

描述 / Descriptions

SOT23-3 塑封封装 P 道 MOS 场效应管。

P- CHANNEL MOSFET in a SOT23-3 Plastic Package.

特征 / Features

$V_{DS} (V) = -20V$ $I_D = -6.4A$

$R_{DS(ON)} @ -4.5V \leq 22m\Omega$ (Type.20m Ω)

$R_{DS(ON)} @ -2.5V \leq 30m\Omega$ (Type.26m Ω)

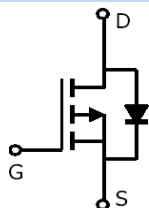
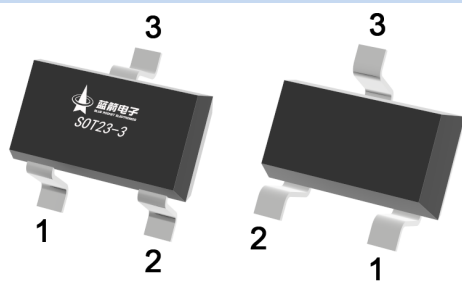
$R_{DS(ON)} @ -1.8V \leq 100m\Omega$ (Type.35m Ω)

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

Marking	C4H
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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 _{DSS}	-20	V
Gate-Source Voltage		V _{GSS}	±12	V
Continuous Drain Current		I _D	-6.4	A
Pulsed Drain Current		I _{DM}	-28.5	A
Power Dissipation for Single Operation		P _D	1.25	W
Maximum Junction Temperature		T _j	150	℃
Storage Temperature Range		T _{stg}	-55 ~ 150	℃
Thermal Resistance-Junction to Ambient	≤10s	R _{θJA}	100	℃/W
	Steady State		130	℃/W
Thermal Resistance-Junction to Lead	Steady State	R _{θJL}	80	℃/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}	$I_D = -250\mu A$ $V_{GS} = 0V$	-20	-22.5		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -20V$ $V_{GS} = 0V$			-1.0	μA
Gate-Body leakage current	I_{GSS}	$V_{DS} = 0V$ $V_{GS} = \pm 12V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$ $I_D = -250\mu A$	-0.5	-0.6	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -4.5V$ $I_D = -5A$		20	22	m Ω
		$V_{GS} = -2.5V$ $I_D = -4A$		26	30	
		$V_{GS} = -1.8V$ $I_D = -3A$		35	100	
Diode Forward Voltage	V_{SD}	$I_S = -1A$ $V_{GS} = 0V$			-1.2	V
Gate resistance	R_g	$V_{GS} = 0V$, $f = 1MHz$ $V_{DS} = 0V$,		11		Ω
Input Capacitance	C_{iss}	$V_{GS} = 0V$ $V_{DS} = -5V$ $f = 1MHz$		1700		pF
Output Capacitance	C_{oss}			600		
Reverse Transfer Capacitance	C_{rss}			450		

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	$V_{GS}=-4.5V$, $V_{DS}=-10V$, $I_D=-6A$		13		nC
Gate Source Charge	Q_{gs}			2.5		
Gate Drain Charge	Q_{gd}			4.2		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-4.5V$ $R_L=1.25\Omega$ $V_{DS}=-10V$ $R_{GEN}=3\Omega$		7.5		ns
Turn-On Rise Time	t_r			29.2		
Turn-Off Delay Time	$t_{d(off)}$			103		
Turn-Off Fall Time	t_f			50		

电参数曲线图 / Electrical Characteristic Curve

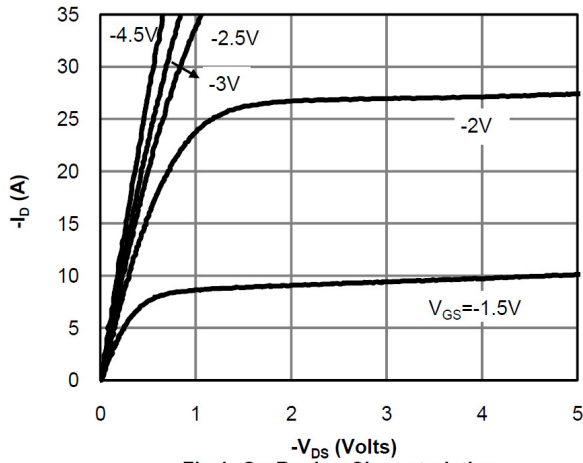


Fig 1: On-Region Characteristics

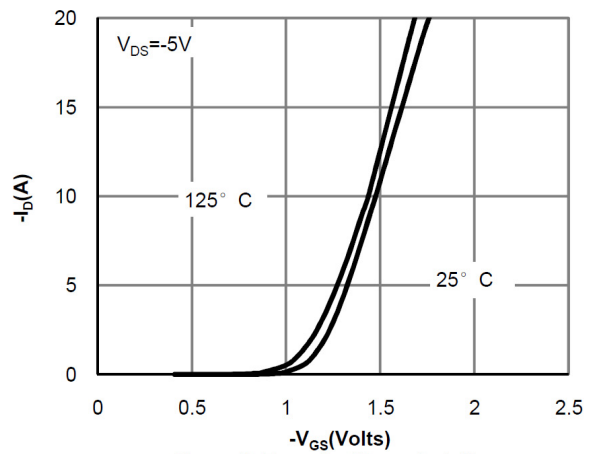


Figure 2: Transfer Characteristics

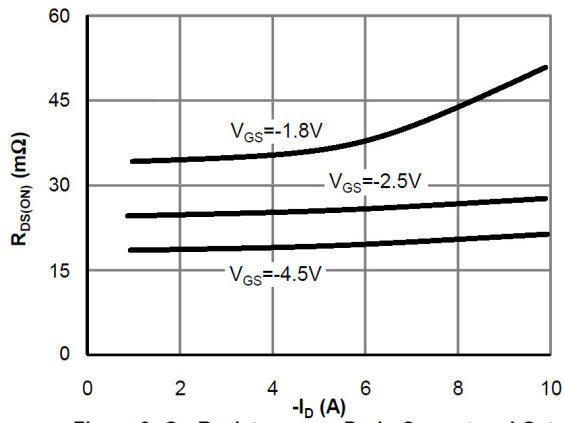


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

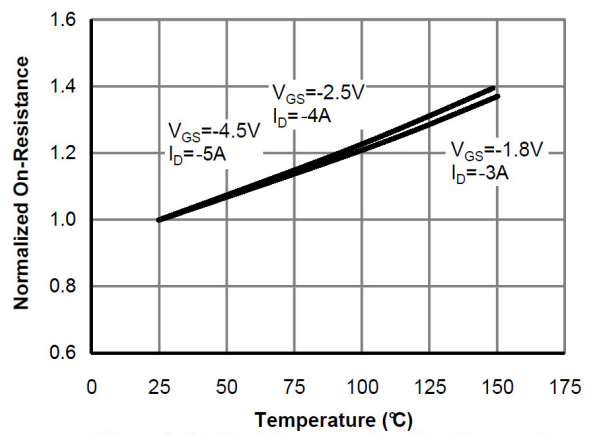


Figure 4: On-Resistance vs. Junction Temperature

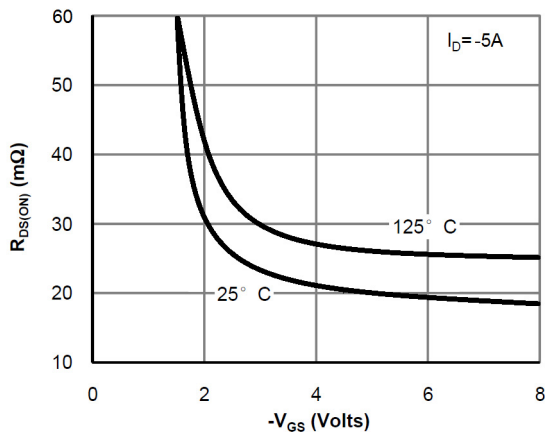


Figure 5: On-Resistance vs. Gate-Source Voltage

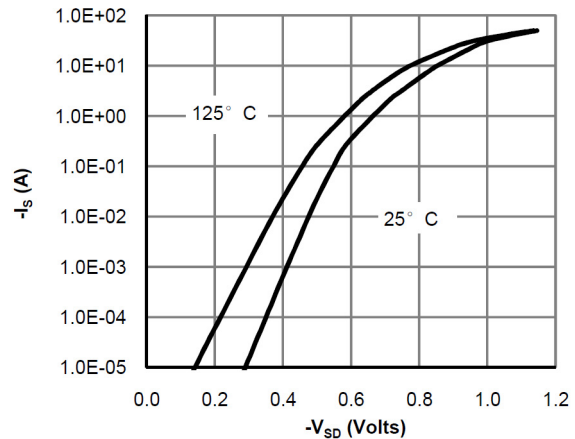
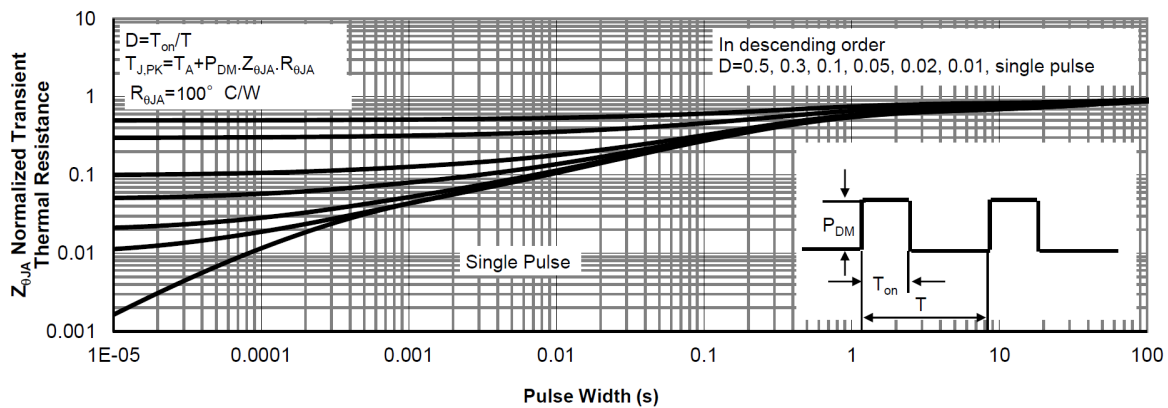
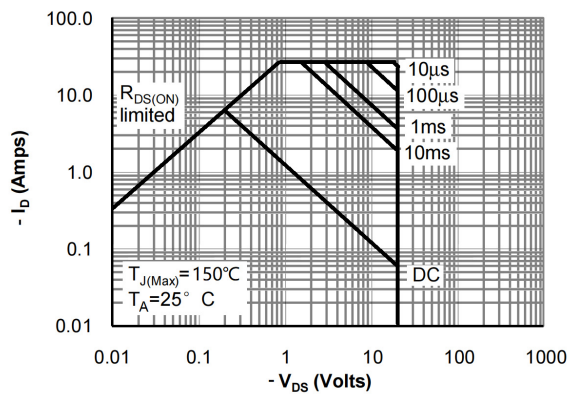
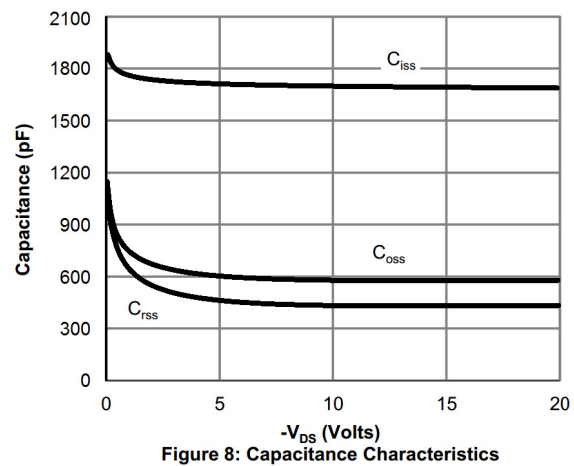
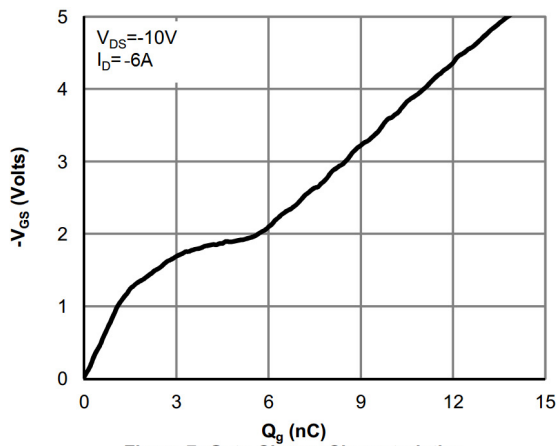
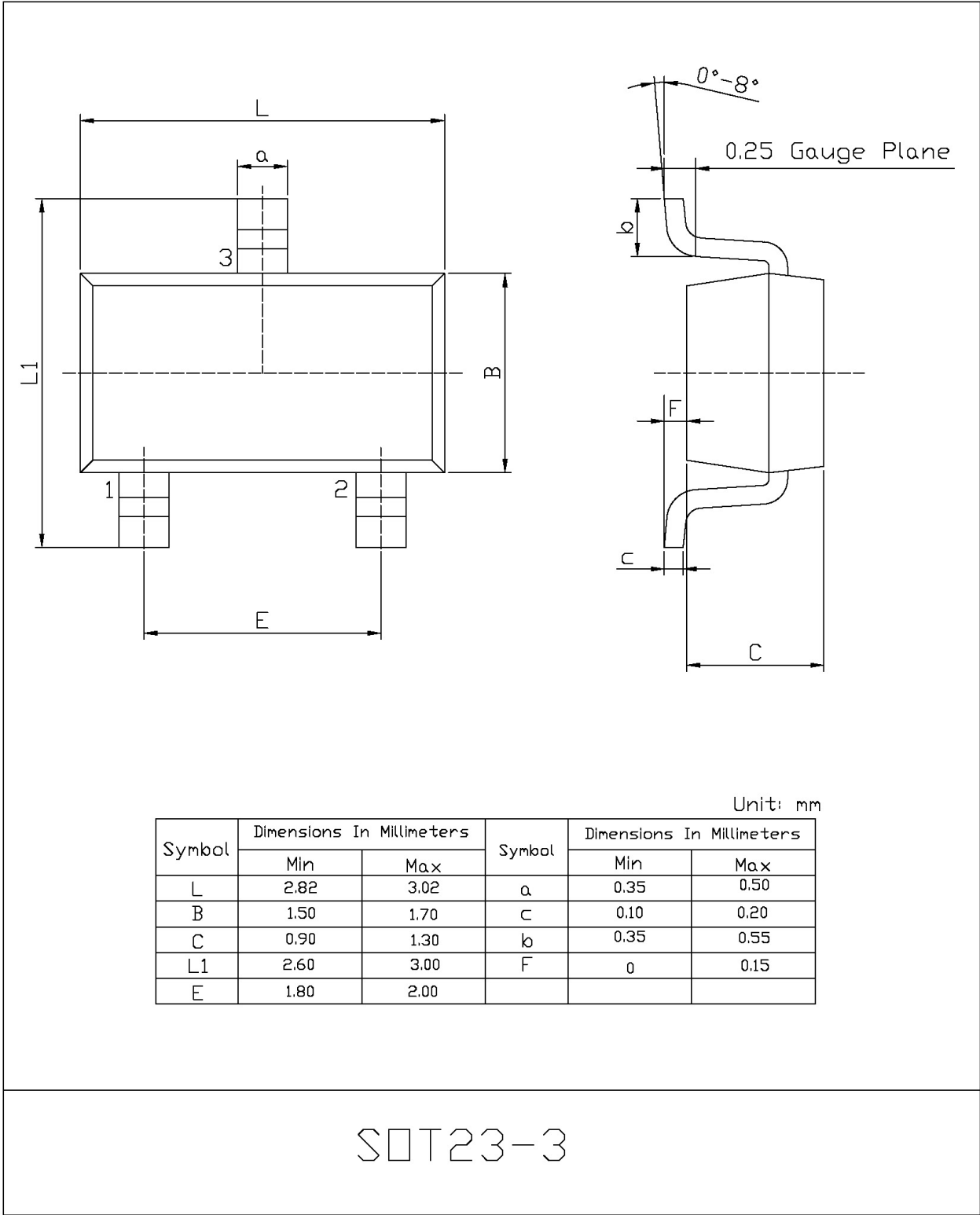


Figure 6: Body-Diode Characteristics

电参数曲线图 / Electrical Characteristic Curve

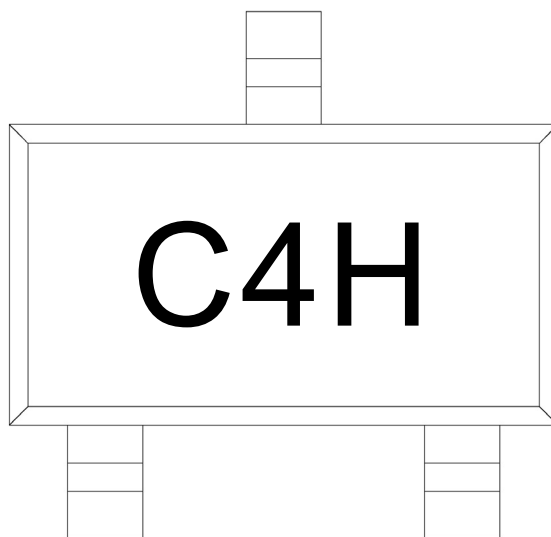


外形尺寸图 / Package Dimensions





印章说明 / Marking Instructions



说明：

H： 为公司代码

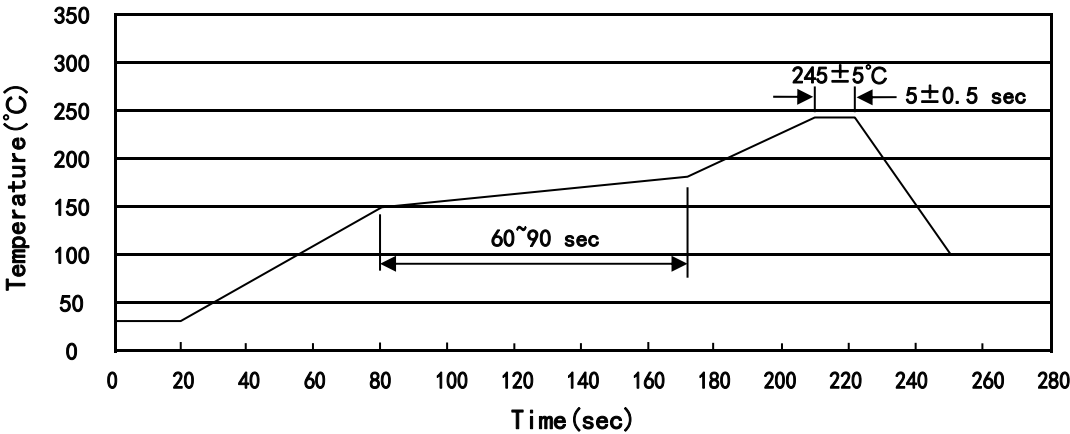
C4： 为型号代码

Note:

H: Company Code

C4: 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
SOT23-3	3,000	10	30,000	4	120,000	7" ×8	210×205×205	445×435×230

使用说明 / Notices