

描述 / Descriptions

SOT-323 塑封封装 N 沟 MOS 场效应管。

N-Channel MOSFET in a SOT-323 Plastic Package.

特征 / Features

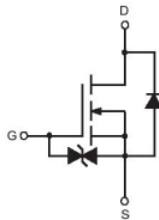
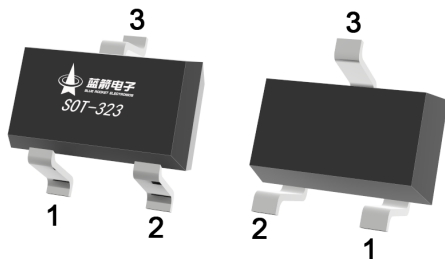
灵敏的控制级触发电流和很低的维持电流。静电保护达 2KV , 无卤产品。

Sensitive gate trigger current and Low Holding current.ESD protected up to 2KV, HF Product.

用途 / Applications

用作一般的开关和相位控制。

Intended for use in general purpose switching and phase control applications.

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

Pin1:G

Pin2:S

Pin3: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}	20	V
Gate-Source Voltage		V _{GSS}	±8	V
Drain Current – Continuous		I _D	0.75	A
Pulsed Drain Current		I _{DM}	3	A
Power Dissipation		P _D	200	mW
Junction and Storage Temperature Range		T _J , T _{stg}	-55 to 150	°C
Thermal resistance, junction - ambient	t ≤ 10s	R _{θJA}	450	°C/W
	Steady-State		570	

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	V _{DSS}	V _{GS} =0 I _D =250uA	20	22.9		V
Zero Gate Voltage Drain Current	I _{DSS}	V _{GS} =0 V _{DS} =20V			1	μA
Gate-Body Leakage	I _{GSS}	V _{DS} =0V V _{GS} =±8V			10	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =250uA	0.3	0.68	1	V
Static Drain-Source On-Resistance	R _{DS(on)(1)}	V _{GS} =2.5V I _D =200mA		273	400	mΩ
	R _{DS(on)(2)}	V _{GS} =1.8V I _D =100mA		353	750	mΩ
	R _{DS(on)(3)}	V _{GS} =1.5V I _D =50mA		442		mΩ
	R _{DS(on)(4)}	V _{GS} =1.2V I _D =20mA		733		mΩ
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V I _S =250mA		0.86	1.2	V
Gate Resistance	R _g	V _{GS} =0V V _{DS} =0V f=1MHz		60		Ω
Input Capacitance	C _{iss}	V _{DS} =10V V _{GS} =0V f=1.0MHz		105		pF
Output Capacitance	C _{oss}			65		
Reverse Transfer Capacitance	C _{rss}			20		

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	$V_{GS}=4.5V$, $V_{DS}=10V$, $I_D=0.4A$		0.85		nC
Gate Source Charge	Q_{gs}			0.1		
Gate Drain Charge	Q_{gd}			0.25		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=4.5V$ $V_{DS}=10V$ $R_L=25\Omega$ $R_{GEN}=3\Omega$		2		ns
Turn-On Rise Time	t_r			4		ns
Turn-Off Delay Time	$t_{d(off)}$			18		ns
Turn-Off Fall Time	t_f			8		ns

电参数曲线图 / Electrical Characteristic Curve

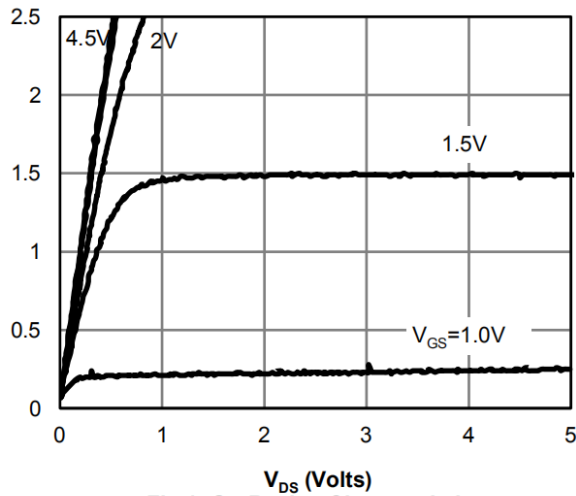


Fig 1: On-Region Characteristics

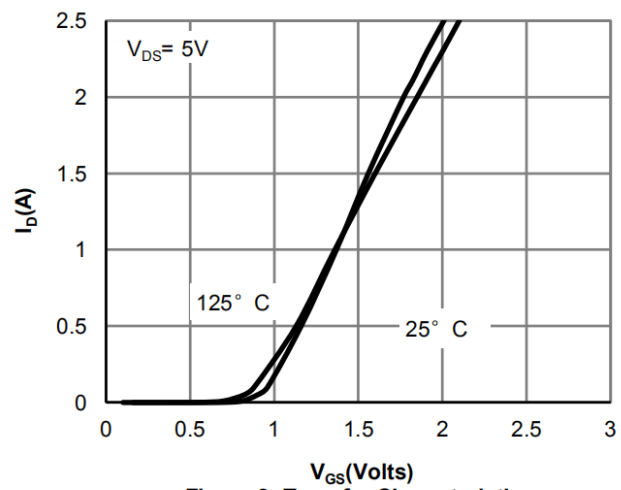


Figure 2: Transfer Characteristics

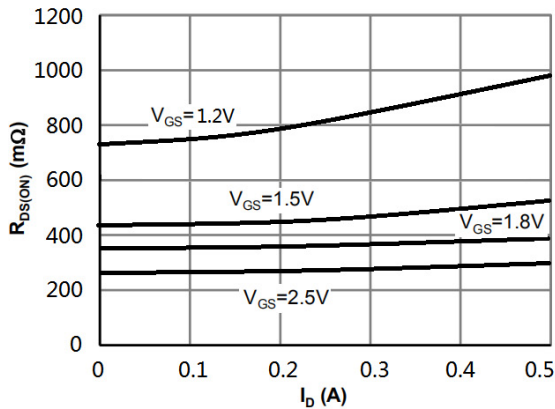


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

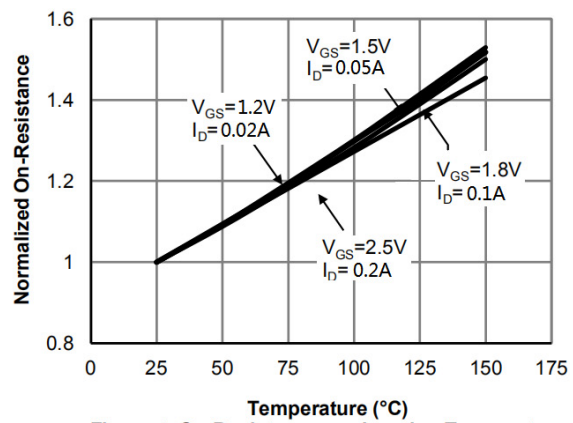


Figure 4: On-Resistance vs. Junction Temperature

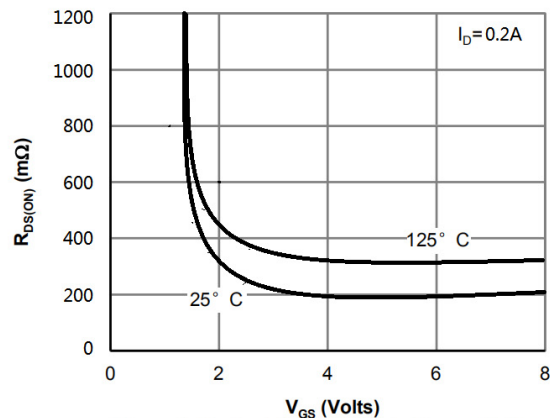


Figure 5: On-Resistance vs. Gate-Source Voltage

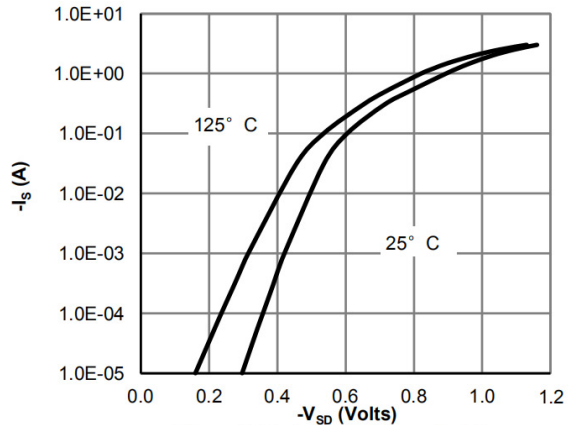
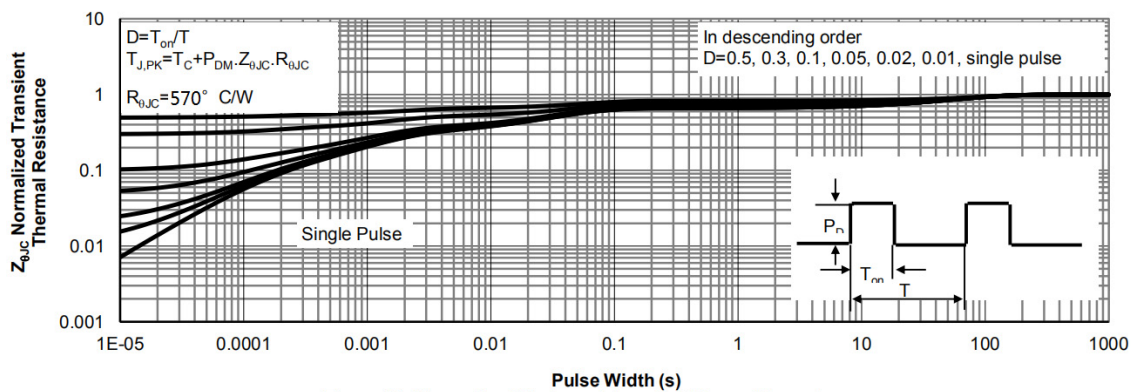
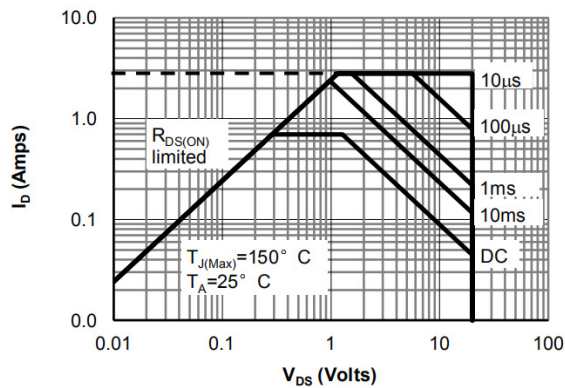
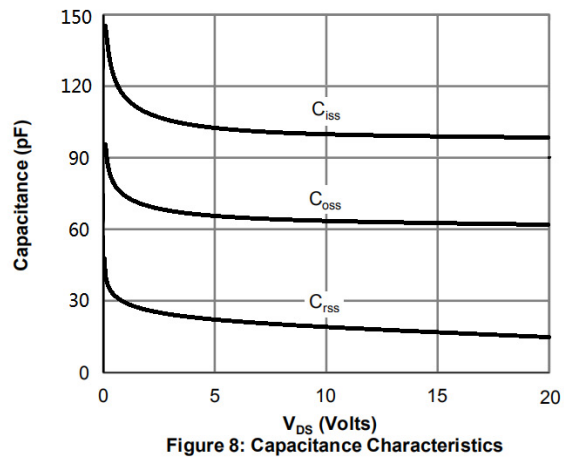
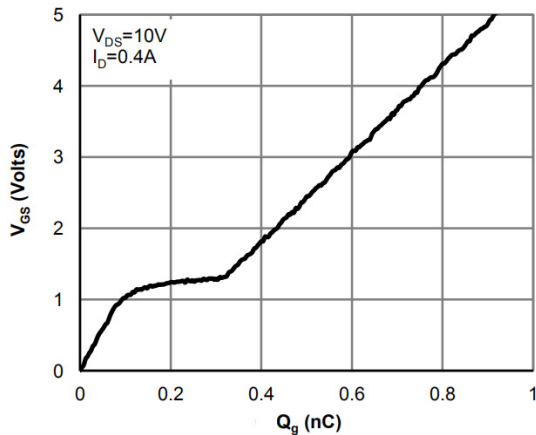


Figure 6: Body-Diode Characteristics

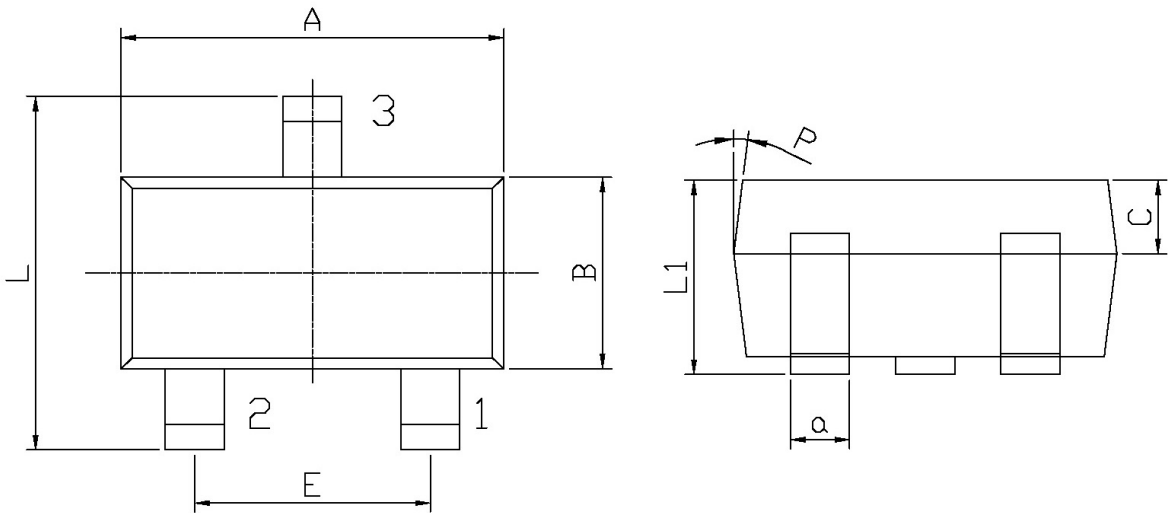
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

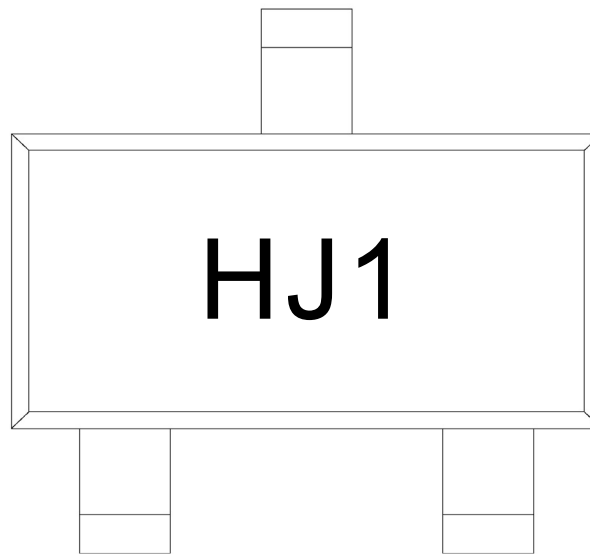
SOT-323

单位：mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	1.95	2.35	C	0.30	0.50
L	2.00	2.2	L1	0.85	1.15
E	1.20	1.40	a	0.20	0.40
B	1.15	1.35	P	7°	

印章说明 / Marking Instructions



说明：

H： 为公司代码

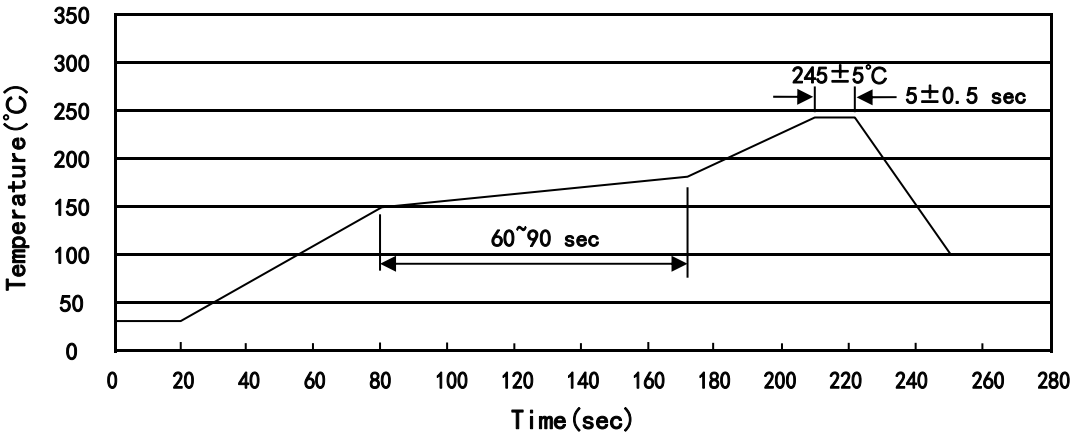
J1： 为型号代码

Note:

H: Company Code

J1: 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-323	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

使用说明 / Notices