

### 描述 / Descriptions

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

### 特征 / Features

低栅电荷，低反馈电容，开关速度快，能承受高能量脉冲雪崩和整流方式。

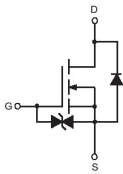
Low gate charge, low crss, fast switching, withstand high energy pulse in the avalanche and commutation mode.

### 用途 / Applications

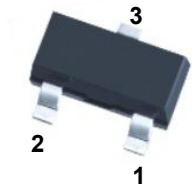
用于高效 DC/DC 转换和功率开关。

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

### 内部等效电路 / Equivalent Circuit



### 引脚排列 / Pinning



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

### 印章代码 / Marking

Marking	H05N5
---------	-------

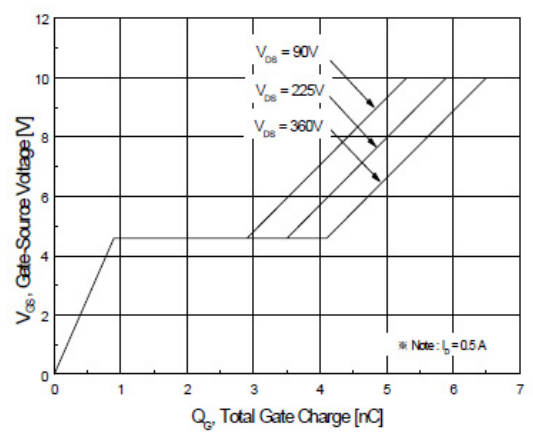
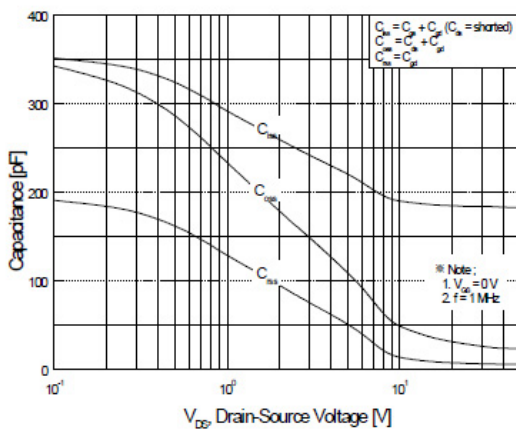
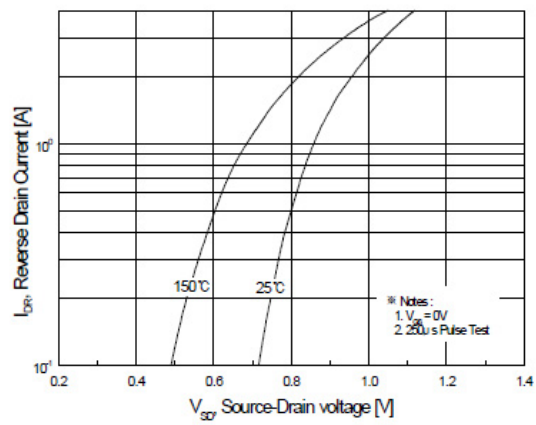
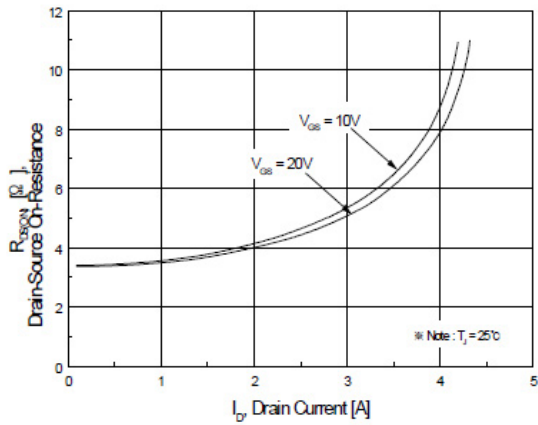
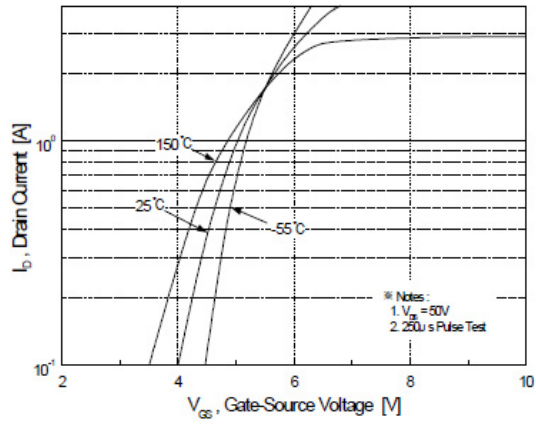
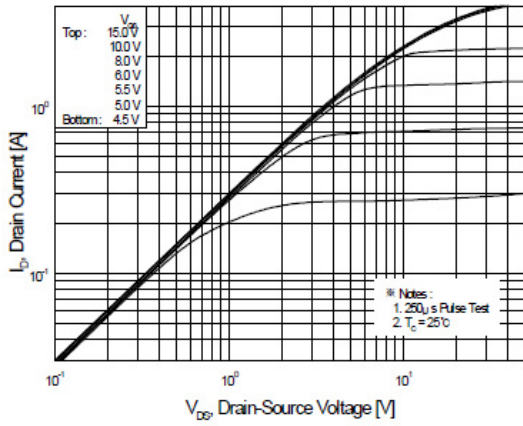
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	$V_{DSS}$	500	V
Drain Current - Continuous	$I_D(T_C=25^\circ C)$	0.5	A
Drain Current - Continuous	$I_D(T_C=100^\circ C)$	0.4	A
Drain Current- Pulsed	$I_{DM}$	2	A
Gate-Source Voltage	$V_{GSS}$	$\pm 30$	V
Avalanche Current	$I_{AR}$	0.5	A
Power Dissipation	$P_D$	0.5	W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55~150	$^\circ C$

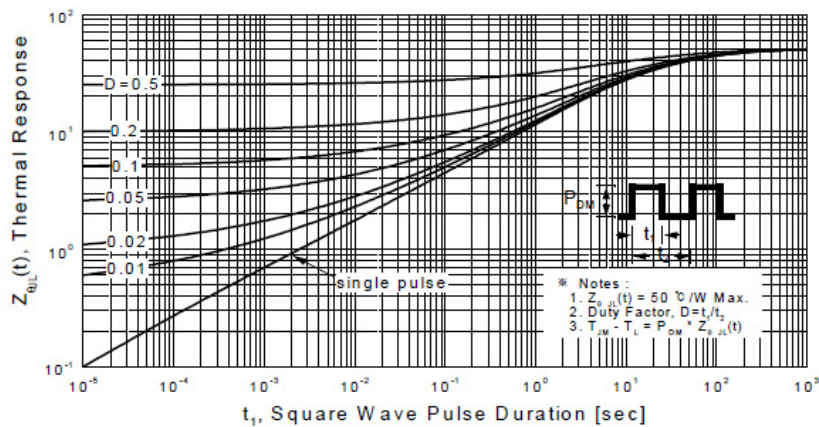
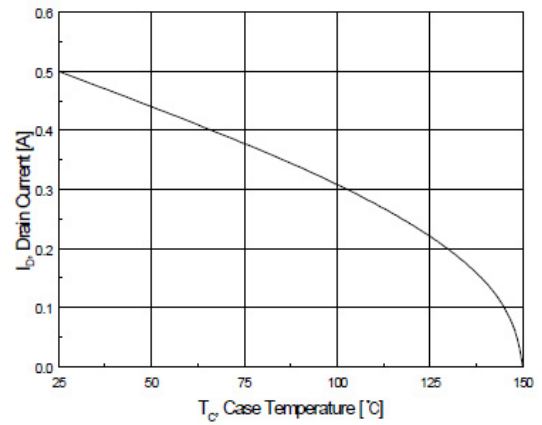
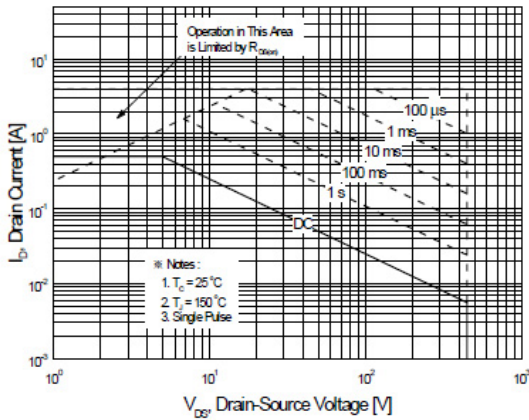
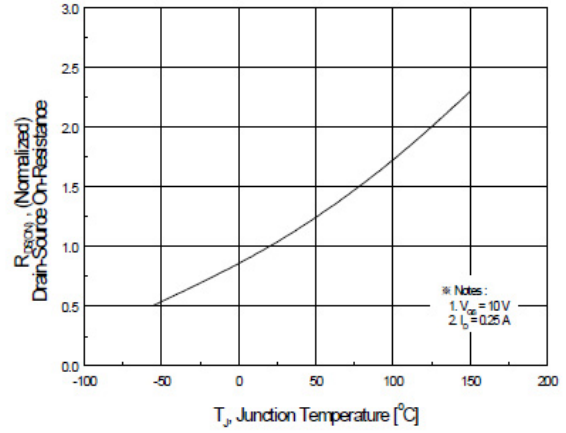
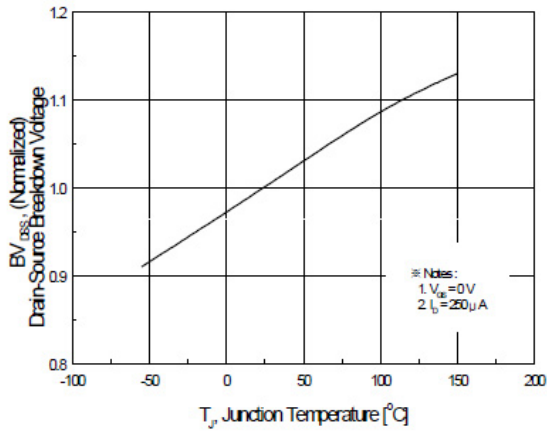
**电性能参数 / Electrical Characteristics(Ta=25°C)**

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-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_{DS}=250\mu A$	500			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=500V$ $V_{GS}=0V$			1.0	$\mu A$
		$V_{DS}=400V$ $T_C=125^\circ C$			100	$\mu A$
Gate-Body Leakage.	$I_{GSS}$	$V_{GS}=\pm 30V$ $V_{DS}=0V$			$\pm 0.1$	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_{DS}=250\mu A$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=0.25A$			30	$\Omega$
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_F=0.5A$			1.5	V
Reverse Recovery Time	$T_{rr}$	$I_{DS}=0.5A$ $d_{SD}/dt=100A/\mu s$		102		ns
Reverse Recovery Charge	$Q_{rr}$			0.26		$\mu C$
Input Capacitance	$C_{iss}$	$V_{DS}=0V$ $V_{GS}=25V$ $f=1.0MHz$		185	240	pF
Output Capacitance	$C_{oss}$			29	40	pF
Reverse Transfer Capacitance	$C_{rss}$			6.5	8.5	pF
Turn-On Delay Time	$t_{d(on)}$	$I_{DS}=0.5$ $R_G=25\Omega$ $AV_{GEN}=10V$ $V_{DD}=225V$ $R_L=30\Omega$		7.5	25	ns
Turn-On Rise Time	$t_r$			21	50	ns
Turn-Off Delay Time	$t_{d(off)}$			23	55	ns
Turn-Off Fall Time	$t_f$			36	80	ns

电参数曲线图 / Electrical Characteristic Curve



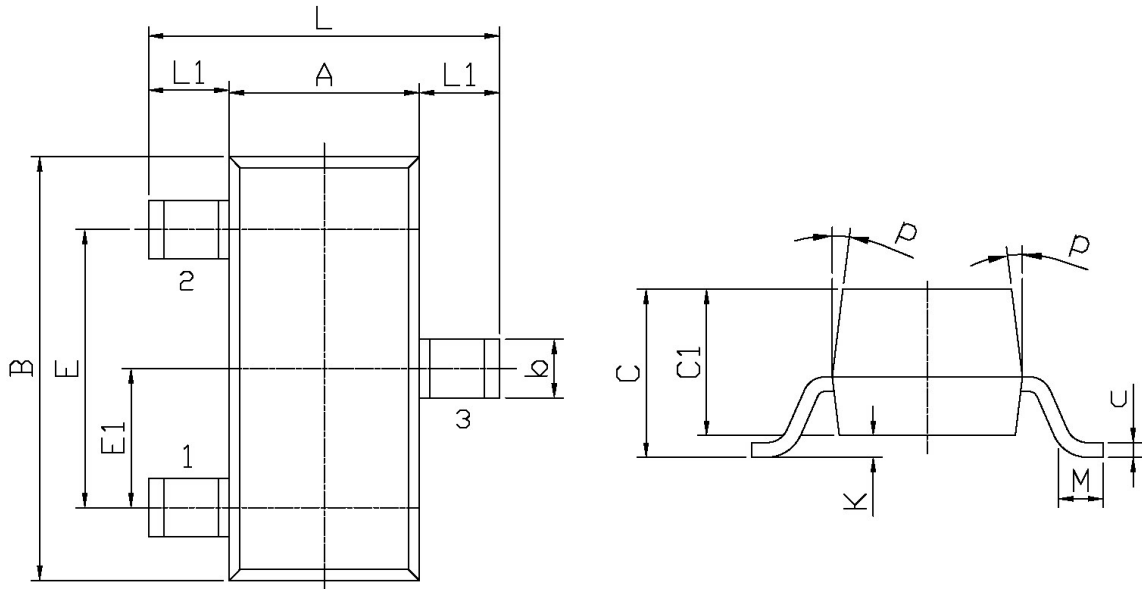
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

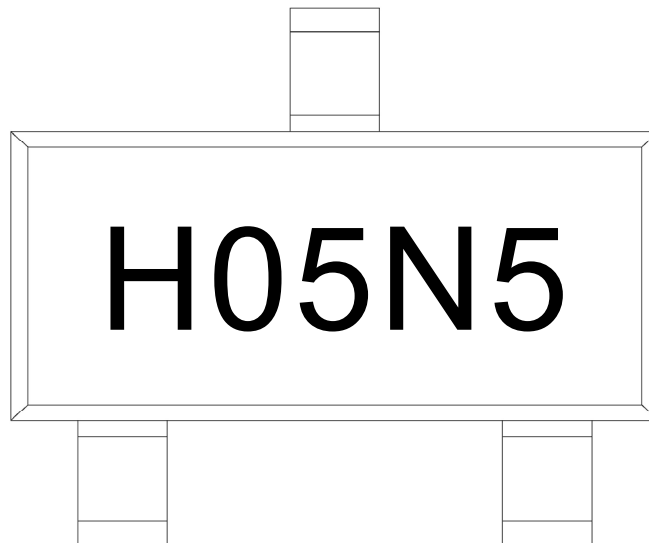
SOT-23

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

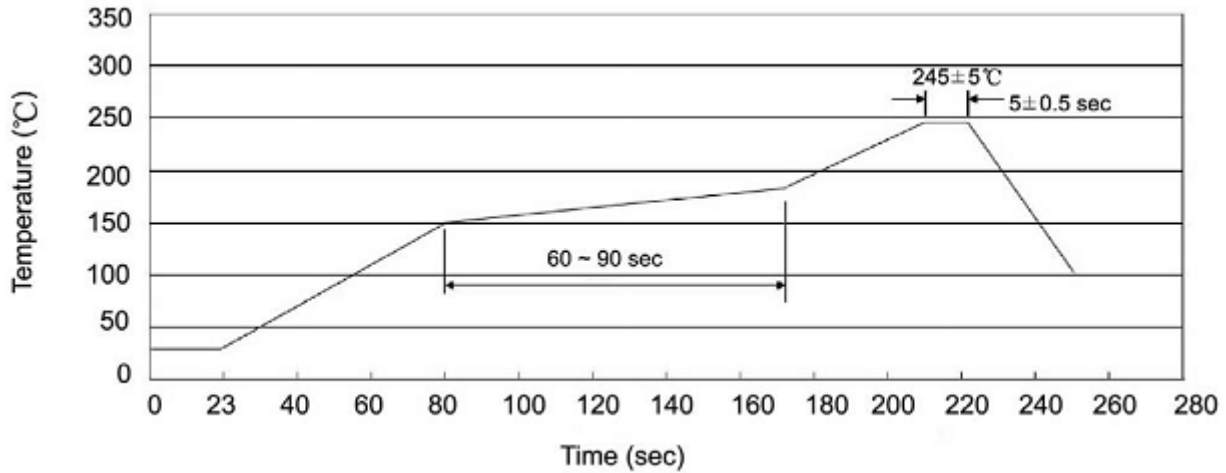
05N5： 为型号代码

Note:

H : Company Code.

05N5: 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	8	240,000	7" ×8	180×120×180	385×257×392

**使用说明 / Notices**