/ Revised record

版本	修订日期	有修订的页码	修订涉及的内容	拟制	审核
A	2019-4-18	ALL	参照 AO3400，首次制定	蓝月葵	肖志华
B	2020-5-28	1	特征栏增加无卤标示	谢小倩	刘晓荣

/ Descriptions

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

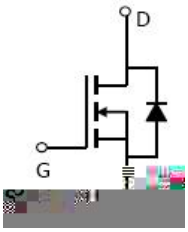
/ Features

V_{DS} (V) = 30V
I_D = 5.8 A (V_{GS} = 10V)
$R_{DS(ON)}$ < 28mΩ (V_{GS} = 10V)
$R_{DS(ON)}$ < 33mΩ (V_{GS} = 4.5V)
$R_{DS(ON)}$ < 52mΩ (V_{GS} = 2.5V)
无卤产品。HF Product.

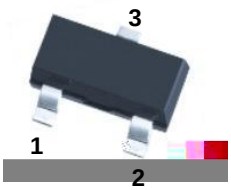
/ Applications

适用于作负载开关或脉宽调制应用。
This device is suitable for use as a load switch or in PWM applications.

/ Equivalent Circuit



/ Pinning



PIN1：G　　PIN 2：S　　PIN 3：D

/ Marking

Marking	A0H

/ Absolute Maximum Ratings(Ta=25)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DS}	30	V
Drain Current – Continuous	I_D	5.8	A
Drain Current- Continuous	I_D(T_a=70℃)	4.9	A
Pulsed Drain Current	I_{DM}	30	A
Gate-Source Voltage	V_{GS}	±12	V
Total Power Dissipation	P_D	1.4	W
Total Power Dissipation	P_D(T_a=70℃)	1.0	W
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to 150	℃

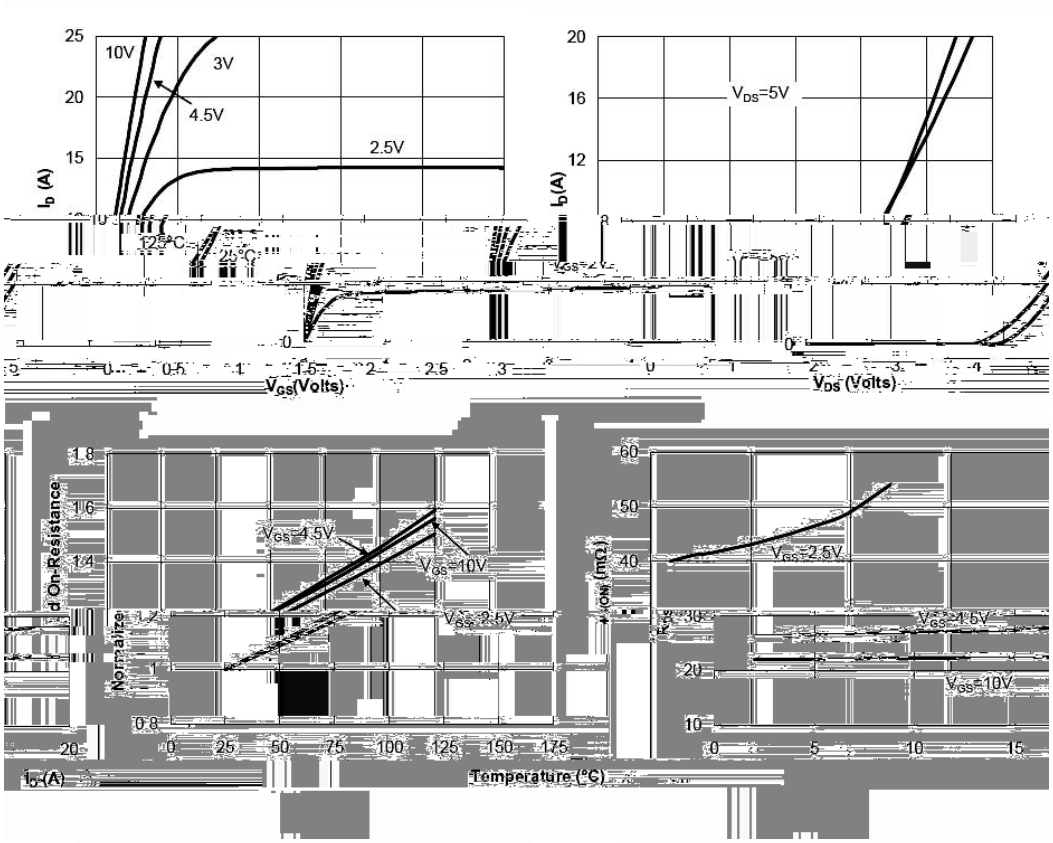
/ Electrical Characteristics(Ta=25)

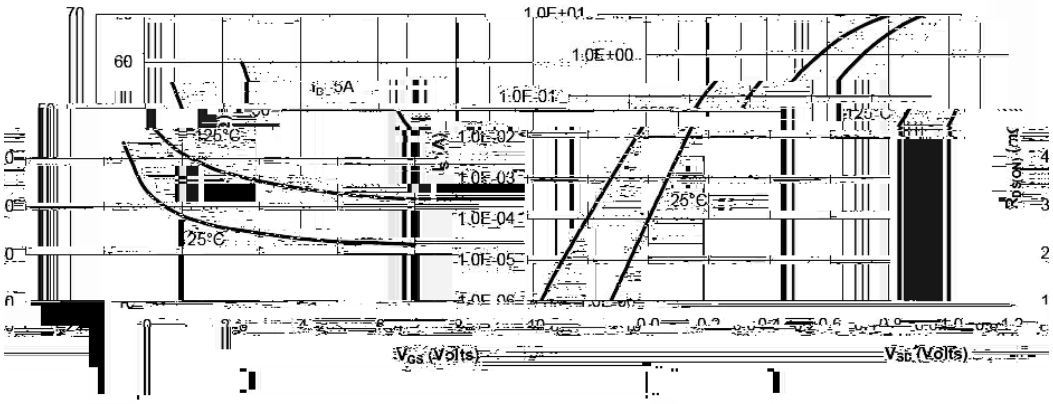
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain–Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=24V V_{GS}=0V			1	μA
		V_{DS}=24V V_{GS}=0V T_J=55℃			5	μA
Gate–Body Leakage.	I_{GSS}	V_{GS}=±12V V_{DS}=0V			±0.1	μA
On–State Drain Current	$I_{D(on)}$	V_{GS}=4.5V V_{DS}=5V	30			A
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250μA	0.7	1.1	1.4	V
Static Drain–Source On–Resistance	$R_{DS(on)(1)}$	V_{GS}=10V I_D=5.8A		22.8	28	mΩ
	$R_{DS(on)(2)}$	V_{GS}=10V I_D=5.8A T_J=125℃		32	39	
	$R_{DS(on)(3)}$	V_{GS}=4.5V I_D=5A		27.3	33	
	$R_{DS(on)(4)}$	V_{GS}=2.5V I_D=4A		43.3	52	
Forward Transconductance	g_{FS}	V_{DS}=5V I_D=5A	10	15		S
Drain–Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=1A		0.77	1	V

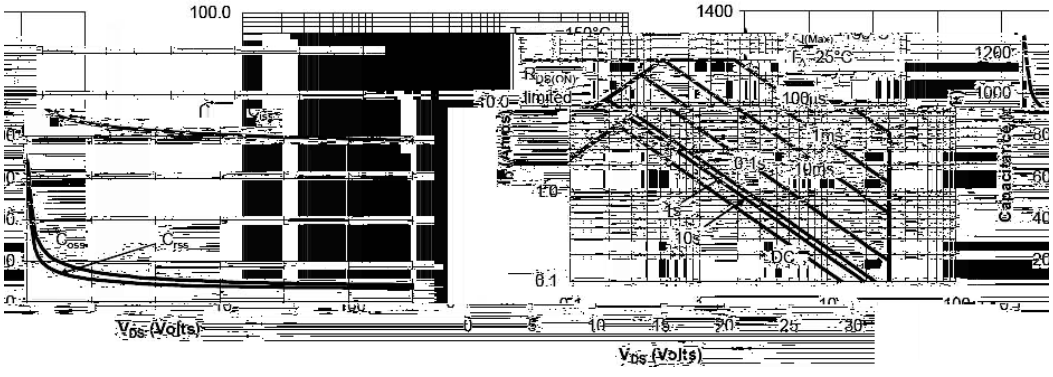
/ Electrical Characteristics(Ta=25)

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
Input Capacitance	C_{iss}	V_{DS}=15V V_{GS}=0V f=1MHz		823	1030	pF
Output Capacitance	C_{oss}			99		
Reverse Transfer Capacitance	C_{rss}			77		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V, f=1MHz		1.2	3.6	Ω
Total Gate Charge	Q_g	V_{GS}=4.5V, V_{DS}=15V, I_D=5.8A		9.7	12	nC
Gate Source Charge	Q_{gs}			1.6		
Gate Drain Charge	Q_{gd}			3.1		
Turn–On Delay Time	$t_{d(on)}$	V_{GS}=10V R_L=2.7Ω V_{DS}=15V R_{GEN}=3Ω		3.3	5	ns
Turn–On Rise Time	t_r			4.8	7	
Turn–Off Delay Time	$t_{d(off)}$			26.3	40	
Turn–Off Fall Time	t_f			4.1	6	
Body Diode Reverse Recovery Time	t_{rr}	I_F=5A dI/dt=100A/μs		16	20	ns
Body Diode Reverse Recovery Charge	Q_{rr}	I_F=5A dI/dt=100A/μs		8.9	12	nC

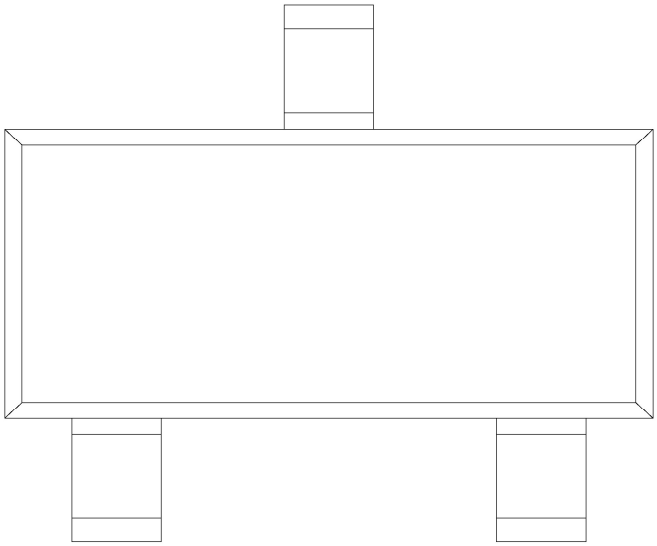
/ Electrical Characteristic Curve







/ Marking Instructions



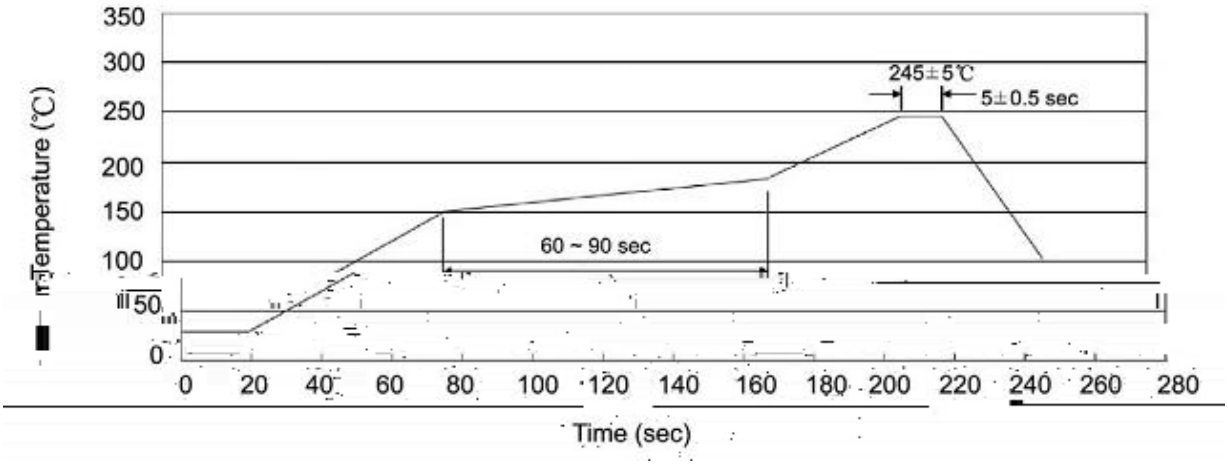
说明：

A0： 为型号代码

H： 为公司代码

Note:

( ) /



说明：

1、预热温度 150～180℃，时间 60～90sec;

2、峰值温度 245±5℃，时间持续为 5±0.5sec;

3、焊接制程冷却速度为 2～10℃/sec.

Note:

1.Preheating:150~180℃, Time:60~90sec.

2.Peak Temp.:245±5℃, Duration:5±0.5sec.

3. Cooling Speed: 2~10℃/sec.

/ Resistance to Soldering Heat Test Conditions

温度：260±5℃　　时间：10±1 sec.　　Temp.:260±5℃　　Time:10±1 sec

/ 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	3,000	10	30,000	6	180,000	7″ ×8	180×120×180	390×385×205

/ Notices