

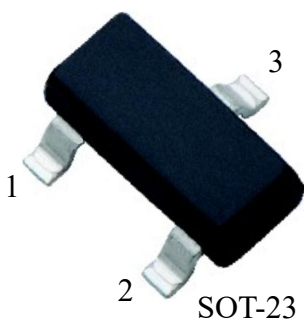
■ 描述 DESCRIPTIONS

-20V,-3.0A,P-Channel Enhancement Mode MOSFET in SOT-23 Plastic Package .

■ 特点 FEATURES

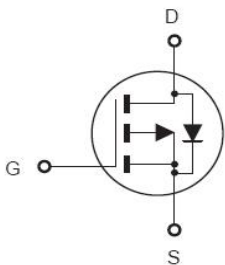
- Low On-Resistance $R_{DS(ON)}=60m\Omega(\text{typ}) @V_{GS}=-4.5V.$ $R_{DS(ON)}=80m\Omega(\text{typ}) @V_{GS}=-2.5V.$
- Pb free and Halogen free

■ 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
FH	K: MOS	2301		“—”	M: SOT-23	E: RoHS

■ 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
漏极 - 源极电压 Drain-Source Voltage	V_{DS}	-20	V
栅极-源极电压 Gate-Source Voltage	V_{GS}	± 12	V
漏极电流-连续 Drain Current—Continuous	I_D	-3.0	A
峰值漏极电流 Peak Drain Current	I_{DM}	-12	A
耗散功率 Device Dissipation	P_D	1.25	W
结温和存储温度范围 Junction and Storage temperature range	T_J, T_{STG}	-55 ~ 150	$^{\circ}\text{C}$

■ THERMAL CHARACTERISTICS 热特性

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	$^{\circ}\text{C/W}$

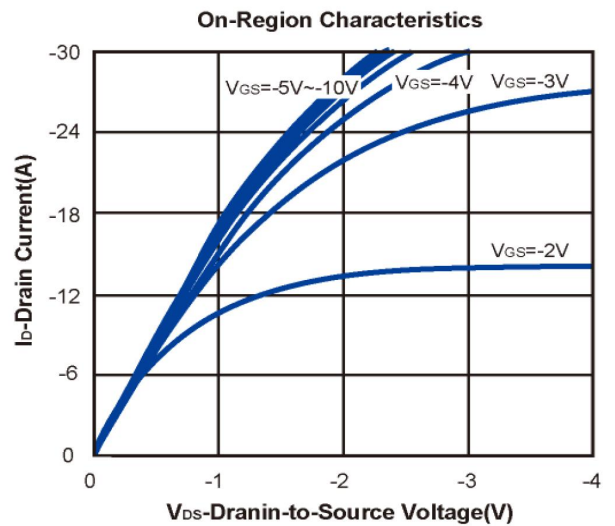
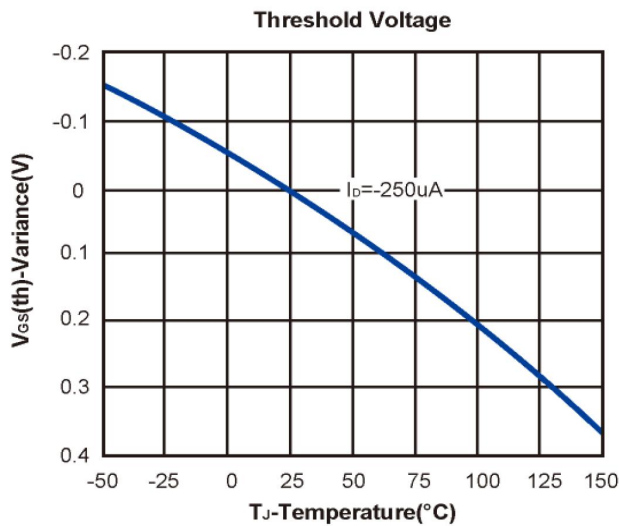
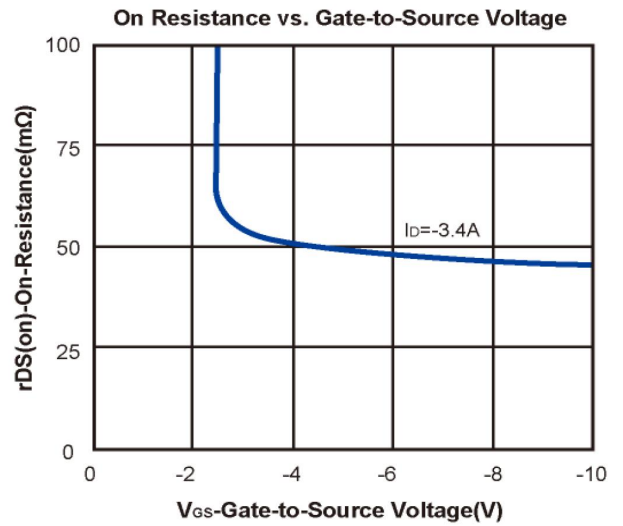
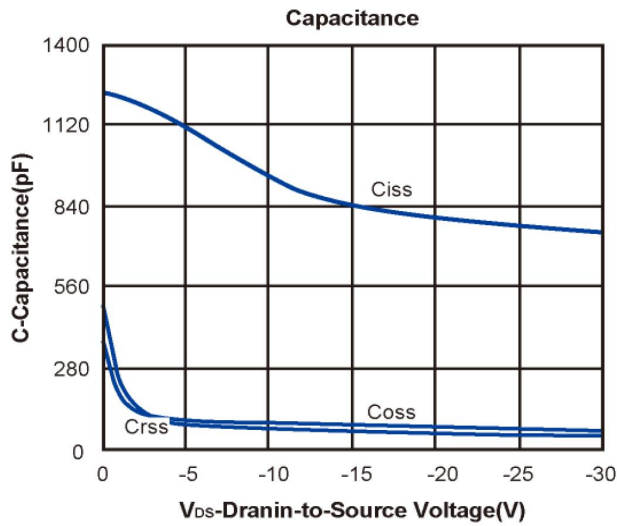
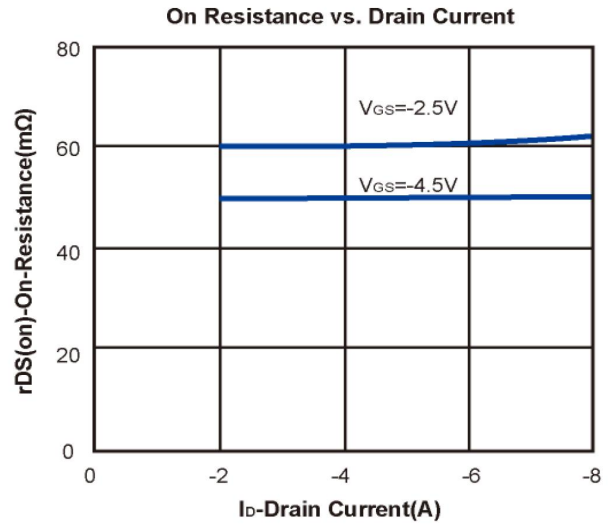
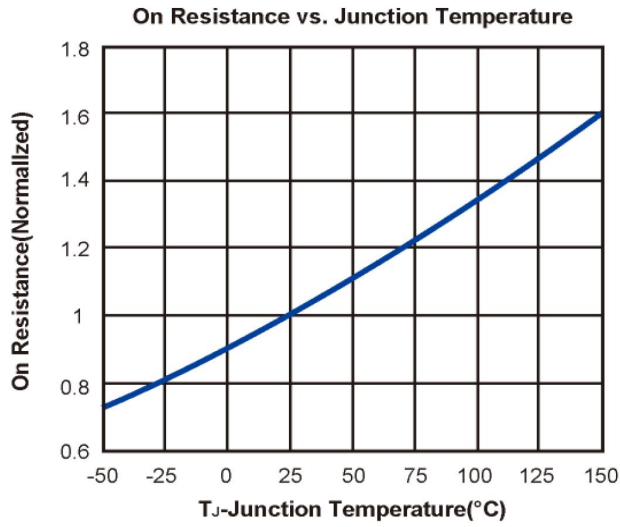
Note a: Surface Mounted on FR4 Board, $t \leq 10\text{sec}$.

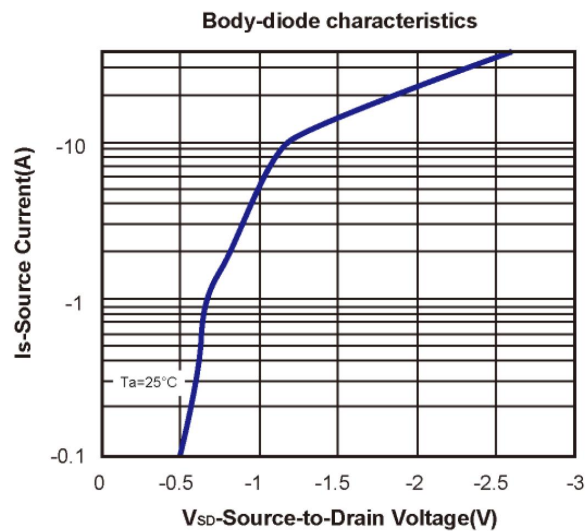
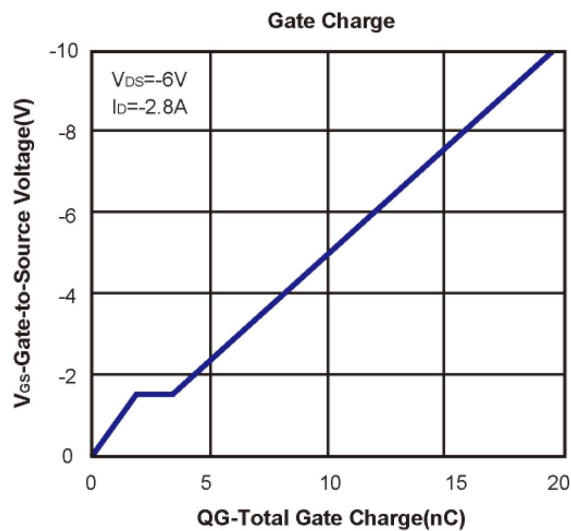
■ 电特性 ELECTRICAL CHARACTERISTICS

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

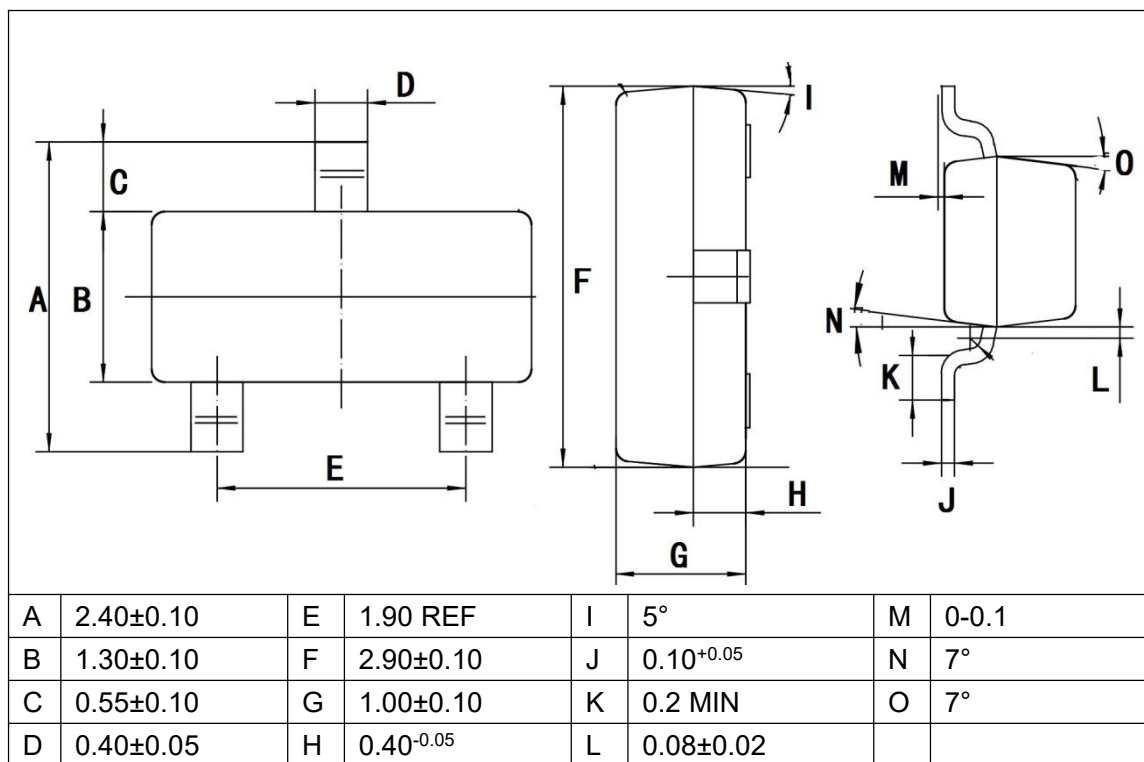
特性参数 CHARACTERISTIC	符号 SYMBOL	测试条件 TEST CONDITIONS	最小值 MIN.	典型值 TYP.	最大值 MAX.	单位 UNIT
漏源击穿电压 Drain-Source Voltage	$V_{(BR)DSS}$	$I_D = -250\mu\text{A}, V_{GS} = 0$	-20	—	—	V
开启电压 Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu\text{A}$	-0.45	-0.75	-1.2	V
截止栅极电流 Gate-Source Leakage 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 Static Drain-Source On Resistance	$R_{DS(on)}$	$V_{GS} = -4.5\text{V}, I_D = -2.8\text{A}$	—	60	90	$\text{m}\Omega$
		$V_{GS} = -2.5\text{V}, I_D = -2.0\text{A}$	—	80	135	$\text{m}\Omega$
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 Transconductance	gfs	$V_{DS} = -5\text{V}, I_D = -2.8\text{A}$	—	6.5	—	S
共源极短路输入电容 Input Capacitance	Ciss	$V_{DS} = -6\text{V}, V_{GS} = 0,$ $f = 1\text{MHz}$	—	447	—	pF
共源极短路输出电容 Output Capacitance	Coss		—	127	—	pF
共源极短路反馈电容 Reverse Transfer Capacitance	Crss		—	80	—	pF
开启时间 Turn-on Delay Time	ton	$V_{DD} = -6\text{V}; R_L = 10\Omega$ $V_{GEN} = -4.5\text{V}; I_D = -1\text{A};$ $R_G = 6\Omega$	—	5	25	ns
关断时间 Turn-off Delay Time	toff		—	47	70	ns

■ 典型特性 TYPICAL CHARACTERISTICS

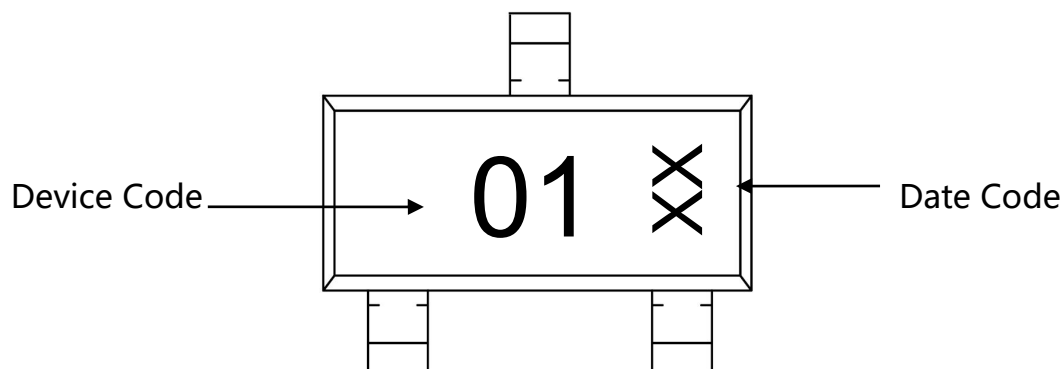




■ 外形尺寸 DIMENSION



■ 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