描述 / Descriptions

SOT23-6 塑封封装 N 道场效应管。

N-CHANNEL MOSFET in a SOT23 -6 Plastic Package.

特征 / Features

V_{DS}(V)=60V I_D=3A

$R_{DS(ON)}$@10V<90mΩ(Typ. 70mR)

$R_{DS(ON)}$@4.5V<110mΩ(Typ. 85mR)

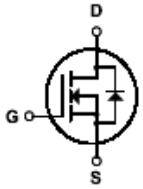
无卤产品。HF Product.

用途 / Applications

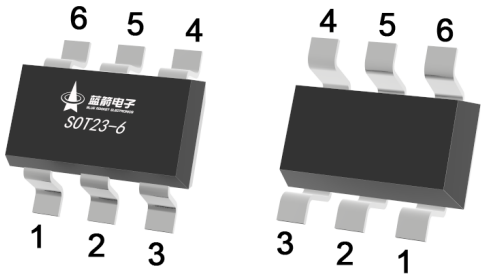
电池管理，高速开关，低功率 DC-DC 转换。

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：D PIN 2：D PIN 3：G PIN 4： S PIN 5：D PIN 6：D

印章代码 / Marking

见印章说明。

See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25℃)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	±20	V
Drain Current – Continuous	I_D	3.0	A
Pulsed Drain Current	I_{DM}	15	A
Power Dissipation	P_D	0.9	W
Storage Temperature Range	T_{stg}	-55～150	℃
Maximum Junction-to-Ambient	$R_{\theta JA}$	139	℃/W

电性能参数 / 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	$V_{(BR)DSS}$	V_{GS}=0 I_D=10μA	60	68		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0 V_{DS}=60V			1.0	μA
Gate–Body Leakage.	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±100	nA
Static Drain–Source On–Resistance	$R_{DS(on)1}$	V_{GS}=10V I_D=3A		73	90	mΩ
	$R_{DS(on)2}$	V_{GS}=4.5V I_D=3A		85	110	mΩ
Drain–Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_D=1A		0.75	1.2	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=50μA	1.0	1.4	3.0	V
Maximum Body-Diode Continuous Current	I_S				3	A
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=25V f=1MHz		415		pF
Output Capacitance	C_{oss}			37		
Reverse Transfer Capacitance	C_{rss}			25		
Gate resistance	R_g	V_{GS}=0V, V_{DS}=0V f=1MHz		3.4		Ω
Total Gate Charge	$Q_{g(10V)}$	V_{GS}=10V, V_{DS}=30V I_D=3.0A		10		nC
Total Gate Charge	$Q_{g(4.5V)}$			5		
Gate Source Charge	Q_{gs}			2		
Gate Drain Charge	Q_{gd}			3		
Turn–On Delay Time	$t_{d(on)}$	V_{GS}=10V, V_{DS}=30V R_L=7Ω, R_{GEN}=3Ω		7		ns
Turn–On Rise Time	t_r			12		
Turn–Off Delay Time	$t_{d(off)}$			16		
Turn–Off Fall Time	t_f			11		

电参数曲线图 / Electrical Characteristic Curve

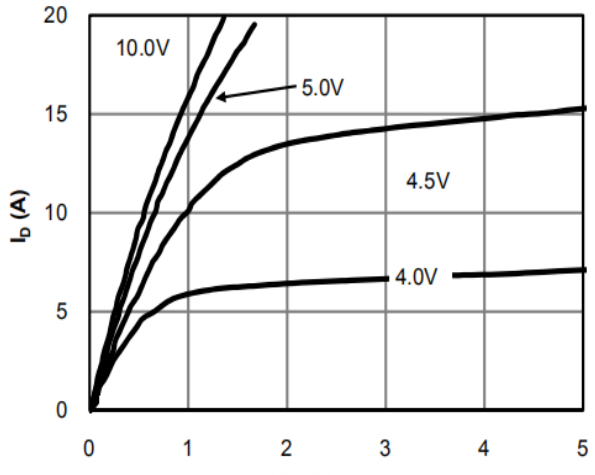


Fig 1: On-Region Characteristics

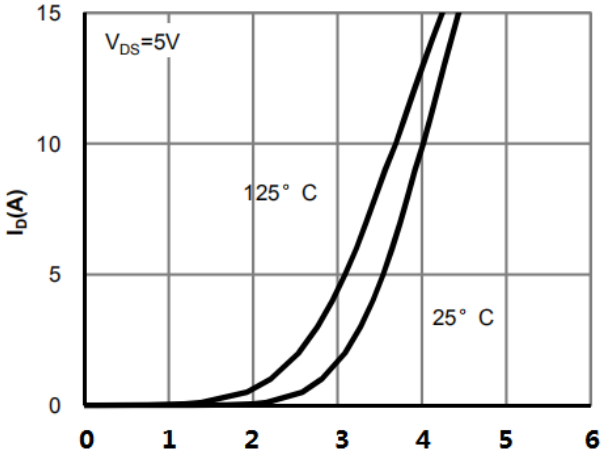


Figure 2: Transfer Characteristics

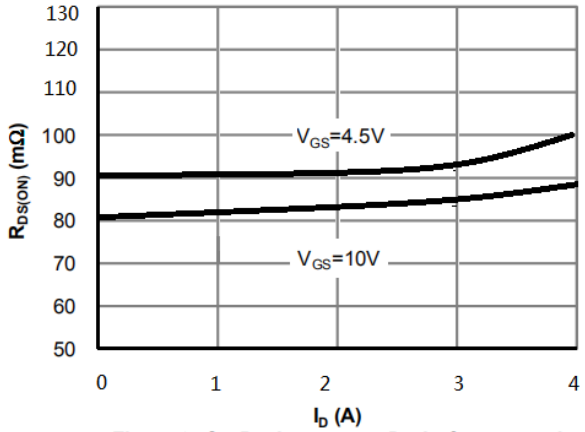


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

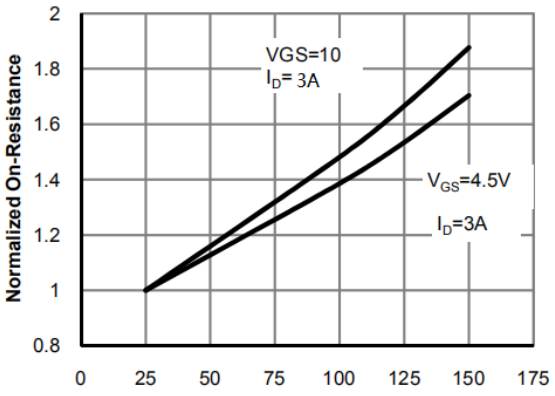


Figure 4: On-Resistance vs. Junction Temperature

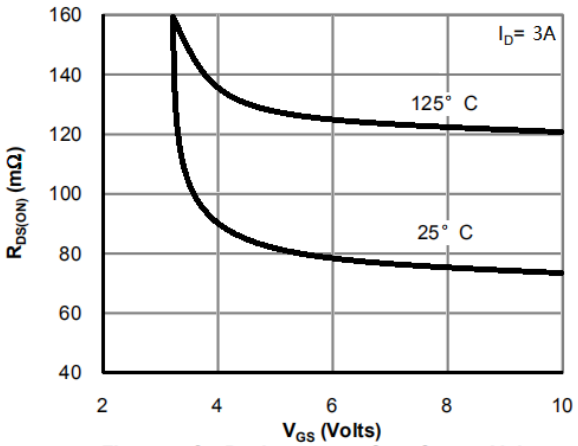


Figure 5: On-Resistance vs. Gate-Source Voltage

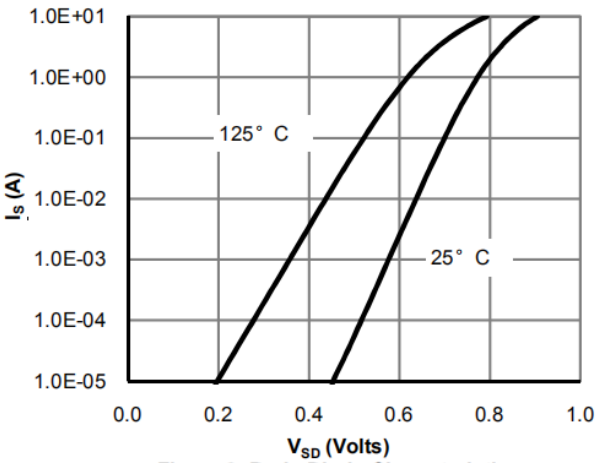


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

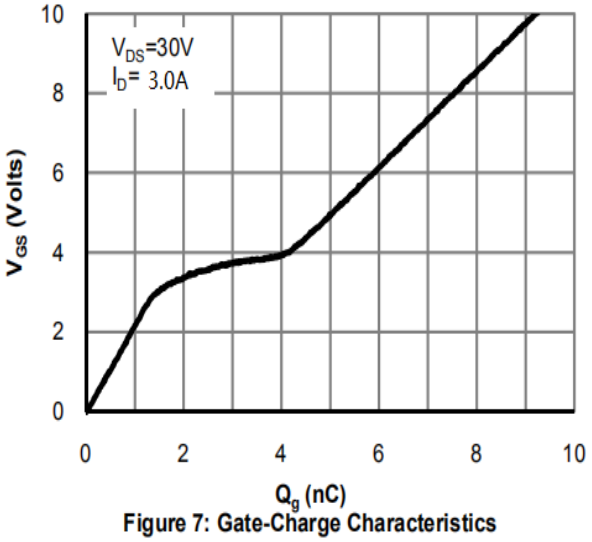


Figure 7: Gate-Charge Characteristics

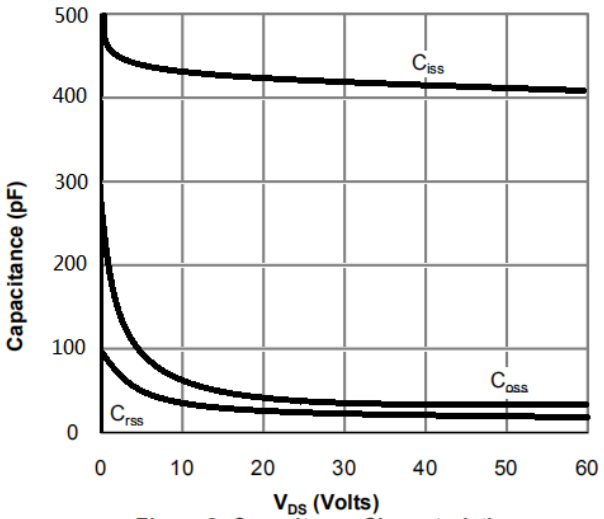


Figure 8: Capacitance Characteristics

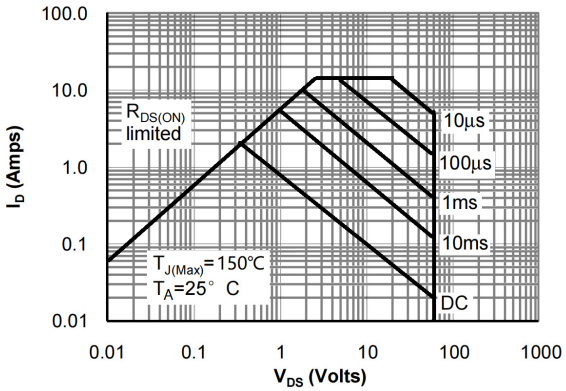


Figure 9: Maximum Forward Biased Safe Operating Area

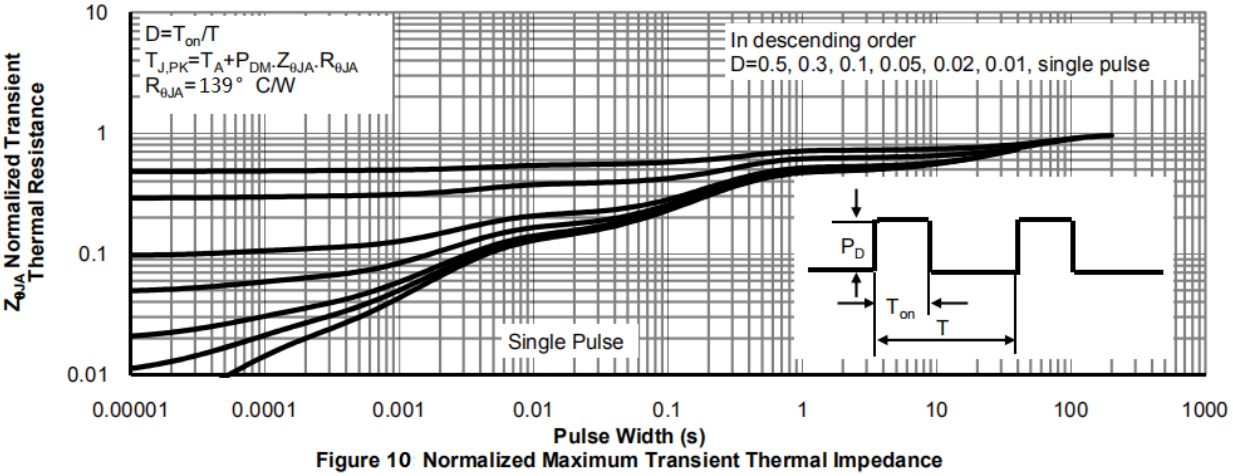
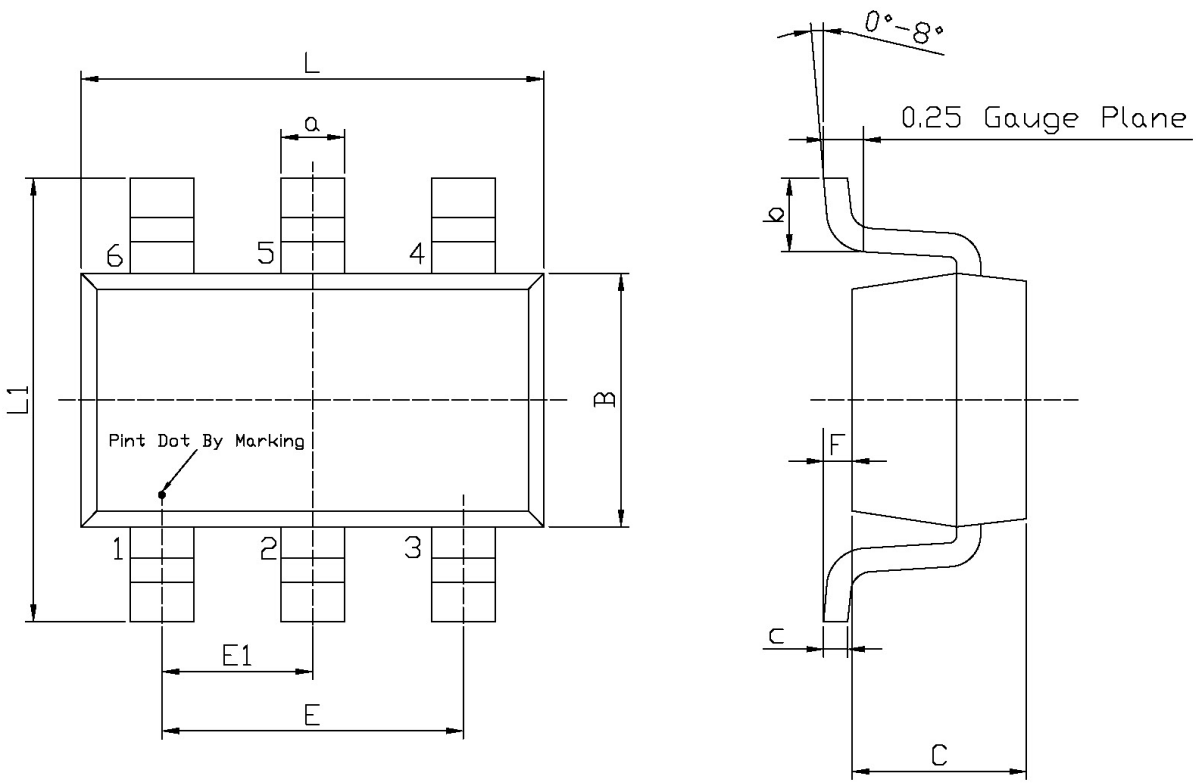


Figure 10 Normalized Maximum Transient Thermal Impedance

外形尺寸图 / Package Dimensions

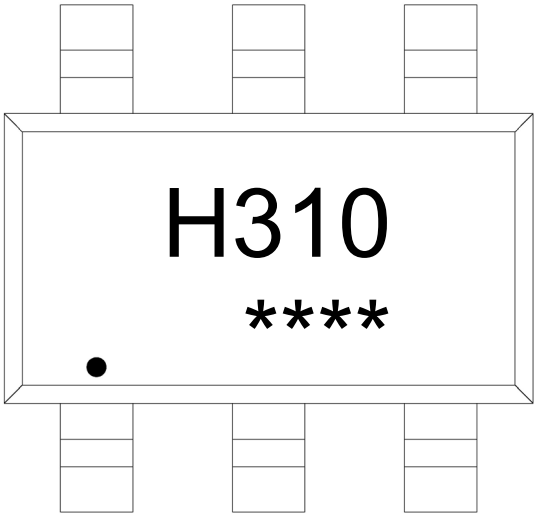


Unit: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.82	3.02	E1	0.85	1.05
B	1.50	1.70	a	0.35	0.50
C	0.90	1.30	c	0.10	0.20
L1	2.60	3.00	b	0.35	0.55
E	1.80	2.00	F	0	0.15

SOT23-6

印章说明 / Marking Instructions



说明：

H： 为公司代码

310: 为型号代码

****: 为生产批号代码，随生产批号变化

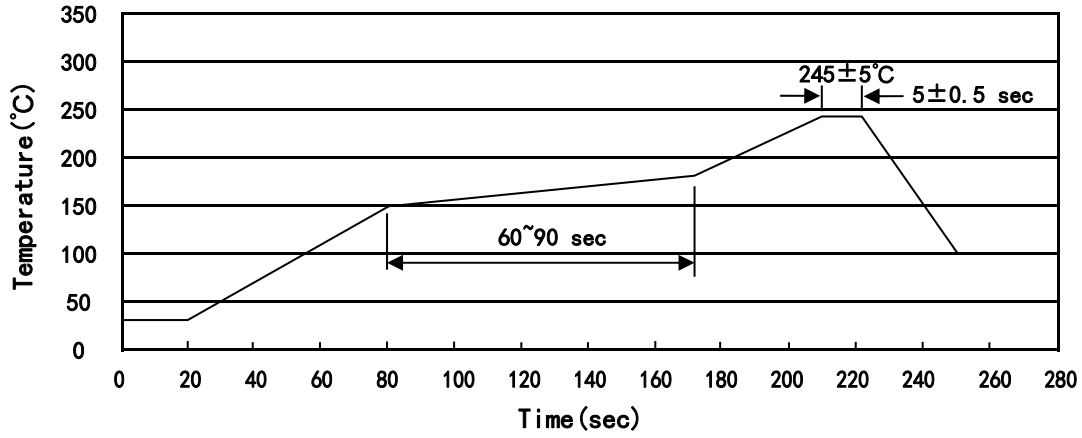
Note:

H: Company Code

310: Product Type Code

****: Lot No. Code, code change with Lot No

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℃，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.

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

温度：260±5℃ 时间：10±1 sec. Temp.:260±5℃ 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：mm³)		
	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
SOT23-5/6	3,000	10	30,000	4	120,000	7″ ×8	210×205×205	445×435×230

使用说明 / Notices