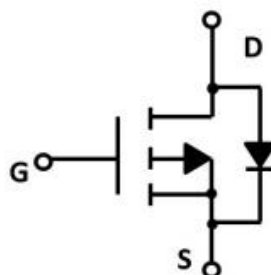
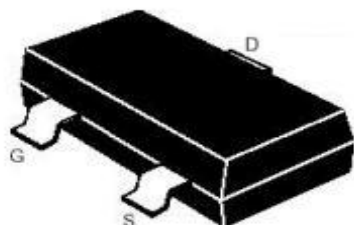


SOT-23



Absolute Maximum Ratings 最大额定值

Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
Drain-Source Voltage 漏极-源极电压	BV_{DSS}	-20	V
Gate- Source Voltage 栅极-源极电压	V_{GS}	± 10	V
Drain Current (continuous)漏极电流-连续	I_D (at $T_C = 25^\circ\text{C}$)	-2.8	A
Drain Current (pulsed)漏极电流-脉冲	I_{DM}	-8	A
Total Device Dissipation 总耗散功率	P_D (at $T_A = 25^\circ\text{C}$)	700	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	178	$^\circ\text{C}/\text{W}$
Junction/Storage Temperature 结温/储存温度	T_J, T_{stg}	-55~150	$^\circ\text{C}$

Device Marking 产品字标

SI2301CDS-T1-GE3-CN = A1SHB .

Electrical Characteristics 电特性

($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

Characteristic 特性参数	Symbol 符号	Min 最小值	Typ 典型值	Max 最大值	Unit 单位
Drain-Source Breakdown Voltage 漏极-源极击穿电压($I_D = -250\mu\text{A}, V_{GS}=0\text{V}$)	BV_{DSS}	-20	—	—	V
Gate Threshold Voltage 栅极开启电压($I_D = -250\mu\text{A}, V_{GS}=V_{DS}$)	$V_{GS(th)}$	-0.4	-0.6	-1	V
Zero Gate Voltage Drain Current 零栅压漏极电流($V_{GS}=0\text{V}, V_{DS}= -20\text{V}$)	I_{DSS}	—	—	1	μA
Gate Body Leakage 栅极漏电流($V_{GS}=\pm 10\text{V}, V_{DS}=0\text{V}$)	I_{GSS}	—	—	± 100	nA
Static Drain-Source On-State Resistance 静态漏源导通电阻($I_D= -2\text{A}, V_{GS}= -4.5\text{V}$) ($I_D= -1.5\text{A}, V_{GS}= -2.5\text{V}$) ($I_D= -1\text{A}, V_{GS}= -1.8\text{V}$)	$R_{DS(ON)}$	—	86 115 165	120 150 250	$\text{m}\Omega$
Diode Forward Voltage Drop 内附二极管正向压降($I_{SD}= -2\text{A}, V_{GS}=0\text{V}$)	V_{SD}	—	—	-1.2	V
Input Capacitance 输入电容 ($V_{GS}=0\text{V}, V_{DS}= -10\text{V}, f=1\text{MHz}$)	C_{ISS}	—	327	—	pF
Common Source Output Capacitance 共源输出电容($V_{GS}=0\text{V}, V_{DS}= -10\text{V}, f=1\text{MHz}$)	C_{OSS}	—	62	—	pF
Reverse Transfer Capacitance 反馈电容($V_{GS}=0\text{V}, V_{DS}= -10\text{V}, f=1\text{MHz}$)	C_{RSS}	—	55	—	pF
Total Gate Charge 栅极电荷密度 ($V_{DS}= -10\text{V}, I_D= -2\text{A}, V_{GS}= -4.5\text{V}$)	Q_g	—	4.5	—	nC
Gate Source Charge 栅源电荷密度 ($V_{DS}= -10\text{V}, I_D= -2\text{A}, V_{GS}= -4.5\text{V}$)	Q_{gs}	—	0.85	—	nC
Gate Drain Charge 栅漏电荷密度 ($V_{DS}= -10\text{V}, I_D= -2\text{A}, V_{GS}= -4.5\text{V}$)	Q_{gd}	—	1.4	—	nC
Turn-ON Delay Time 开启延迟时间 ($V_{DS}= -10\text{V}, I_D= -1\text{A}, R_{GEN}=2.5\Omega, V_{GS}= -4.5\text{V}$)	$t_{d(on)}$	—	6	—	ns
Turn-ON Rise Time 开启上升时间 ($V_{DS}= -10\text{V}, I_D= -1\text{A}, R_{GEN}=2.5\Omega, V_{GS}= -4.5\text{V}$)	t_r	—	30	—	ns
Turn-OFF Delay Time 关断延迟时间 ($V_{DS}= -10\text{V}, I_D= -1\text{A}, R_{GEN}=2.5\Omega, V_{GS}= -4.5\text{V}$)	$t_{d(off)}$	—	45	—	ns
Turn-OFF Fall Time 关断下降时间 ($V_{DS}= -10\text{V}, I_D= -1\text{A}, R_{GEN}=2.5\Omega, V_{GS}= -4.5\text{V}$)	t_f	—	46	—	ns

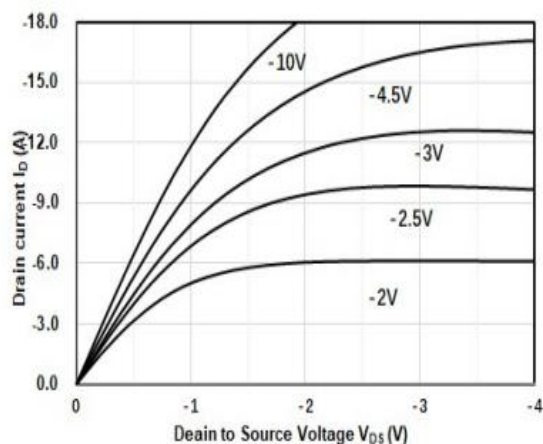
Typical Characteristic Curve 典型特性曲线


Figure 1: Output Characteristics

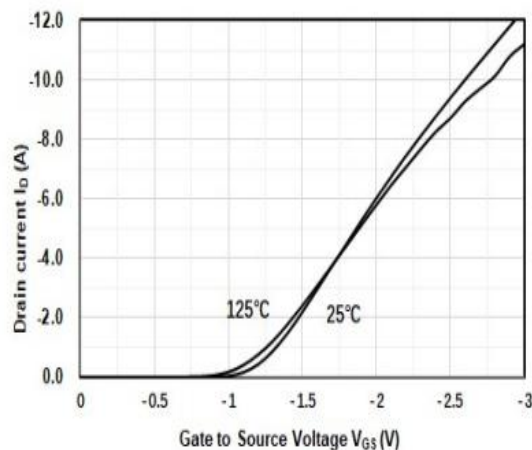


Figure 2: Transfer Characteristics

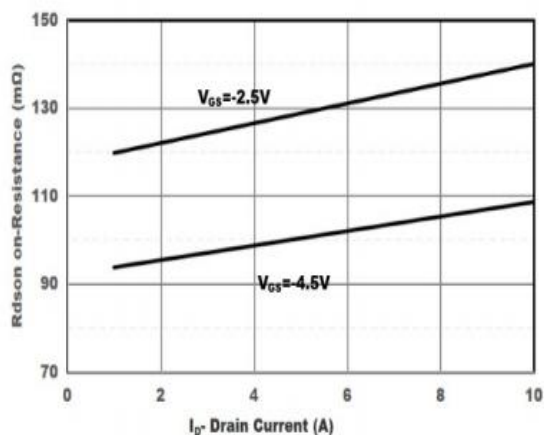


Figure 3: On-Resistance vs. Drain Current

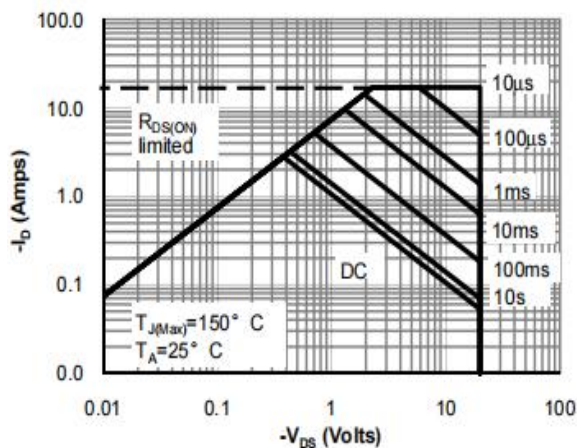


Figure 4: Safe Operating Area

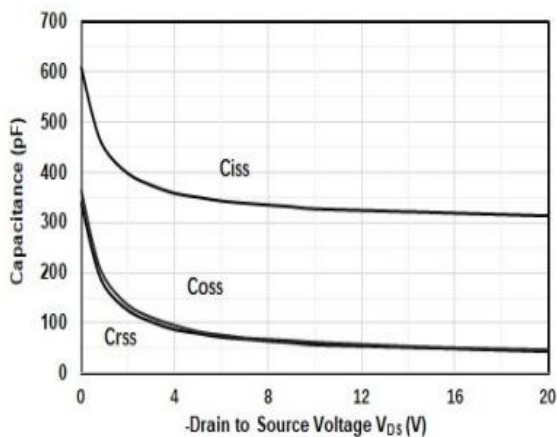


Figure 5: Capacitance Characteristics

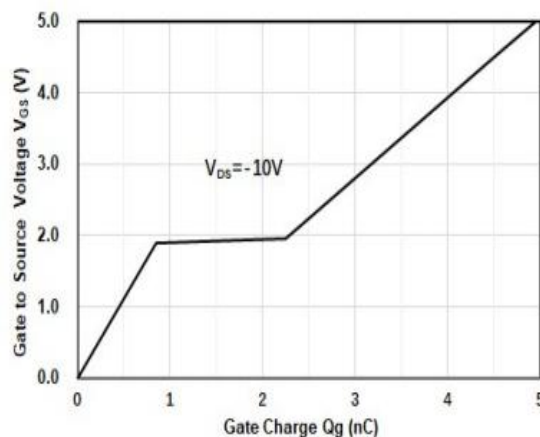
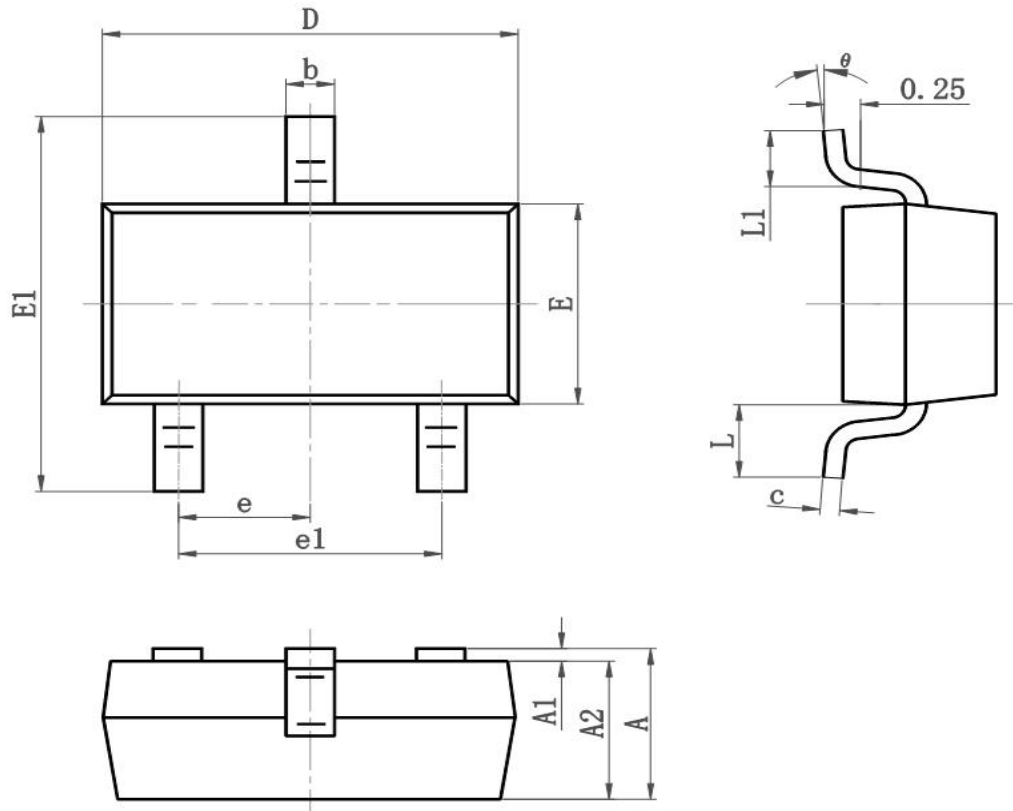


Figure 6: Gate-Charge Characteristics

Dimension 外形封装尺寸


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.050	0.055
E1	2.250	2.550	0.089	0.100
e	0.900	1.00	0.035	0.039
e1	1.800	2.000	0.071	0.079
L	0.500	0.600	0.020	0.024
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

NOTICE

The information presented in this document is for reference only. Involving product optimization and productivity improvement, ChipNobo reserves the right to adjust product indicators and upgrade some technical parameters. ChipNobo is entitled to be exempted from liability for any delay or non-delivery of the information disclosure process that occurs.

本文件中提供的信息仅供参考。涉及产品优化和生产效率改善，ChipNobo 有权调整产品指标和部分技术参数的升级，所出现信息披露过程存在延后或者不能送达的情形，ChipNobo 有获免责权。

The product listed herein is designed to be used with residential and commercial equipment, and do not support sensitive items and specialized equipment in areas where sanctions do exist. ChipNobo Co., Ltd or anyone on its behalf, assumes no responsibility or liability for any damages resulting from improper use.

此处列出的产品旨在民用和商业设备上使用，不支持确有制裁地区的敏感项目和特殊设备，ChipNobo 有限公司或其代表，对因不当使用而造成的任何损害不承担任何责任。

For additional information, please visit our website <http://www.chipnobo.com>, or consult your nearest Chipnobo sales office for further assistance.

欲了解更多信息，请访问我们的网站 <http://www.chipnobo.com>，或咨询离您最近的 Chipnobo 销售办事处以获得进一步帮助。