

描述 / Descriptions

SOT23-6 塑封封装 P 道 MOS 场效应管。

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

特征 / Features

$V_{DS} (V) = -12V$ $I_D = -8.0A$

$R_{DS(ON)} @ -10V \leq 20m\Omega$ (Type.18m Ω)

$R_{DS(ON)} @ -4.5V \leq 25m\Omega$ (Type.21m Ω)

$R_{DS(ON)} @ -2.5V \leq 30m\Omega$ (Type.27m Ω)

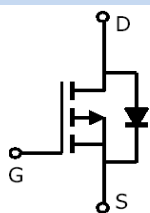
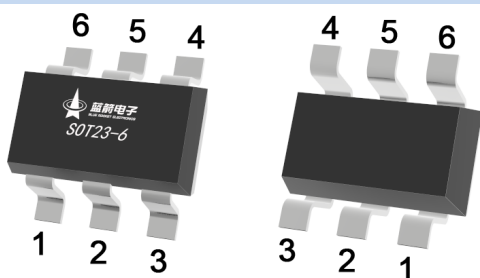
$R_{DS(ON)} @ -1.8V \leq 50m\Omega$ (Type.40m Ω)

无卤产品。HF Product.

用途 / Applications

脉宽调制应用，负载开关，电源管理。

PWM applications, Load switch, Power management.

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

PIN1、2、5、6 : D

PIN 3 : G

PIN 4 : S

印章代码 / Marking

见印章说明。

See Marking Instructions.

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}	-12	V
Gate-Source Voltage	V_{GSS}	± 8	V
Continuous Drain Current	$I_D(T_C=25^\circ\text{C})$	-8.0	A
Pulsed Drain Current	I_{DM}	-25	A
Power Dissipation for Single Operation	$P_D(T_C=25^\circ\text{C})$	1.8	W
Maximum Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	125	$^\circ\text{C/W}$
Thermal Resistance-Junction to Case	$R_{\theta JC}$	69	$^\circ\text{C/W}$

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}	$I_D=-250\mu\text{A}$ $V_{GS}=0\text{V}$	-12	-17.5		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-12\text{V}$ $V_{GS}=0\text{V}$			-1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}$ $V_{GS}=\pm 8\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu\text{A}$	-0.5	-0.6	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-10\text{V}$ $I_D=-3.0\text{A}$		18	20	m Ω
		$V_{GS}=-4.5\text{V}$ $I_D=-3.0\text{A}$		21	25	
		$V_{GS}=-2.5\text{V}$ $I_D=-2.0\text{A}$		27	30	
		$V_{GS}=-1.8\text{V}$ $I_D=-1.0\text{A}$		40	50	
Diode Forward Voltage	V_{SD}	$I_S=-1\text{A}$ $V_{GS}=0\text{V}$			-1.2	V
Gate resistance	R_g	$V_{GS}=0\text{V}$, $V_{DS}=0\text{V}$, $f=1\text{MHz}$		14		Ω
Input Capacitance	C_{iss}	$V_{GS}=0\text{V}$ $V_{DS}=-6\text{V}$ $f=1\text{MHz}$		1700		pF
Output Capacitance	C_{oss}			580		
Reverse Transfer Capacitance	C_{rss}			250		



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	Q_g	$V_{GS}=-4.5V$ $V_{DS}=-6V$ $I_D=-8A$		13		nC
Gate-Source Charge	Q_{gs}			1.8		
Gate-Drain Charge	Q_{gd}			3.5		
Turn-on Delay Time	$t_{d(ON)}$	$V_{GS}=-4.5V$ $V_{DS}=-6V$ $R_L=0.75\Omega$ $R_{GEN}=3\Omega$		11.5		ns
Turn-on Rise Time	t_r			25.3		
Turn-off Delay Time	$t_{d(OFF)}$			72		
Turn-off Fall Time	t_f			42		

电参数曲线图 / Electrical Characteristic Curve

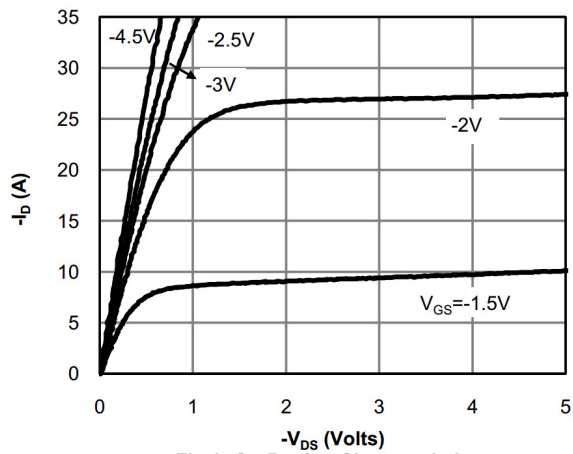


Fig 1: On-Region Characteristics

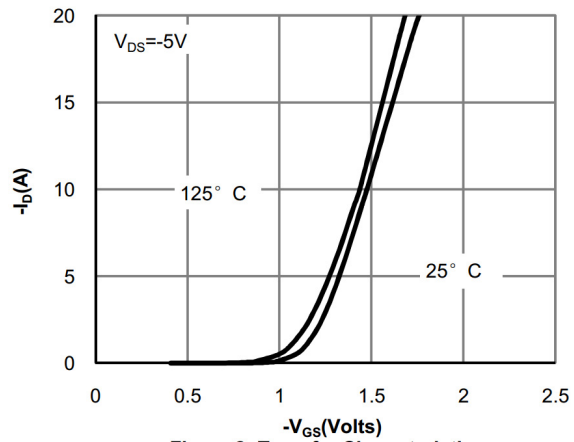


Figure 2: Transfer Characteristics

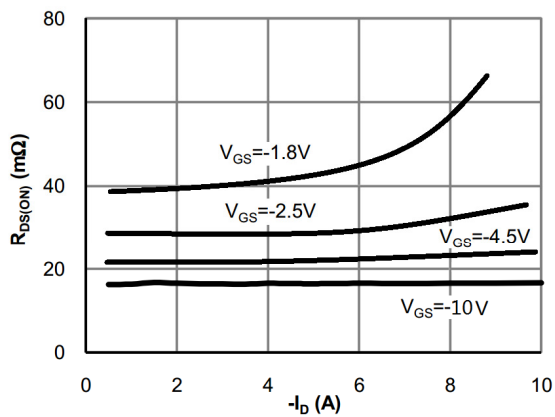


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

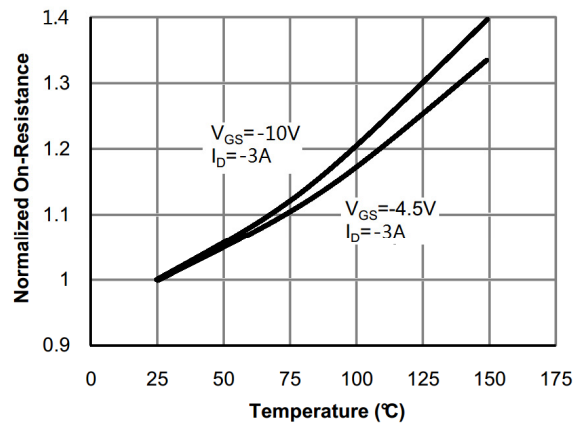


Figure 4: On-Resistance vs. Junction Temperature

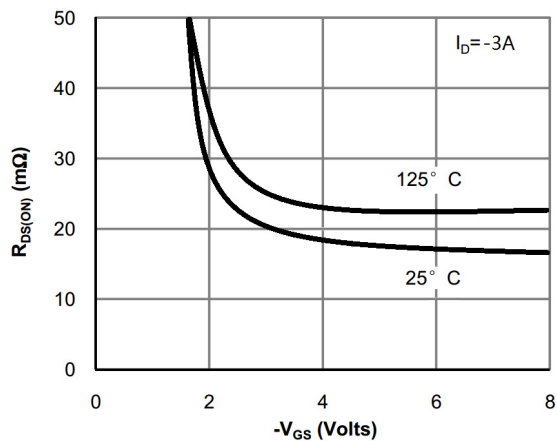


Figure 5: On-Resistance vs. Gate-Source Voltage

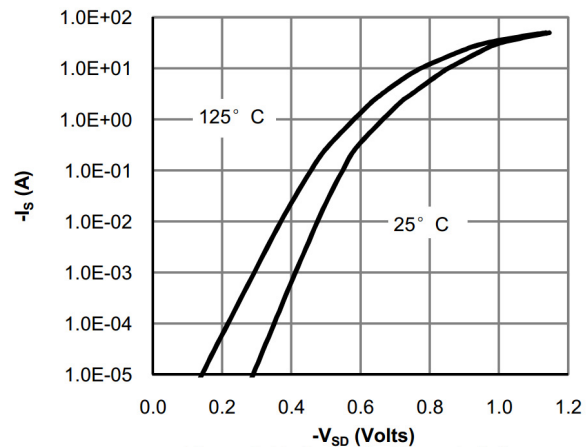
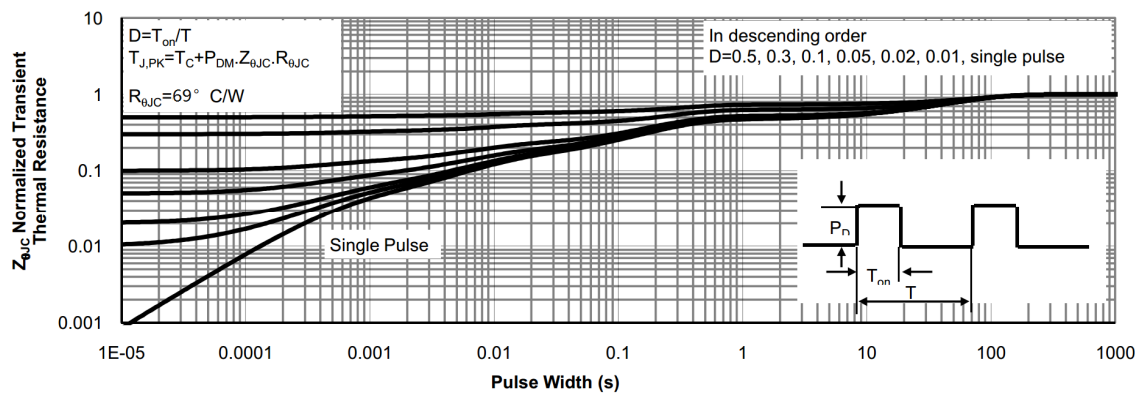
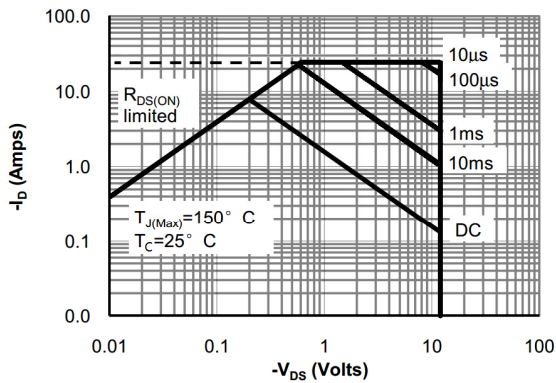
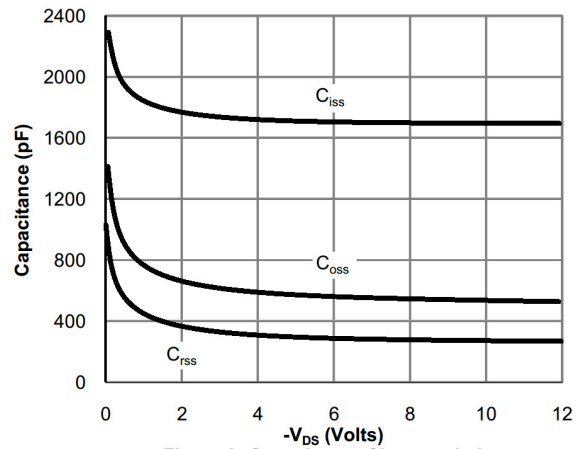
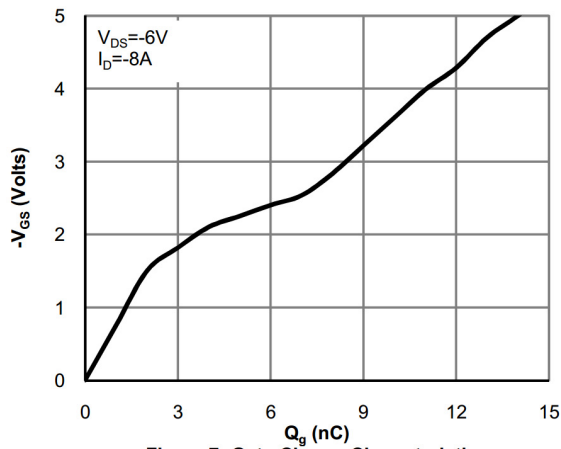
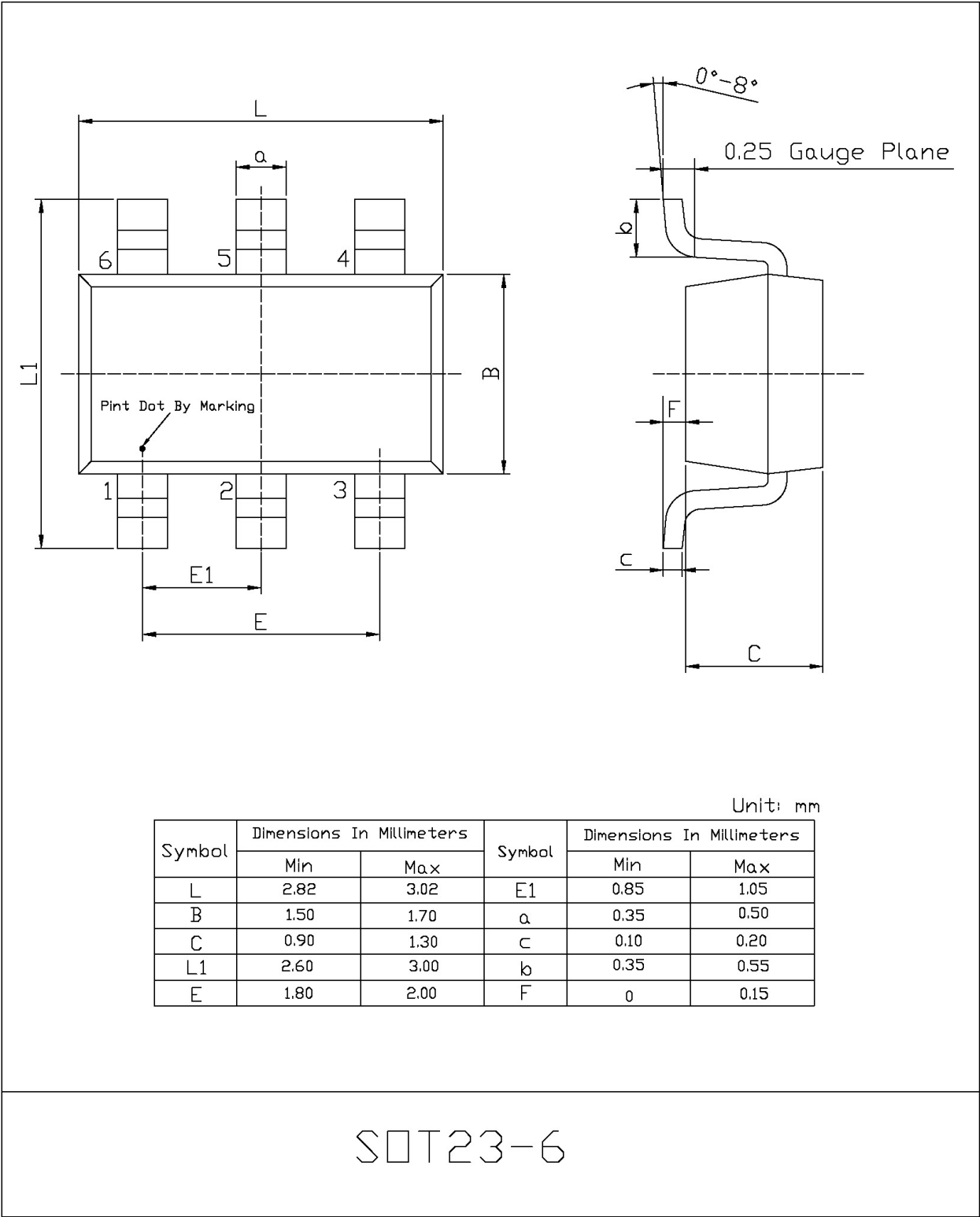


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

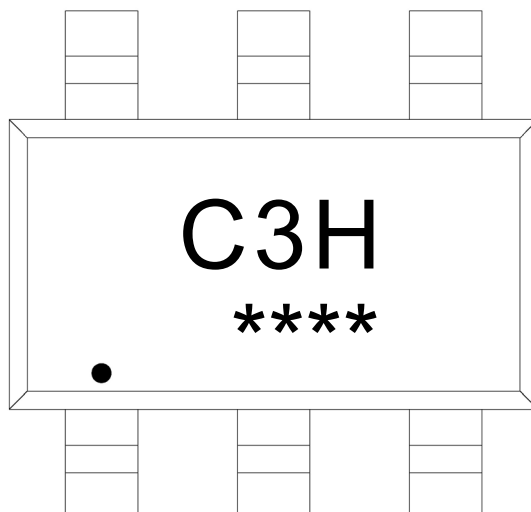


外形尺寸图 / Package Dimensions





印章说明 / Marking Instructions



说明：

C3： 为型号代码

H： 为公司代码

****： 为生产批号代码，随生产批号变化

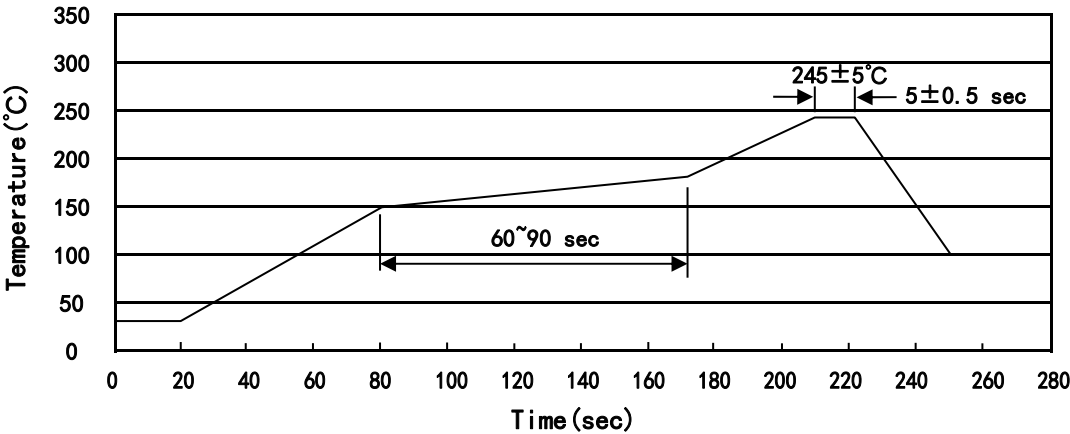
Note:

C3: Product Type Code

H: Company 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: 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
SOT23-5/6	3,000	10	30,000	4	120,000	7" ×8	210×205×205	445×435×230

使用说明 / Notices