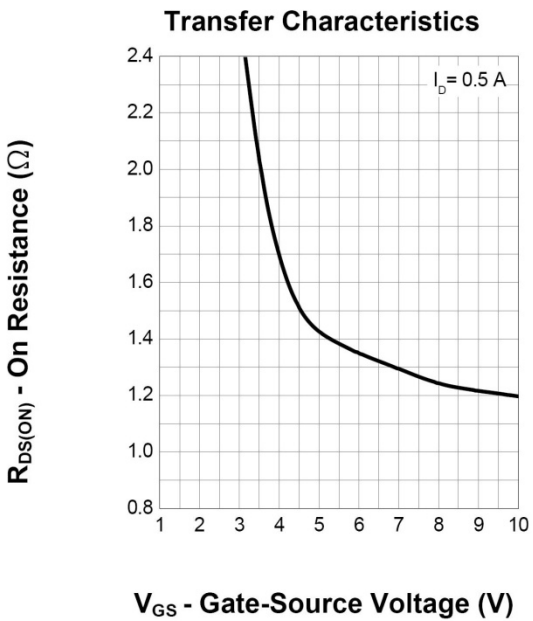
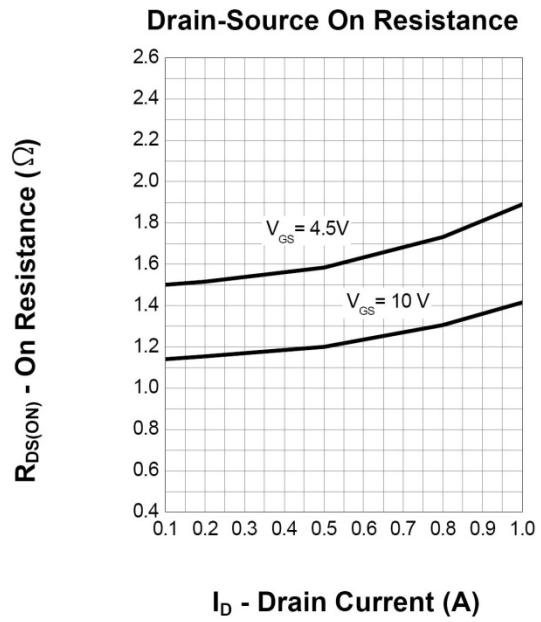
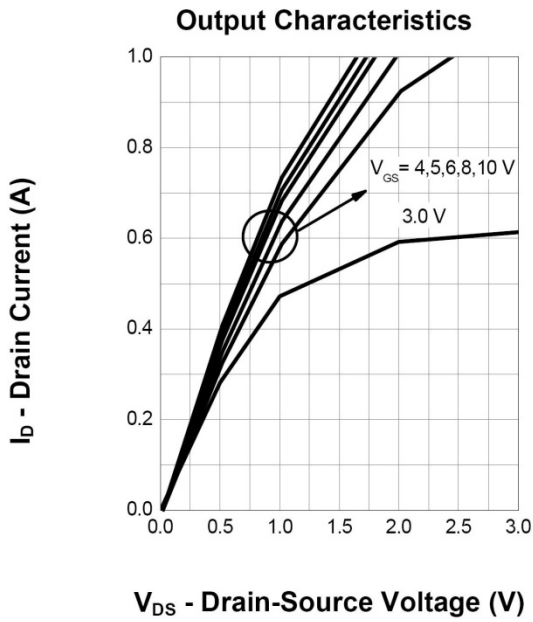
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	$V_{DSS}$	50	V
Gate-Source Voltage	$V_{GSS}$	±20	V
Drain Current – Continuous	$I_D$	200	mA
Peak Drain Current	$I_{DM}$	800	mA
Power Dissipation	$P_D$	225	mW
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	556	°C/W
Storage Temperature Range	$T_{stg}$	-55~150	°C

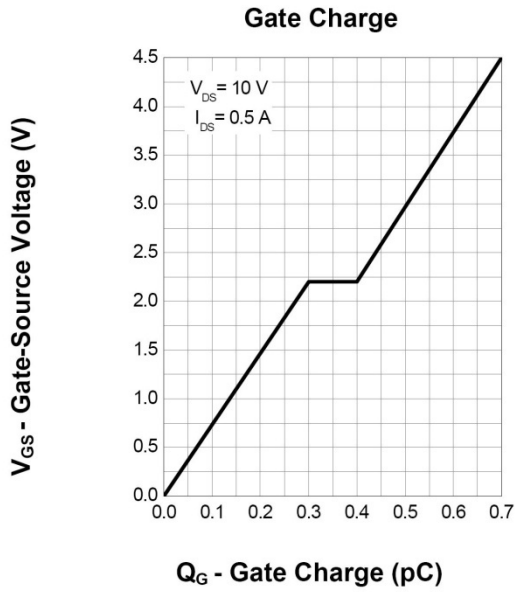
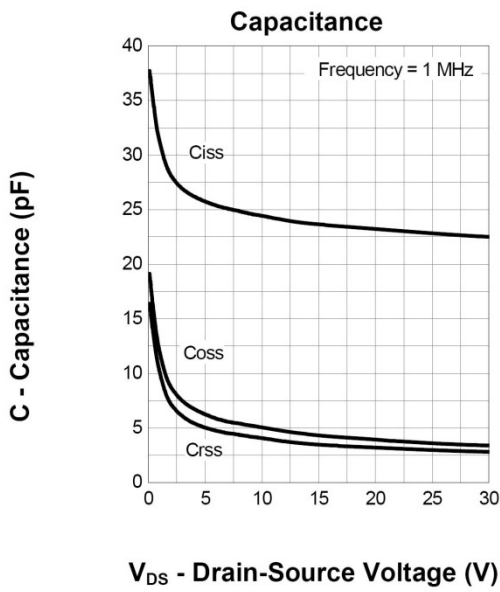
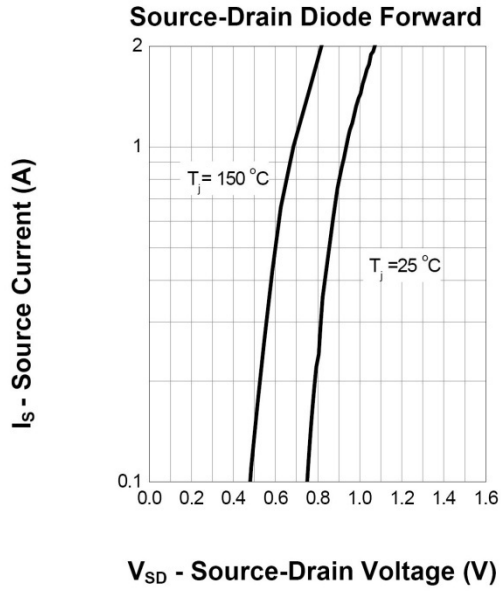
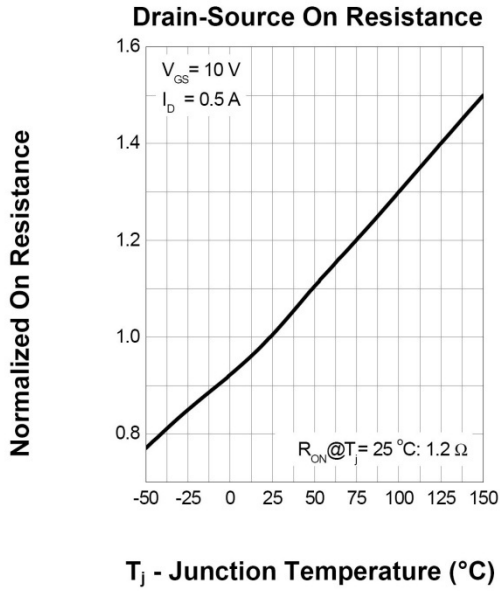
**电性能参数 / Electrical Characteristics(Ta=25°C)**

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0$ $I_D = 250 \mu A$	50			V
Zero Gate Voltage Drain Current	$I_{DSS(1)}$	$V_{GS}=0$ $V_{DS}=25V$			0.1	μA
	$I_{DSS(2)}$	$V_{GS}=0$ $V_{DS}=50V$			0.5	μA
Gate-Body Leakage.	$I_{GSS}$	$V_{DS}=0V$ $V_{GS}=\pm 20$			±10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=1.0mA$	0.5		1.5	V
Static Drain-Source On-Resistance	$R_{DS(on)(1)}$	$V_{GS}=10V$ $I_D=200mA$		2.5	3.5	Ω
	$R_{DS(on)(2)}$	$V_{GS}=4.5V$ $I_D=200mA$		3.1	5	Ω
	$R_{DS(on)(3)}$	$V_{GS}=2.75V$ $I_D<200mA$ $T_a=-40^{\circ}C$ to $+85^{\circ}C$		5.6	10	Ω
Forward Transconductance	$g_{FS}$	$V_{DS}=25V$ $I_D=200mA$	100			mS
Input Capacitance	$C_{iss}$	$V_{DS} = 25V$ $V_{GS} = 0$ $f = 1.0$ MHz		22.8		pF
Output Capacitance	$C_{oss}$	$V_{DS} = 25V$ $V_{GS} = 0$ $f = 1.0$ MHz		3.5		
Transfer Capacitance	$C_{rss}$	$V_{DS} = 25V$ $V_{GS} = 0$ $f = 1.0$ MHz		2.9		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS} = 30V$ $I_{DS}=0.5 A$		3.8		ns
Turn-Off Delay Time	$t_{d(off)}$			19	36	ns

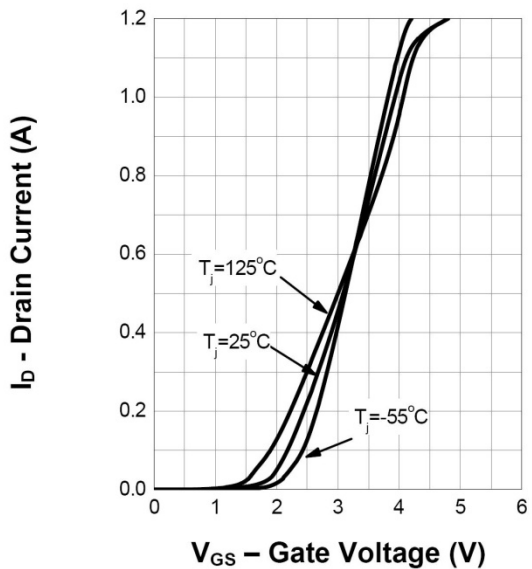
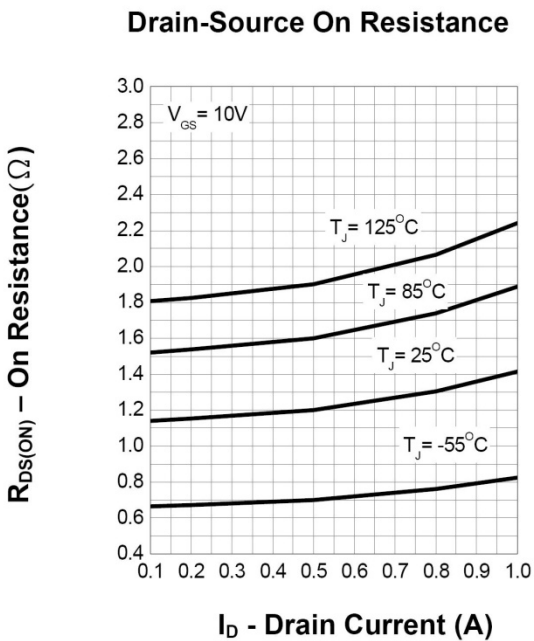
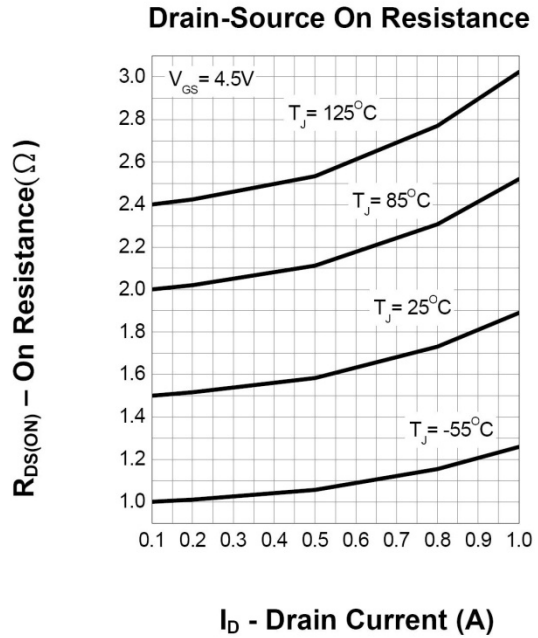
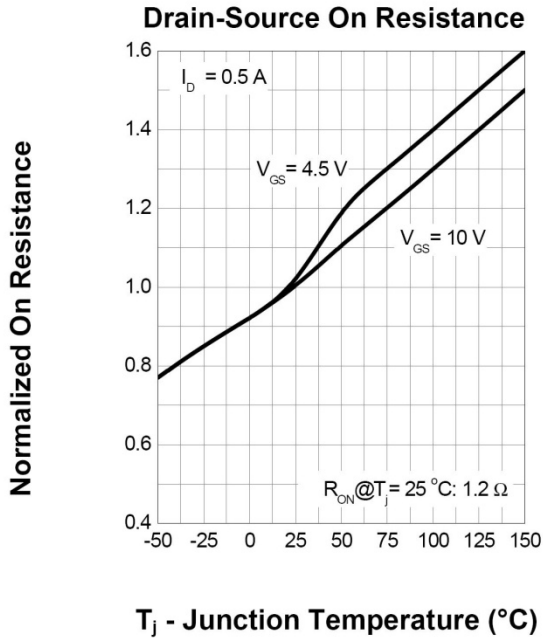
电参数曲线图 / Electrical Characteristic Curve



电参数曲线图 / Electrical Characteristic Curve



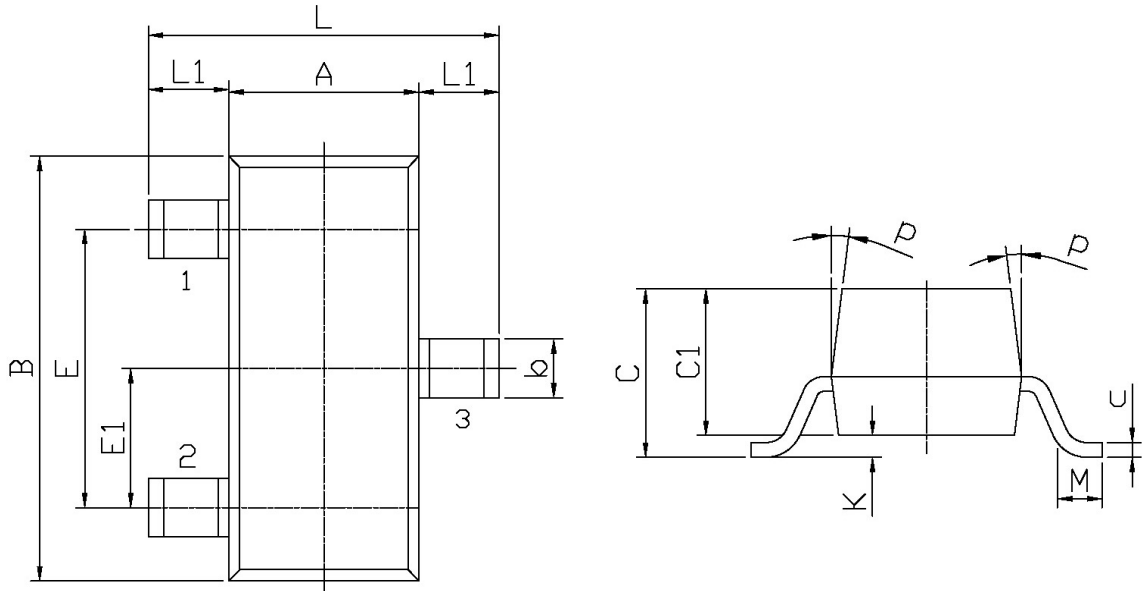
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

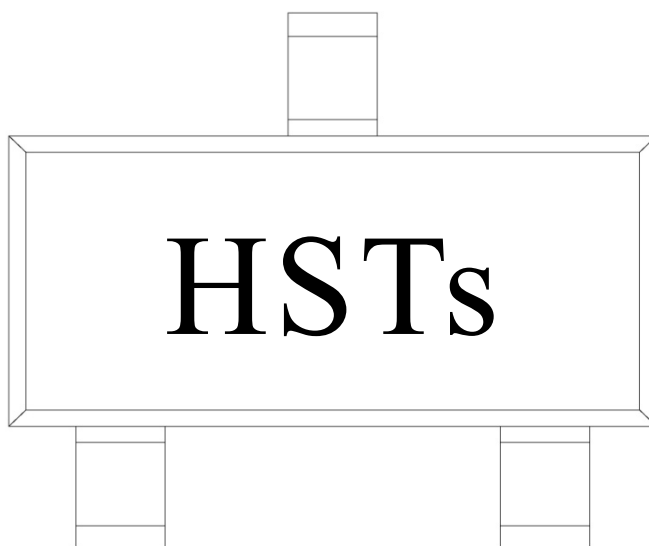
SOT-23

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			

印章说明 / Marking Instructions



说明：

H： 为公司代码

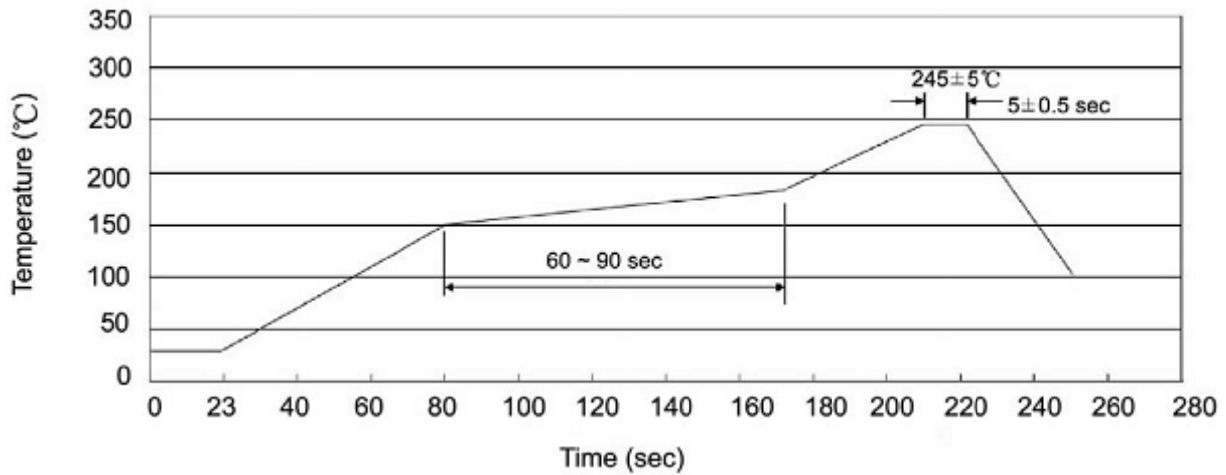
STs： 为型号代码

Note:

H: CompanyCode.

STs: Product Type.

**回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)**



说明：

- 1、预热温度 25 ~ 150°C，时间 60 ~ 90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
- 3.Cooling Speed: 2~10°C/sec.

**耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions**

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

**包装规格 / Packaging SPEC.**

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-23	3,000	10	30,000	6	180,000	7" x8	180×120×180	390×385×205

**使用说明 / Notices**



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