

**描述 / Descriptions**

SOT23-3 塑封封装 N 道 MOS 场效应管。

N- CHANNEL MOSFET in a SOT23-3 Plastic Package.

特征 / Features

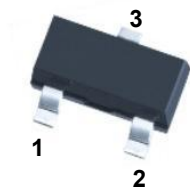
RDS(ON)导通电阻小，SOT23-3 封装，无卤产品。

Low RDS(ON),SOT23-3 package,HF Product.

用途 / Applications

电池管理，高速开关，低功率 DC-DC 转换。

Battery management,High speed switch,low power DC to DC converter.

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

PIN1 : G

PIN 2 : S

PIN 3 : D

印章代码 / Marking

Marking	A8H
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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}	20	V
Gate-Source Voltage		V_{GSS}	± 10	V
Drain Current – Continuous		I_D	4.5	A
Pulsed Drain Current		I_{DM}	12	A
Power Dissipation		P_D	1.4	W
Storage Temperature Range		T_{stg}	-55~150	°C
Maximum Junction-to-Ambient	$t \leq 10s$	$R_{\theta JA}$	90	°C/W
Maximum Junction-to-Ambient	Steady-State		125	
Maximum Junction-to-Lead	Steady-State	$R_{\theta JL}$	80	

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	$V_{(BR)DSS}$	$V_{GS}=0$	$I_D=250\mu A$	20	21.5		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$	$V_{DS}=20V$			1.0	μA
Gate–Body Leakage.	I_{GSS}	$V_{GS}=\pm 10V$	$V_{DS}=0V$			± 100	nA
Static Drain–Source On–Resistance	$R_{DS(on)1}$	$V_{GS}=4.5V$	$I_D=4.5A$		19	25	m Ω
	$R_{DS(on)2}$	$V_{GS}=2.5V$	$I_D=4.0A$		24	38	m Ω
Drain–Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$	$I_D=1A$			1.2	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$	$I_D=50\mu A$	0.5	0.77	1.0	V
Input Capacitance	C_{iss}	$V_{GS}=0V, f=1MHz$	$V_{DS}=10V$		860		pF
Output Capacitance	C_{oss}				800		
Reverse Transfer Capacitance	C_{rss}				495		
Gate resistance	R_g	$V_{GS}=0V, f=1MHz$	$V_{DS}=0V$		4.9		Ω

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
Total Gate Charge	Qg(10V)	$V_{GS}=10V, V_{DS}=10V$ $I_D=4.5A$		12.5		nC
Total Gate Charge	Qg(4.5V)			6		
Gate Source Charge	Qgs			1		
Gate Drain Charge	Qgd			2		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DS}=10V$ $R_{GEN}=3\Omega, R_L=1.7\Omega$		3		ns
Turn-On Rise Time	t_r			7.5		
Turn-Off Delay Time	$t_{d(off)}$			20		
Turn-Off Fall Time	t_f			6		

电参数曲线图 / Electrical Characteristic Curve

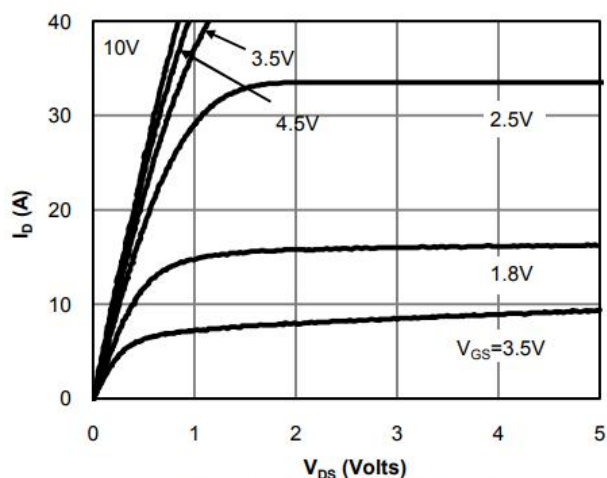


Fig 1: On-Region Characteristics

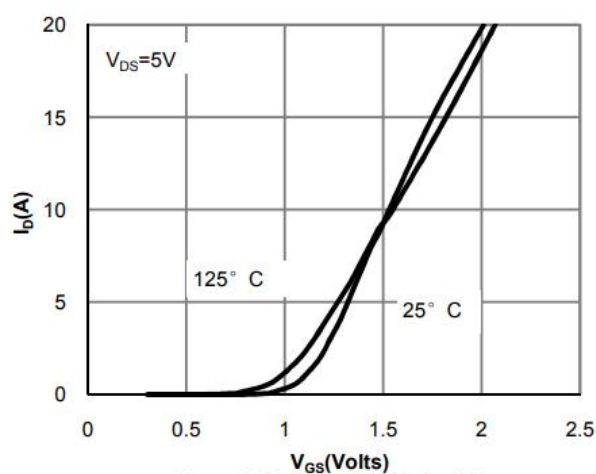


Figure 2: Transfer Characteristics

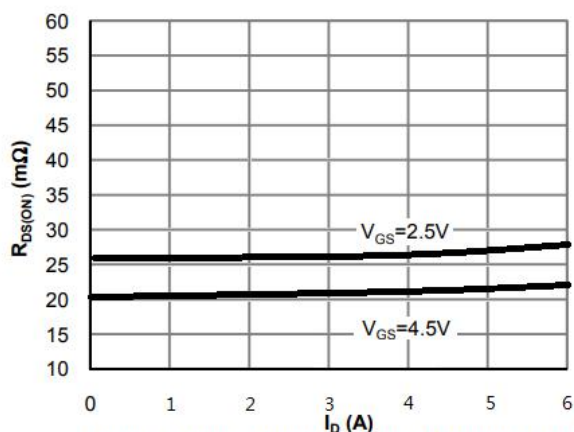


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

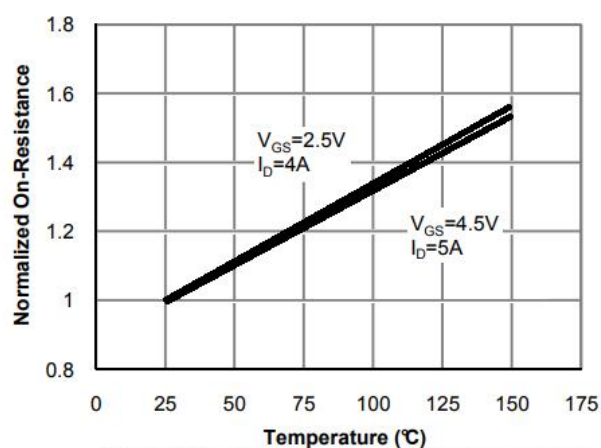


Figure 4: On-Resistance vs. Junction Temperature

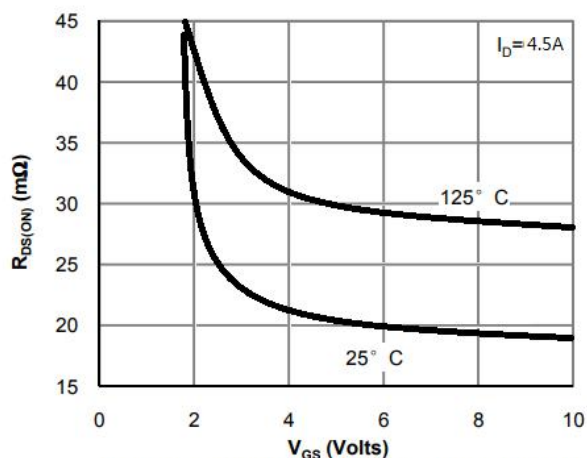


Figure 5: On-Resistance vs. Gate-Source Voltage

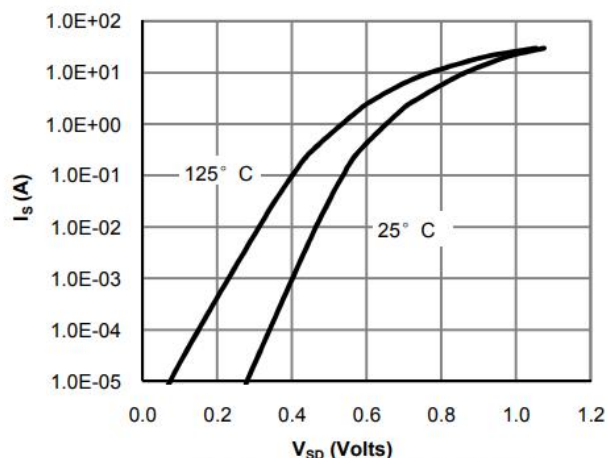
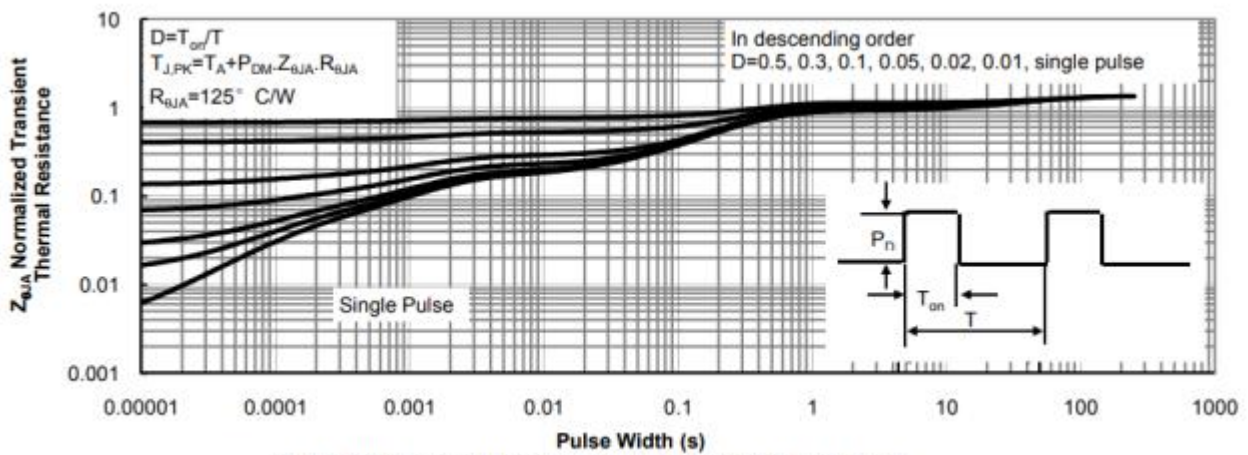
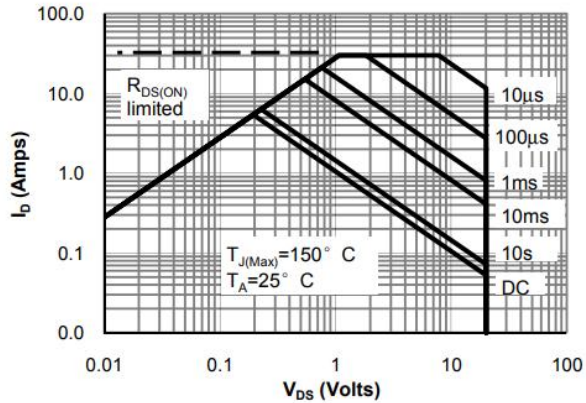
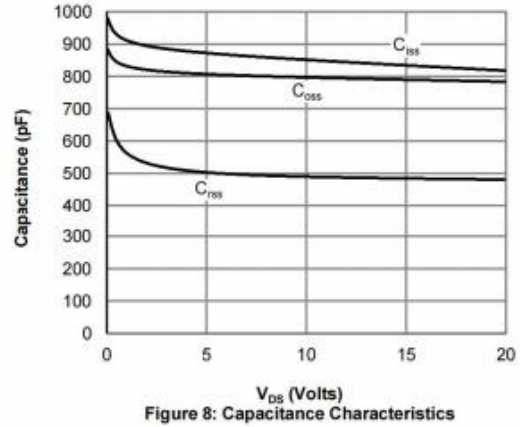
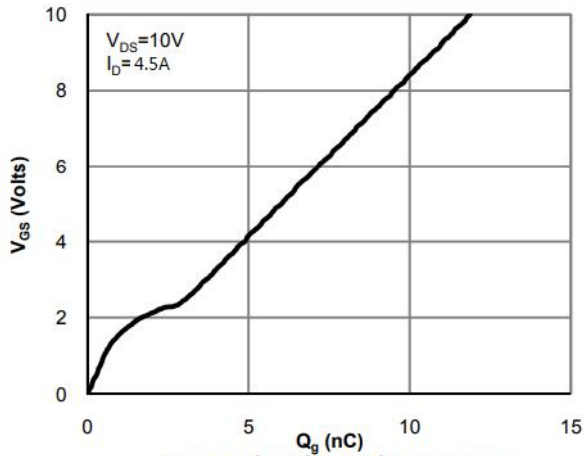
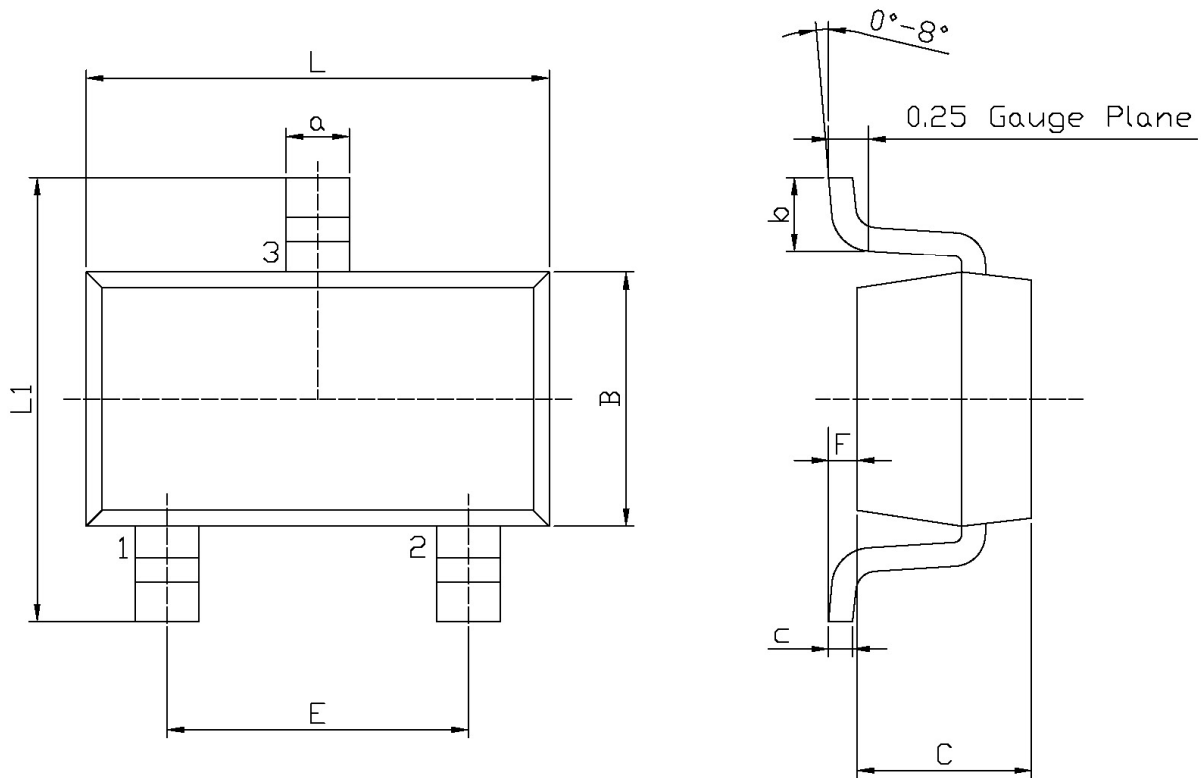


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

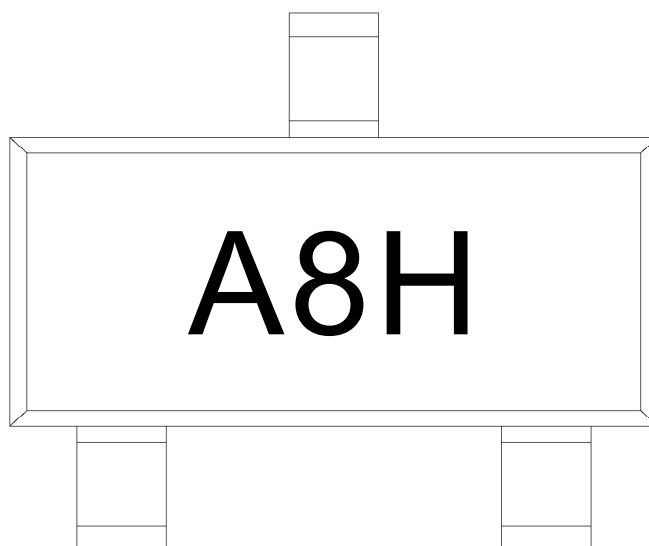


Unit: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.82	3.02	a	0.35	0.50
B	1.50	1.70	c	0.10	0.20
C	0.90	1.30	b	0.35	0.55
L1	2.60	3.00	F	0	0.15
E	1.80	2.00			

SOT23-3

印章说明 / Marking Instructions



说明：

A8: 为型号代码

H: 为公司代码

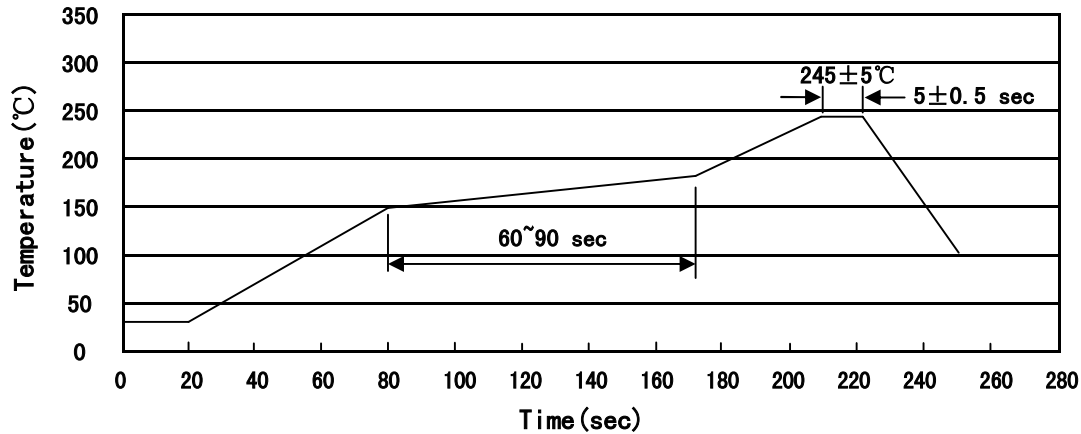
Note:

A8 : Product Type Code

H: Company Code.



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 150 ~ 180°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:150~180°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 ³)		
	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	3,000	10	30,000	4	120,000	7" × 8	210×205×205	445×230×435

使用说明 / Notices