

描述 / Descriptions

SOT-23 塑封封装 P 道 MOS 场效应管。

P- CHANNEL MOSFET in a SOT-23 Plastic Package.

特征 / Features

$V_{DS} (V) = -16V$ $I_D = -5.0A$

$R_{DS(ON)} @ -4.5V \leq 35m\Omega$ (Typ. 28.5m Ω)

$R_{DS(ON)} @ -2.5V \leq 55m\Omega$ (Typ. 38.8m Ω)

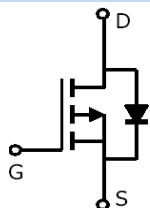
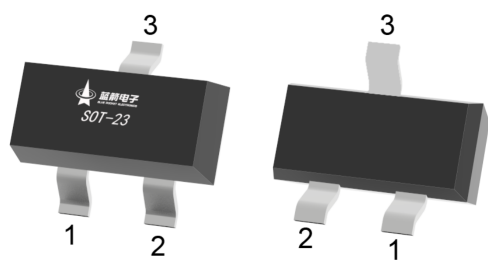
$R_{DS(ON)} @ -1.8V$ (Typ. 54m Ω)

无卤产品。HF Product.

用途 / Applications

用于电源管理，便携式设备和电池供电系统。

Power Management in Notebook computer, Portable Equipment and Battery powered systems.

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

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}	-16	V
Gate-Source Voltage	V_{GSS}	± 12	V
Continuous Drain Current	I_D	-5.0	A
Pulsed Drain Current	I_{DM}	-20	A
Power Dissipation for Single Operation	P_D	0.7	W
Maximum Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 ~ 150	°C
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	179	°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}	$I_D = -250\mu A$ $V_{GS} = 0V$	-16	-17.8		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -15V$ $V_{GS} = 0V$			-1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS} = 0V$ $V_{GS} = \pm 12V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$ $I_D = -250\mu A$	-0.4	-0.62	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = -4.5V$ $I_D = -5A$		28.5	35	m Ω
		$V_{GS} = -2.5V$ $I_D = -3A$		38.8	55	
		$V_{GS} = -1.8V$ $I_D = -1A$		54		
Diode Forward Voltage	V_{SD}	$I_S = -1A$ $V_{GS} = 0V$			-1.2	V
Reverse Recovery Time	t_{rr}	$V_{DS} = -10V$, $I_D = -4A$ $di_{SD}/dt = 100 A/\mu s$		18.7		ns
Reverse Recovery Charge	Q_{rr}			4		nC
Gate resistance	R_g	$V_{GS} = 0V$, $f = 1MHz$ $V_{DS} = 0V$,		8.5		Ω
Input Capacitance	C_{iss}	$V_{GS} = 0V$ $f = 1MHz$ $V_{DS} = -15V$		495		pF
Output Capacitance	C_{oss}			100		
Reverse Transfer Capacitance	C_{rss}			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
Total Gate Charge	Q_g	$V_{GS}=-4.5V$, $V_{DS}=-10V$, $R_L=2.5\Omega$		5.7		nC
Gate Source Charge	Q_{gs}			0.3		
Gate Drain Charge	Q_{gd}			1.9		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-4.5V$ $V_{DS}=-10V$ $R_L=2.5\Omega$ $R_g=3\Omega$		8.3		ns
Turn-On Rise Time	t_r			32.3		
Turn-Off Delay Time	$t_{d(off)}$			38.2		
Turn-Off Fall Time	t_f			49.4		

电参数曲线图 / Electrical Characteristic Curve

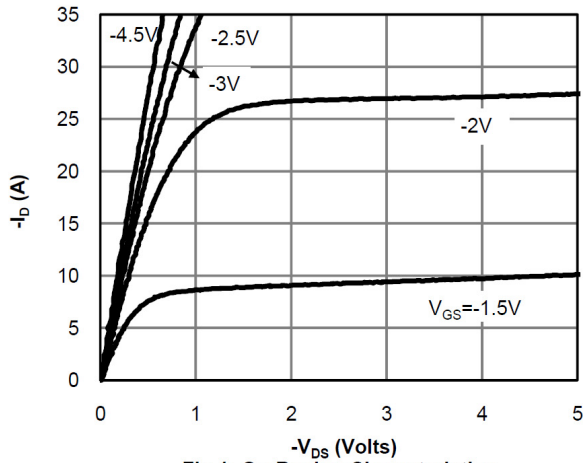


Fig 1: On-Region Characteristics

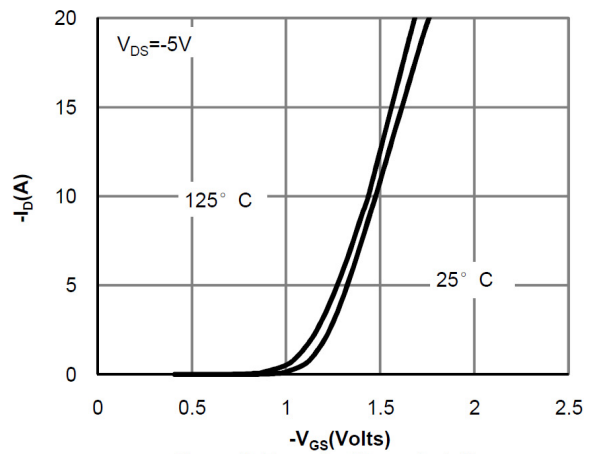


Figure 2: Transfer Characteristics

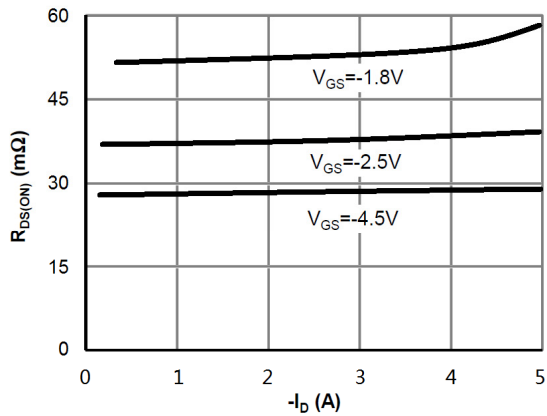


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

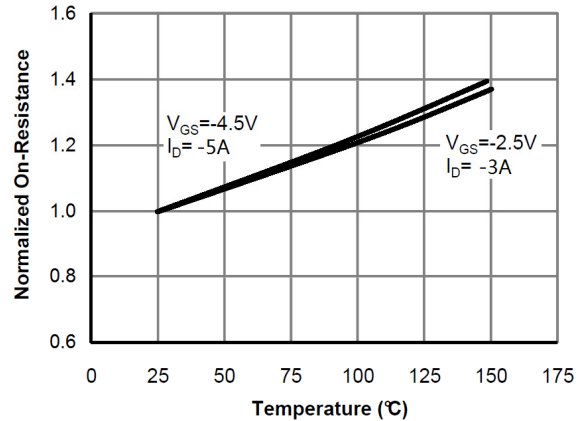


Figure 4: On-Resistance vs. Junction Temperature

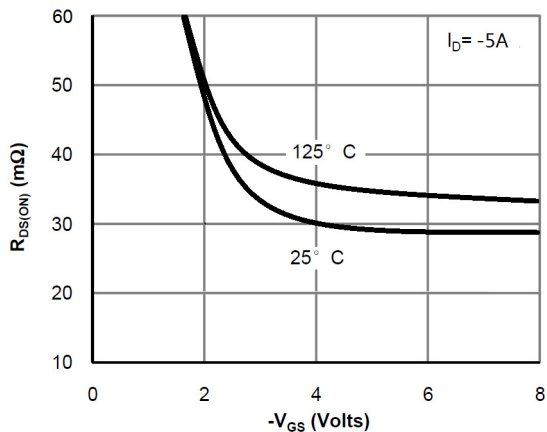


Figure 5: On-Resistance vs. Gate-Source Voltage

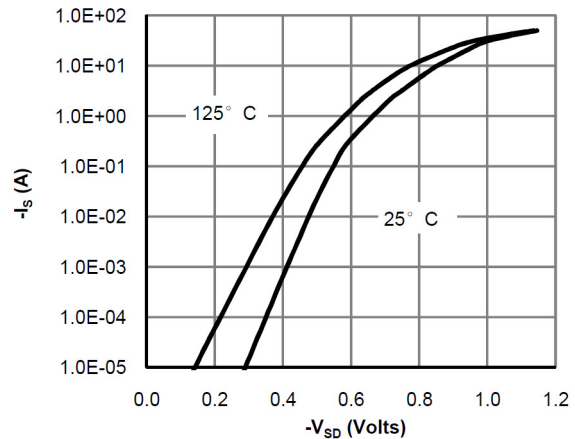


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

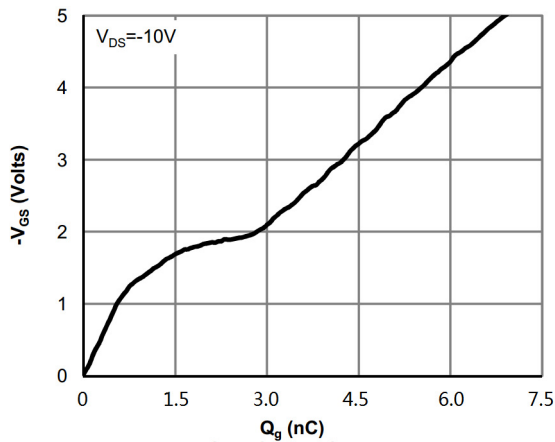


Figure 7: Gate-Charge Characteristics

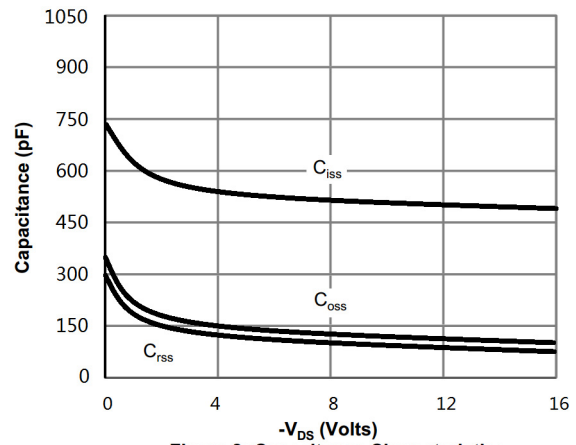


Figure 8: Capacitance Characteristics

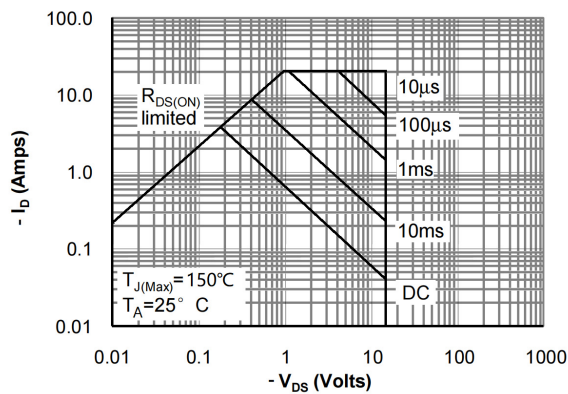


Figure 9: Maximum Forward Biased Safe Operating Area

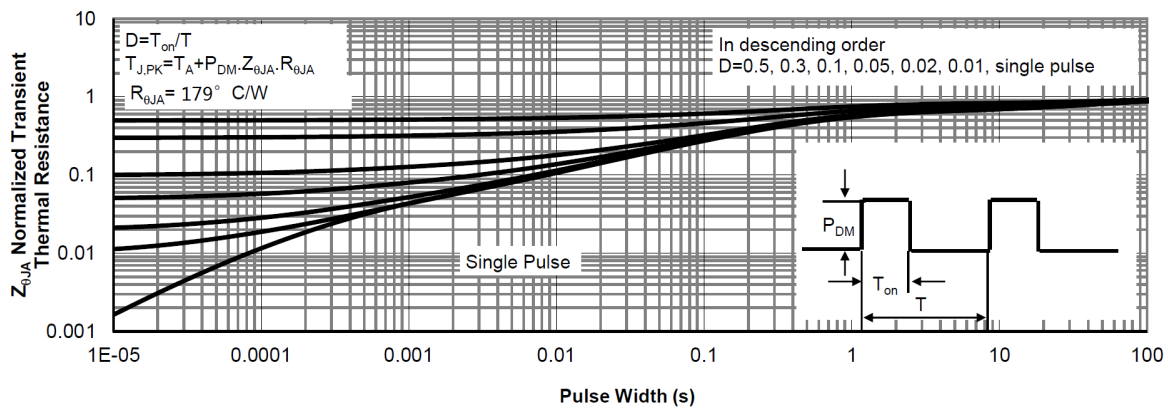
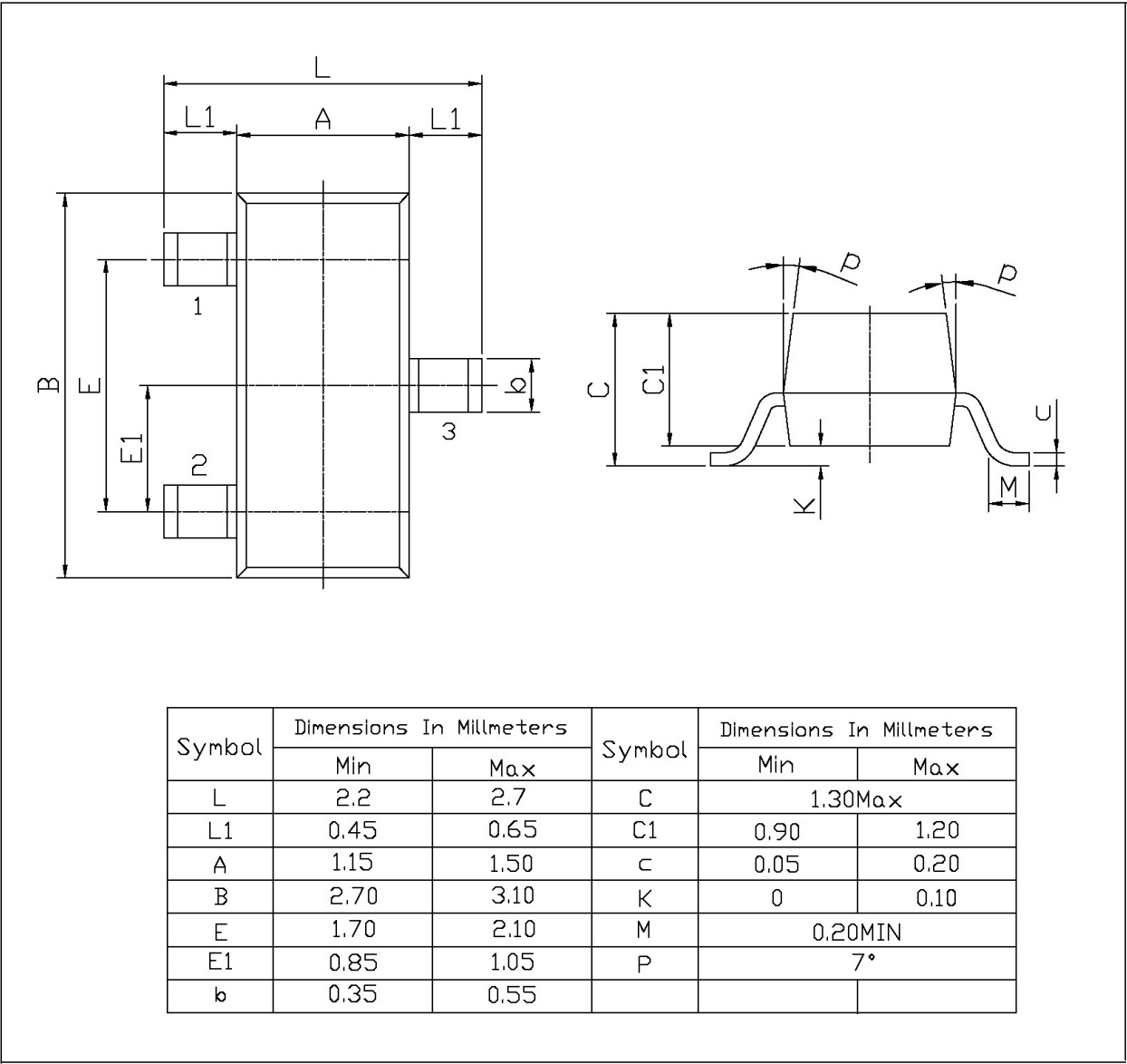


Figure 10: Normalized Maximum Transient Thermal Impedance

外形尺寸图 / Package Dimensions

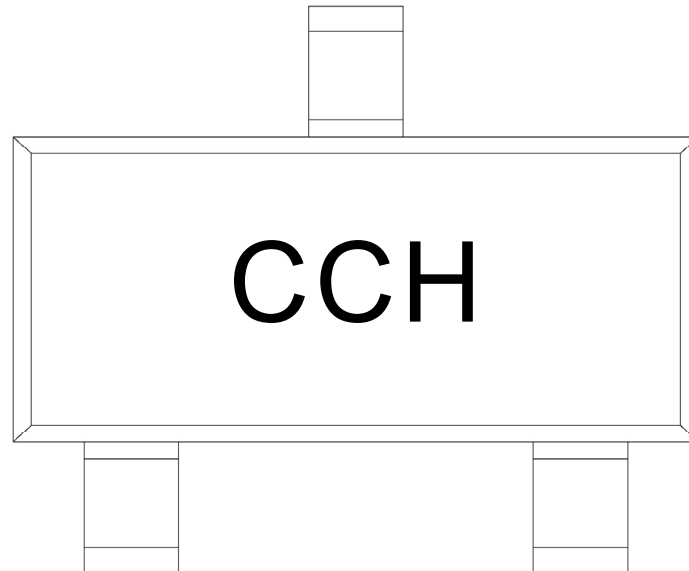
SOT-23

单位：mm





印章说明 / Marking Instructions



说明：

H： 为公司代码

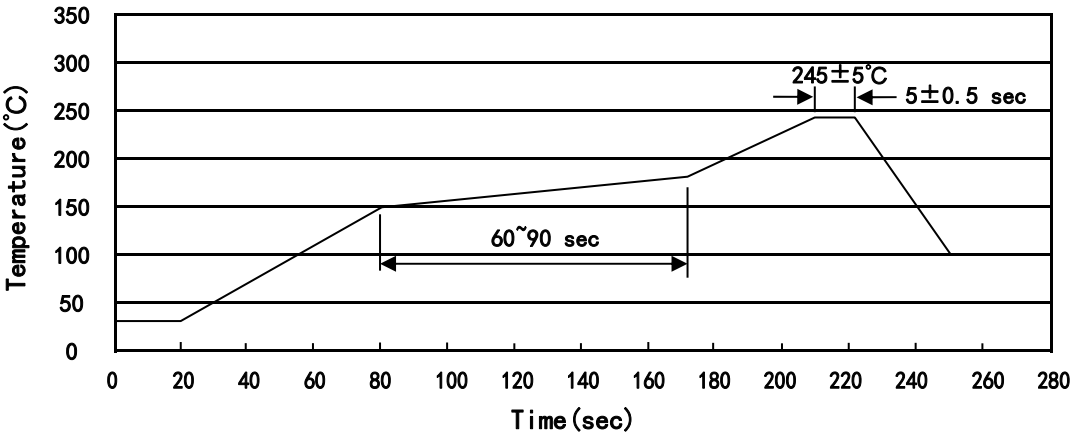
CC： 为型号代码

Note:

H: Company Code

CC: Product Type 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℃，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
SOT-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

使用说明 / Notices

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