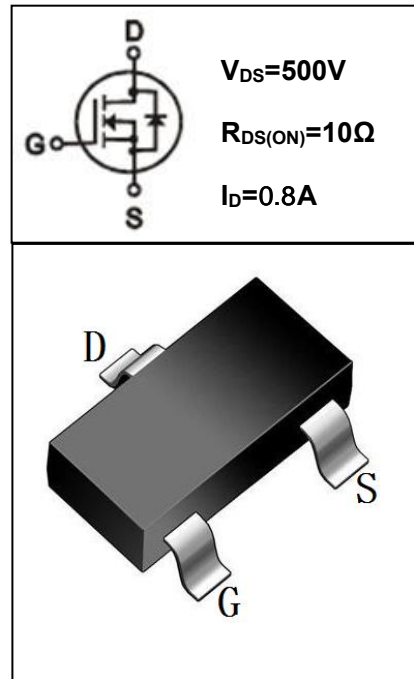


●最大额定值 (TC=25°C)

●Absolute Maximum Ratings (Tc=25°C)

SOT23-3D

参数 PARAMETER	符号 SYMBOL	额定值 VALUE	单位 UNIT
漏-源电压 Drain-source Voltage	V_{DS}	500	V
栅-源电压 gate-source Voltage	V_{GS}	± 30	V
漏极电流 Continuous Drain Current TC=25°C	I_D	0.8 *	A
漏极电流 Continuous Drain Current TC=100°C	I_D	0.63*	A
最大脉冲电流 Drain Current — Pulsed ①	I_{DM}	4.0*	A
耗散功率 Power Dissipation (T _L =25°C)	P_D	3	W
最高结温 Junction Temperature	T_J	150	°C
存储温度 Storage Temperature	T_{STG}	-55-150	°C
单脉冲雪崩能量 Single Pulse Avalanche Energy②	E_{AS}	3.8	mJ



*漏极电流由最高结温限制

*Drain current limited by maximum junction temperature

●电特性 (Tc=25°C)

●Electronic Characteristics (Tc=25°C)

参数 PARAMETER	符号 SYMBOL	测试条件 TEST CONDITION	最小值 MIN	典型值 TYP	最大值 MAX	单位 UNIT
漏-源击穿电压 Drain-source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	500			V
击穿电压温度系数 Breakdown Voltage Temperature Coefficient	$\Delta BV_{DSS}/\Delta T_J$	$I_D=250\mu A$, Referenced to 25°C		0.6		V/°C
栅极开启电压 Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	2.0		4.0	V
漏-源漏电流 Drain-source Leakage Current	I_{DSS}	$V_{DS}=500V,$ $V_{GS}=0V, T_J=25^\circ C$			1	μA
		$V_{DS}=400V,$ $V_{GS}=0V, T_J=125^\circ C$			100	μA
跨导 Forward Transconductance	g_{fs}	$V_{DS}=15V, I_D=0.5A$ ③		0.57		S

●订单信息/ORDERING INFORMATION:

包装形式/PACKING	订货编码/ORDERING CODE
	塑封料/ Moulded Package Material
SOT23-3D 编带装 /TAPE & REEL PACKING	1N50F SOT23-3D-TR

参数 PARAMETER	符号 SYMBOL	测试条件 TEST CONDITION	最小值 MIN	典型值 TYP	最大值 MAX	单位 UNIT
栅极漏电流 Gate-body Leakage Current ($V_{DS} = 0$)	I_{GSS}	$V_{GS} = \pm 30V$			± 100	nA
漏-源导通电阻 Static Drain-source On Resistance	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 0.5A$ ③		10	13	Ω
输入电容 Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V$ $F = 1.0MHz$		74		pF
输出电容 Output Capacitance	C_{oss}			38		
反向传输电容 Reverse transfer Capacitance	C_{rss}			3		
关断延迟 Turn -Off Delay Time	$T_d(off)$	$V_{DD} = 250V, I_D = 1.0A$ $R_G = 25\Omega$ ③		13		ns
栅极电荷 Total Gate Charge	Q_g	$I_D = 1.0A, V_{DS} = 400V$ $V_{GS} = 10V$ ③		4.9		nC
栅源电荷 Gate-to-Source Charge	Q_{gs}			1.1		nC
栅漏电荷 Gate-to-Drain Charge	Q_{gd}			2.9		nC
二极管正向电流 Continuous Diode Forward Current	I_S				1.0	A
二极管正向压降 Diode Forward Voltage	V_{SD}	$T_j = 25^\circ C, I_S = 1.0A$ $V_{GS} = 0V$ ③			1.4	V
反向恢复时间 Reverse Recovery Time	t_{rr}	$T_j = 25^\circ C, I_f = 1.0A$ $di/dt = 100A/\mu s$ ③		190		ns
反向恢复电荷 Reverse Recovery Charge	Q_{rr}			0.53		μC

●热特性

●Thermal Characteristics

参数 PARAMETER	符号 SYMBOL	最大值 MAX	单位 UNIT
		SOT23-3D	
热阻结-壳 Thermal Resistance Junction-case	R_{thJC}	41.67	$^\circ C/W$

注释(Notes):

① 脉冲宽度：以最高节温为限制

Repetitive rating: Pulse width limited by maximum junction temperature

② 初始结温= $25^\circ C$, $V_{DD} = 50V$, $L = 3mH$, $R_G = 25\Omega$, $I_{AS} = 1.6A$ Starting $T_j = 25^\circ C$, $V_{DD} = 50V$, $L = 3mH$, $R_G = 25\Omega$, $I_{AS} = 1.6A$ ③ 脉冲测试：脉冲宽度 $\leq 300\mu s$ ，占空比 $\leq 2\%$ Pulse Test : Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$

● 特性曲线

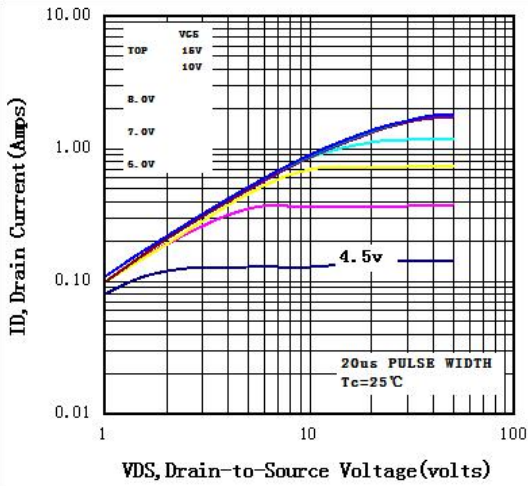


图 1 输出特性曲线, Tc=25°C

Fig1 Typical Output Characteristics, Tc=25°C

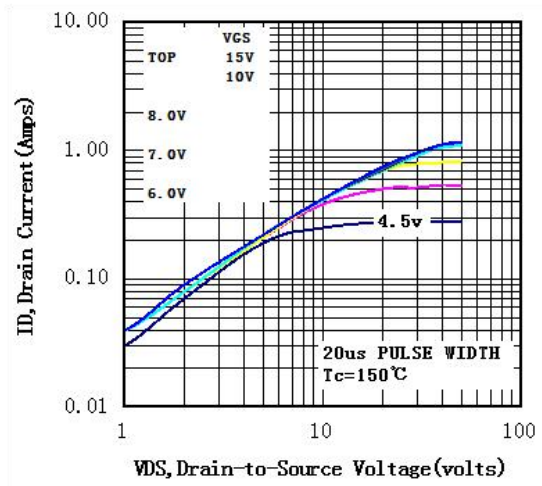


图 2 输出特性曲线, Tc=150°C

Fig2 Typical Output Characteristics, Tc=150°C

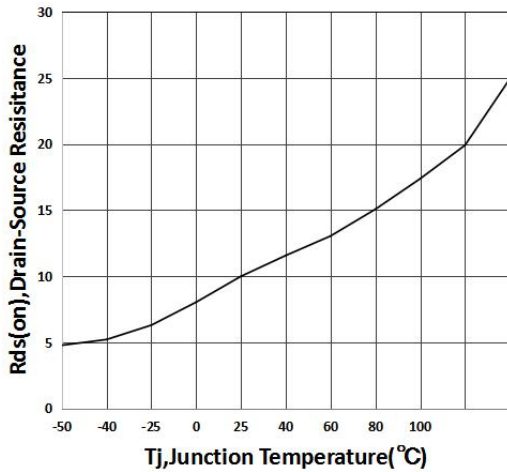


图 3 导通电阻与温度曲线

Fig3 On-Resistance Vs. Temperature

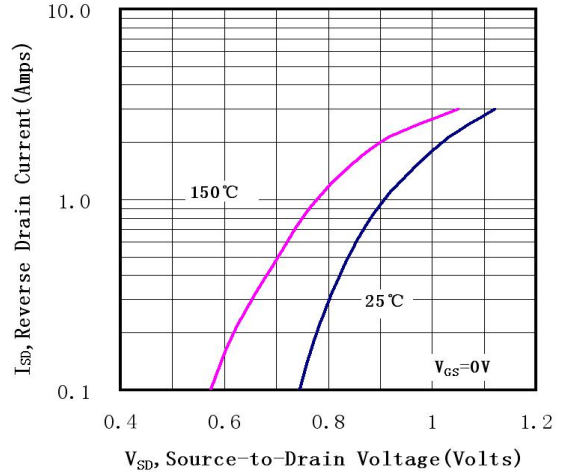


图 4 二极管正向电压曲线

Fig4 Typical Source-Drain Diode Forward Voltage

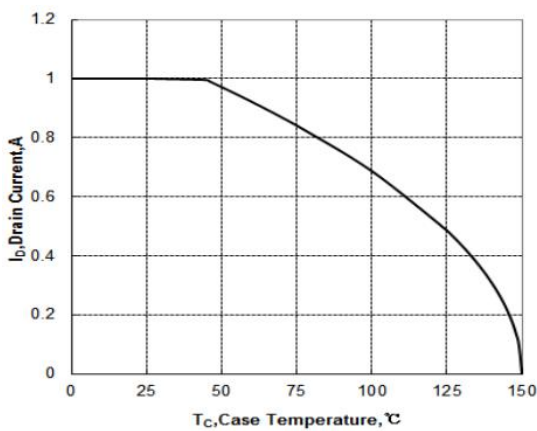


图 5 最大漏极电流与壳温曲线

Fig5 Maximum Drain Current Vs. Case Temperature

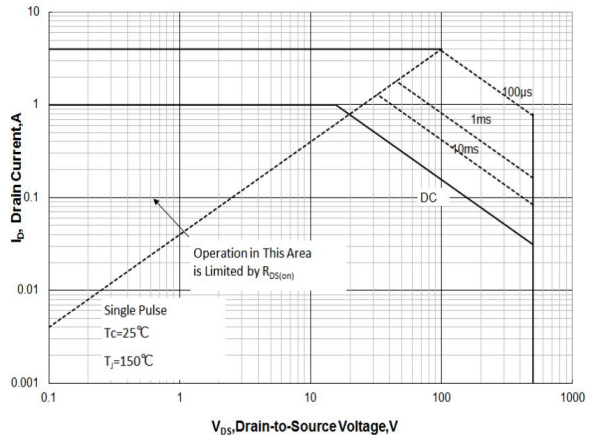


图 6 最大安全工作区曲线

Fig6 Maximum Safe Operating Area

SOT23-3D 封装机械尺寸 SOT23-3D MECHANICAL DATA

单位:毫米/UNIT: mm

符号/SYMBOL	最小值/min	典型值/nom	最大值/max
A	0.90		1.45
A1	0		0.15
A2	0.90		1.30
A3	0.60		0.70
b	0.35		0.49
C	0.08		0.22
D	2.80		3.00
E	2.60		3.00
E1	1.50		1.70
e	0.85		1.05
e1	1.85		2.00
L	0.35		0.60
θ	0		8°

