

■ 描述 DESCRIPTIONS

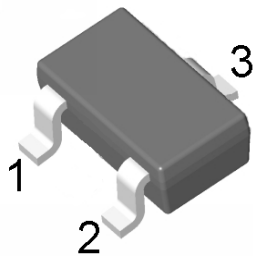
SOT-23 塑封封装 N 沟道场效应管。N-Channel Mosfet in a SOT-23 Plastic Package .

■ 特点 FEATURES

20V, 4.0A, $R_{DS(ON)} = 25m\Omega(\text{typ}) @ V_{GS} = 4.5V$.

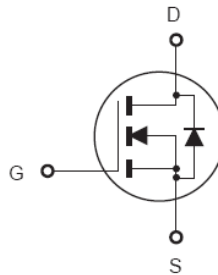
$R_{DS(ON)} = 35 m\Omega(\text{typ}) @ V_{GS} = 2.5V$.

■ 引脚说明 PIN ASSIGNMENT



- 1 Gate
- 2 Source
- 3 Drain

■ 内部等效电路 Equivalent Circuit



■ 型号构成 Name rule

基本名称 Name			辅助识别代码 Additional code			
第一部分 Part 1	第二部分 Part 2	第三部分 Part 3	第四部分 Part 4	第五部分 Part 5	第六部分 Part 6	第七部分 Part 7
品牌 Brand	产品类别 Type	产品型号 Model	分档 Value	分隔号 Separatrix	封装代码 Package	附加码（备用） Extra-code
D	K : MOS	2302		"—"	B: SOT-23	

■ 额定值ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

特性参数 CHARACTERISTIC	符号 SYMBOL	额定值 RATING	单位 UNIT
漏源电压 Drain-Source Voltage	V_{DS}	20	V
栅源电压 Gate-Source Voltage	V_{GS}	± 12	V
漏极电流 Drain Current-Continuous	I_D	4.0	A
脉冲漏极电流 Pulsed-Drain Current	I_{DM}	15	A
Device Dissipation 耗散功率	P_D	1.25	W
结温和存储温度范围 Junction and Storage temperature range	T_J, T_{STG}	$-55 \sim 150$	$^{\circ}\text{C}$

■ THERMAL CHARACTERISTICS热特性($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

特性参数 CHARACTERISTIC	符号 Symbol	额定值 Rating	单位 Unit
热阻-结至环境 Thermal Resistance-Junction to Ambient	$R_{\theta JA}^a$	100	$^{\circ}\text{C/W}$

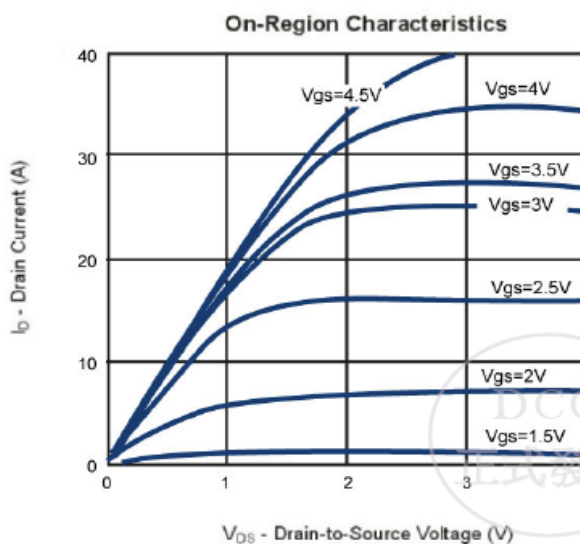
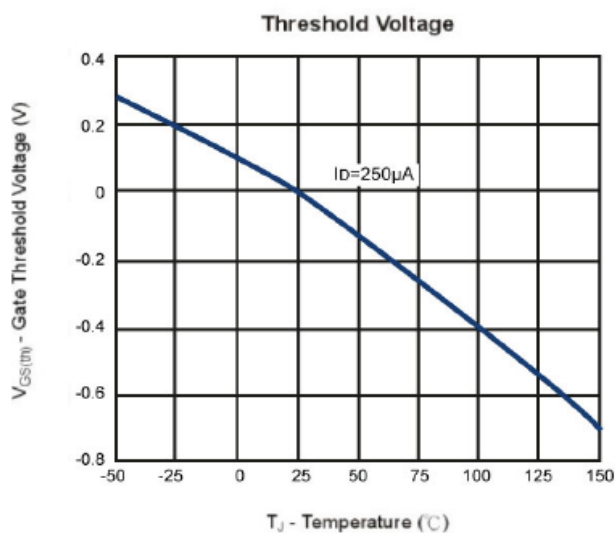
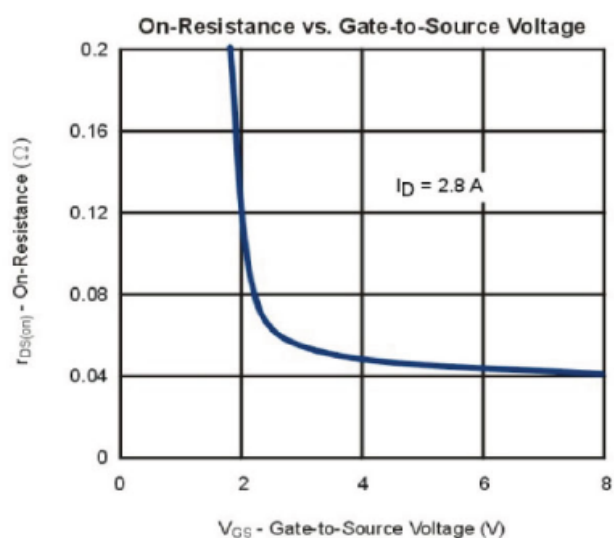
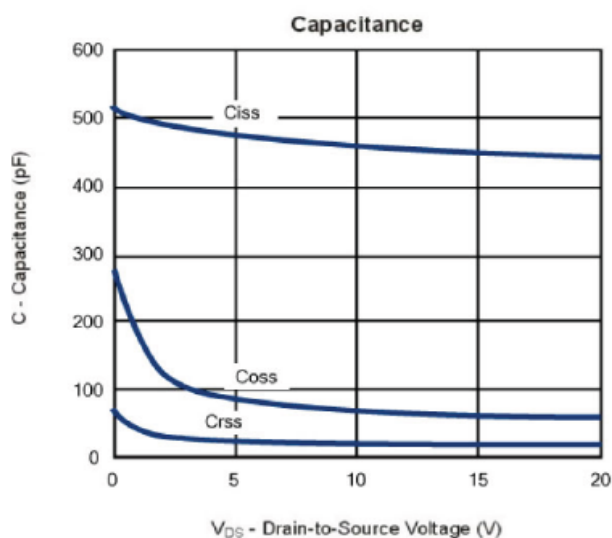
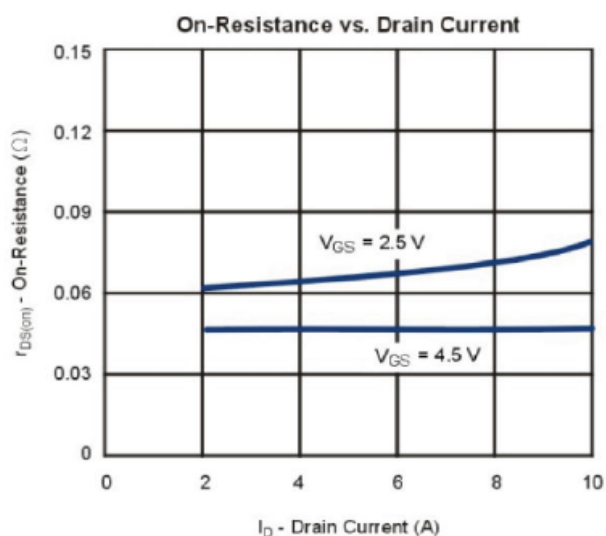
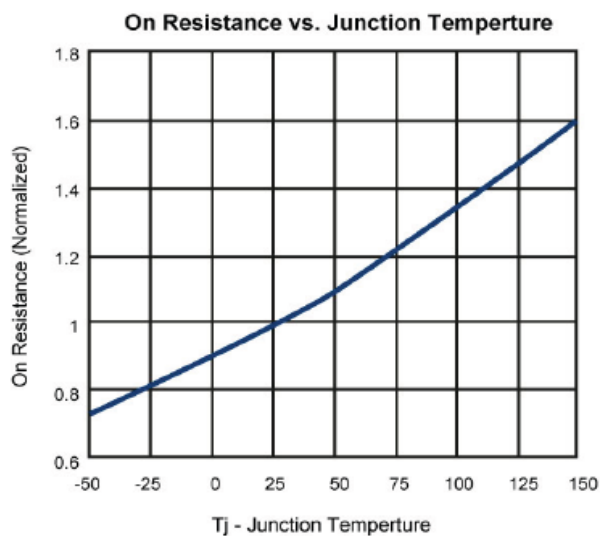
Note a: Surface Mounted on FR4 Board, $t \leq 10\text{sec}$.

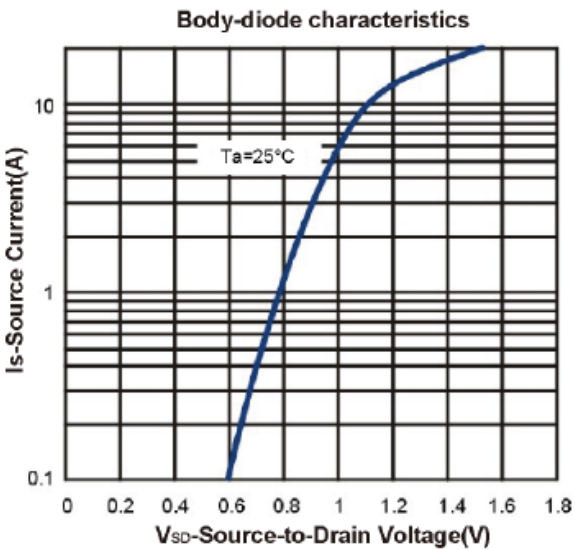
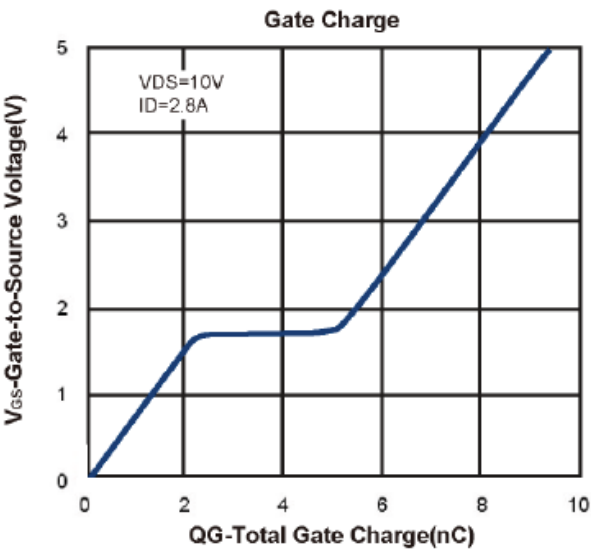
■ 电特性 ELECTRICAL CHARACTERISTICS

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

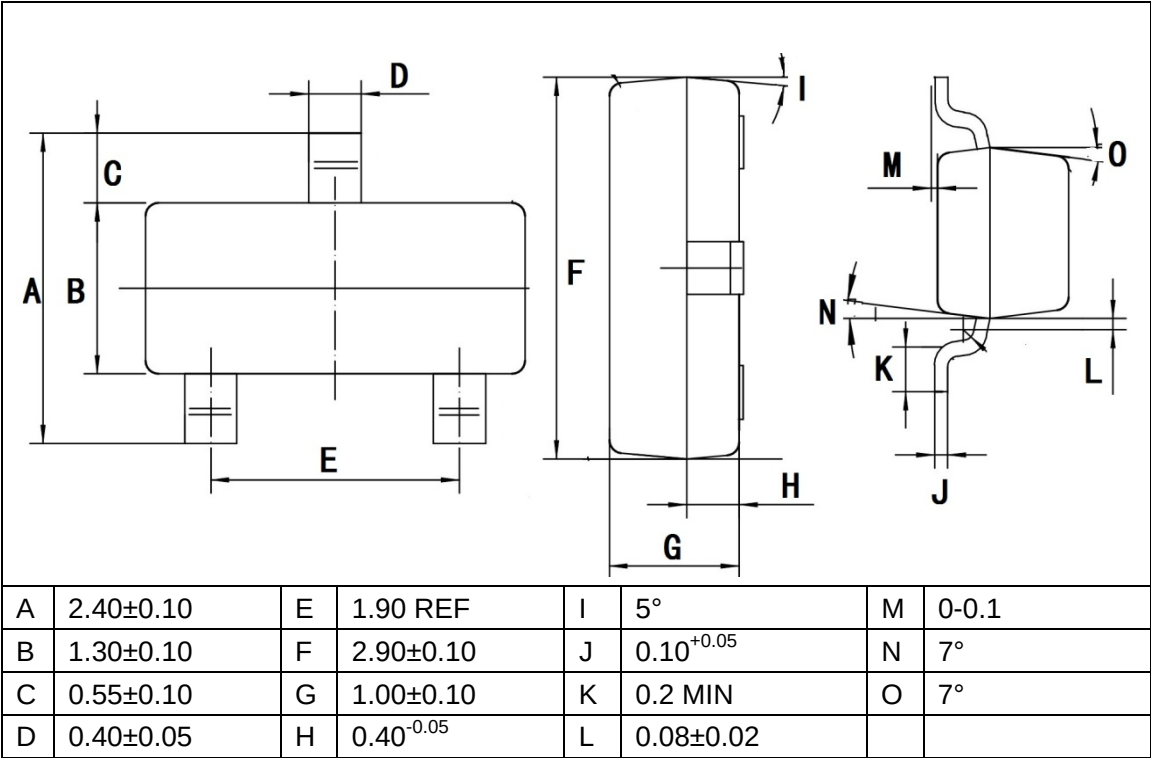
特性参数 CHARACTERISTIC	符号 SYMBOL	测试条件 TEST CONDITIONS	最小值 MIN.	典型值 TYP.	最大值 MAX.	单位 UNIT
漏源击穿电压 Drain-Source Voltage	$V_{(BR)DSS}$	$I_D = 250\mu\text{A}$, $V_{GS} = 0$	20	—	—	V
开启电压 Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250\mu\text{A}$	0.45	0.75	1.2	V
截止栅极电流 Gate-Source Leakage Current	$I_{GSS/F}$	$V_{GS} = +12\text{V}$, $V_{DS} = 0$,	—	—	0.1	μA
截止栅极电流 Gate-Source Leakage Current	$I_{GSS/R}$	$V_{GS} = -12\text{V}$, $V_{DS} = 0$,	—	—	-0.1	μA
饱和漏源电流 Drain-Source Leakage Current	I_{DSS}	$V_{DS} = 20\text{V}$, $V_{GS} = 0$	—	—	1	μA
通态漏源电阻 Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 4.5\text{V}$, $I_D = 2.8\text{A}$	—	25	35	m Ω
		$V_{GS} = 2.5\text{V}$, $I_D = 2.0\text{A}$	—	35	50	m Ω
源漏正向电压 Drain-Source Diode Forward Voltage	V_{SD}	$I_S = 1.6\text{A}$, $V_{GS} = 0$	—	—	1.3	V
正向跨导 Forward Transfer Admittance	gfs	$V_{DS} = 5\text{V}$, $I_D = 3.6\text{A}$	—	10	—	S
共源极短路输入电容 Input Capacitance	Ciss	$V_{DS} = 10\text{V}$, $V_{GS} = 0$, $f = 1\text{MHz}$	—	450	—	pF
共源极短路输出电容 Output Capacitance	Coss		—	70	—	pF
共源极短路反馈电容 Reverse Transfer Capacitance	Crss		—	43	—	pF
开启时间 Turn-on Delay Time	ton	$V_{DD} = 10\text{V}$; $R_L = 10\Omega$ $V_{GEN} = 10\text{V}$; $I_D = 1\text{A}$; $R_G = 6\Omega$	—	7	15	ns
关断时间 Turn-off Delay Time	toff		—	16	60	ns

■ 典型特性 TYPICAL CHARACTERISTICS

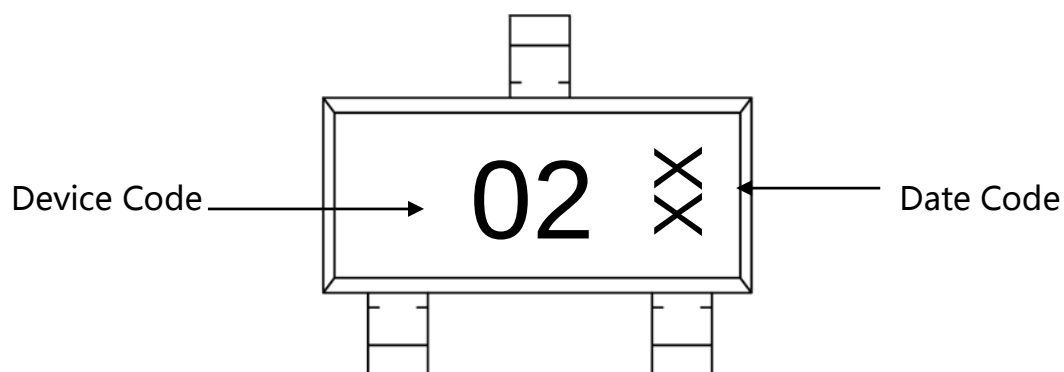




■ 外形尺寸 DIMENSION



■ 打标 DEVICE MARKING



■ 包装信息 PACKAGE INFORMATION

材料名称 Material Name	颜色 Color	尺寸 Size	数量 Quantity	备注 Note
卷盘 Reel	蓝色 Blue	7 " *8mm	3K/Reel	
内盒 Inner Case	黄色 Yellow	185*185*140m m	30K/盒 (10 盘/盒) 30K/Case(10 Reel/ Case)	
外箱 Outer Box	黄色 Yellow	460*400*210m m	180K/箱 (6 盒/箱) 180K/Box (6 Case/Box)	
标签 Label	白色 White	68*40mm	—	贴卷盘、内盒、外箱 Label on reel、inner case、 outer box