

AP3400S

N-Channel Power MOSFET

描述 / Descriptions

SOT23 塑封封装 N 道 MOS 场效应管。N- CHANNEL MOSFET in a SOT23 Plastic Package.

特征 / Features

$V_{DS} = 30V$

$I_D = 5.8 A (V_{GS} = 10V)$

$R_{DS(ON)} < 29m\Omega (V_{GS} = 10V)$

$R_{DS(ON)} < 33m\Omega (V_{GS} = 4.5V)$

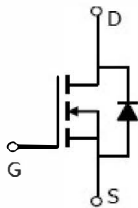
$R_{DS(ON)} < 52m\Omega (V_{GS} = 2.5V)$

用途 / Applications

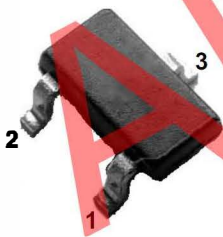
适用于作负载开关或脉宽调制应用。

This device is suitable for use as a load switch or in PWM applications.

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	
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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 _{DS}	30	V
Drain Current – Continuous	I _D	5.8	A
Drain Current- Continuous	I _D (T _a =70°C)	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°C)	1.0	W
Operating and Storage Junction Temperature Range	T _J , T _{STG}	-55 to 150	°C

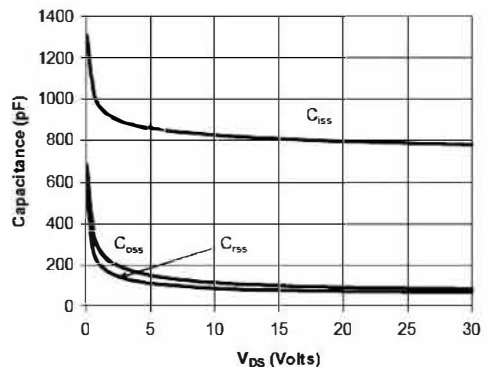
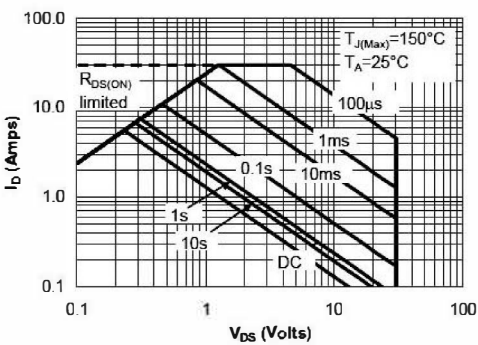
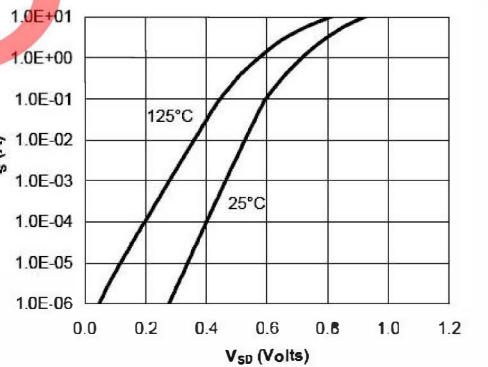
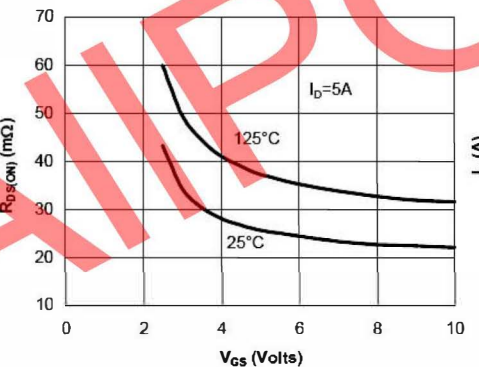
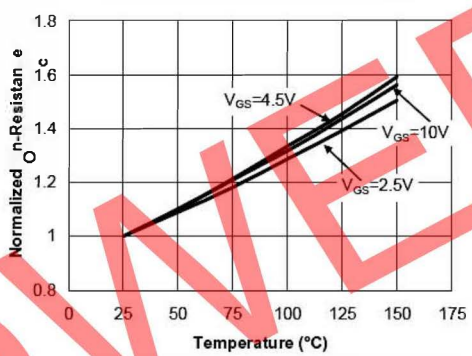
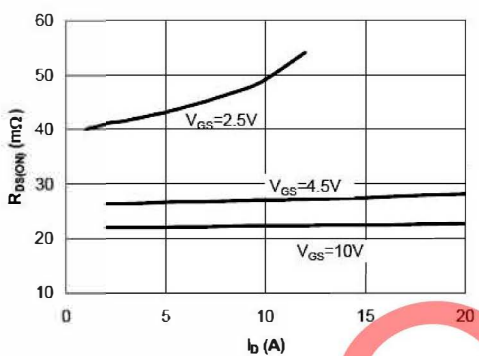
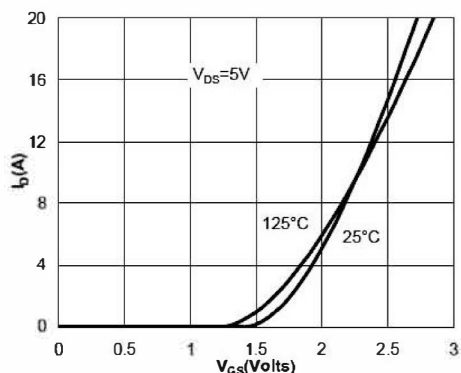
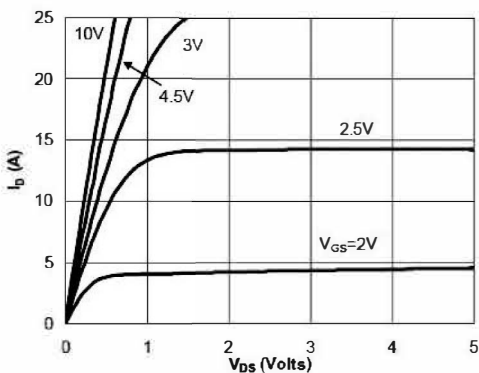
电性能参数 / Electrical Characteristics(Ta=25°C)

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–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°C			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		29	32	mΩ
	R _{DS(on)(2)}	V _{GS} =10V I _D =5.8A T _J =125°C			39	
	R _{DS(on)(3)}	V _{GS} =4.5V I _D =5A		32	36	
	R _{DS(on)(4)}	V _{GS} =2.5V I _D =4A		40	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
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		
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	

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电参数曲线图 / Electrical Characteristic Curve



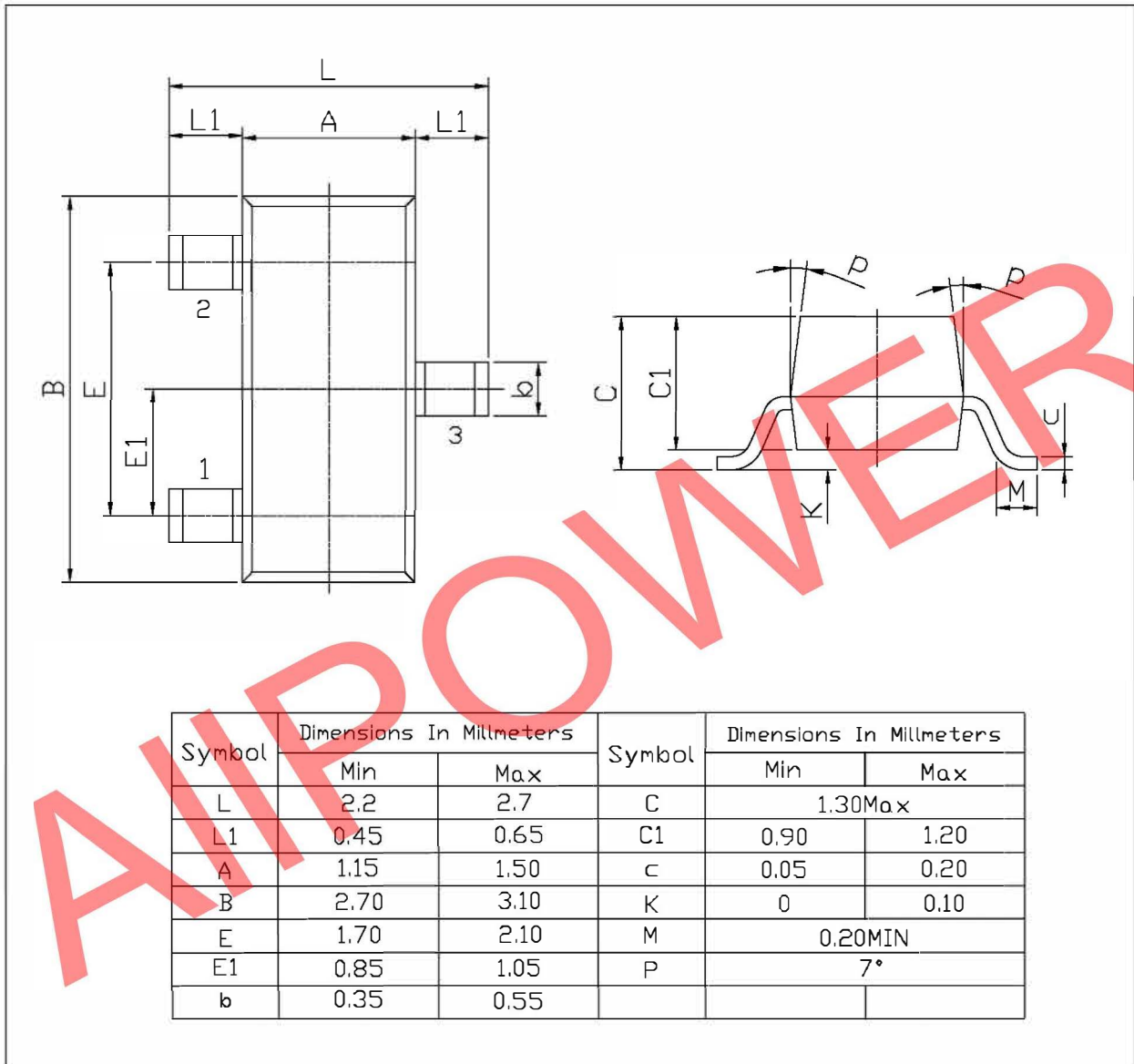
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外形尺寸图 / Package Dimensions

SOT-23

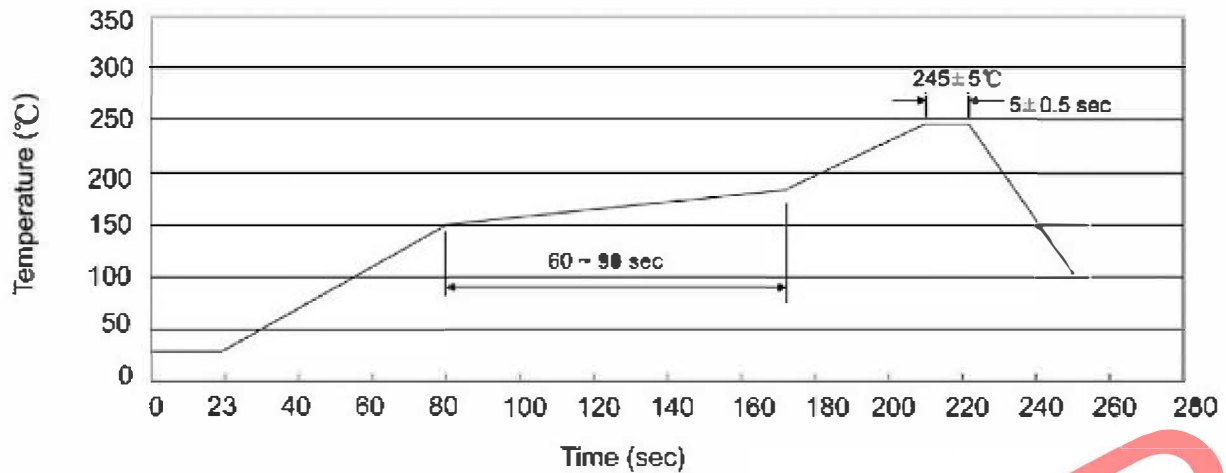
单位: mm



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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 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" x8	210×205×205	445×230×435

使用说明 / Notices