●特点：导通电阻低　开关速度快　输入阻抗高　符合RoHS规范

●FEATURES：■LOW ON-RESISTANCE ■FAST SWITCHING ■HIGH INPUT RESISTANCE ■RoHS COMPLIANT

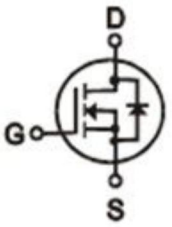
●应用：照明　不间断电源　LED 电视　消费类电器

●APPLICATION: ■LIGHTING ■UNINTERRUPTED POWER SUPPLY ■LED TV ■CONSUMER APPLIANCES

●最大额定值（Tc=25°C）

●Absolute Maximum Ratings（Tc=25°C）　TO-251&252

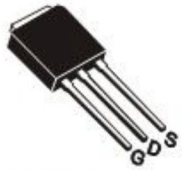
参数 PARAMETER	符号 SYMBOL	额定值 VALUE	单位 UNIT
漏-源电压 Drain-source Voltage	V_{DS}	250	V
-源电压 gate-source Voltage	V_{GS}	±30	V
漏极电流 Continuous Drain Current TC=25℃	I_D	18	A
漏极电流 Continuous Drain Current TC=100℃	I_D	9	A
最大脉冲电流 Drain Current －Pulsed ①	I_{DM}	72	A
耗散功率 Power Dissipation	$P_{to}t$	TO-251/252：50	W
最高结温 Junction Temperature	Tj	150	°C
存储温度 Storage Temperature	T_{STG}	-55-150	°C
单脉冲雪崩能量 Single Pulse Avalanche Energy ②	E_{AS}	382	mJ



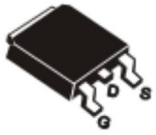
V_{DS}=250V

$R_{DS(ON)}$=0.12Ω

I_D=18.0A



TO-251(IPAK)



TO-252(DPAK)

●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=250μA	250			V
击穿电压温度系数 Breakdown Voltage Temperature Coefficient	$\Delta BV_{DSS}/\Delta Tj$	I_D=250uA, Referenced to 25°C		0.2		V/°C
栅极开启电压 Gate Threshold Voltage	$V_{GS(TH)}$	V_{GS}=V_{DS}, I_D=250μA	2.0		4.0	V
漏-源漏电流 Drain-source Leakage Current	I_{DSS}	V_{DS} =200V, V_{GS} =0V, Tj=25°C			1	μA
		V_{DS} =200V, V_{GS} =0V, Tj=125°C			10	μA
跨导 Forward Transconductance	gfs	V_{DS} =10V, I_D=9A ③	3.5			S

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} =±30V			±100	nA
漏-源导通电阻 Static Drain-source On Resistance	$R_{DS(ON)}$	V_{GS} =10V, I_D=9A ③		0.12	0.20	Ω
输入电容 Input Capacitance	Ciss	VGS = 0V, VDS = 25V F = 1.0MHZ		1060		pF
输出电容 Output Capacitance	Coss			175		pF
米勒电容 Miller Capacitance	Crss			35		pF
关断延迟 Turn -Off Delay Time	Td(off)	V_{DD}=100V, I_D =18A R_G= 3.5Ω, R_D=25Ω ③		125		ns
栅极电荷 Total Gate Charge	Qg	I_D =18A, V_{DS} = 160V V_{GS} = 10V ③		23.8		nC
栅源电荷 Gate-to-Source Charge	Qgs			6.85		nC
栅漏电荷 Gate-to-Drain Charge	Qgd			9.25		nC
二极管正向电流 Continuous Diode Forward Current	I_S				18.0	A
二极管正向压降 Diode Forward Voltage	V_{SD}	Tj=25°C, Is=18A V_{GS} =0V ③			1.45	V
反向恢复时间 Reverse Recovery Time	trr	Tj=25°C, If=18A di/dt=100A/μs ③			110	ns
反向恢复电荷 Reverse Recovery Charge	Qrr			1.35		uC

●热特性

●Thermal Characteristics

参数 PARAMETER	符号 SYMBOL	最大值 MAX TO-251/252	单位 UNIT
热阻结-壳 Thermal Resistance Junction-case	Rth_{JC}	2.5	℃/W
热阻结-环境 Thermal Resistance Junction-ambient	Rth_{JA}	62.5	℃/W

注释(Notes):

① 脉冲宽度：以最高结温为限制

Repetitive rating: Pulse width limited by maximum junction temperature

② 初始结温=25°C, V_{DD} =50V, L=2.0 mH, R_G =25Ω, I_{AS}=18.0A

Starting Tj=25°C, V_{DD} =50V, L=2.0 mH, R_G =25Ω, I_{AS}=18.0A

③ 脉冲测试：脉冲宽度≤ 300μs ， 占空比≤ 2 %

Pulse Test : Pulse width ≤ 300μs, Duty cycle ≤ 2%

● 特性曲线

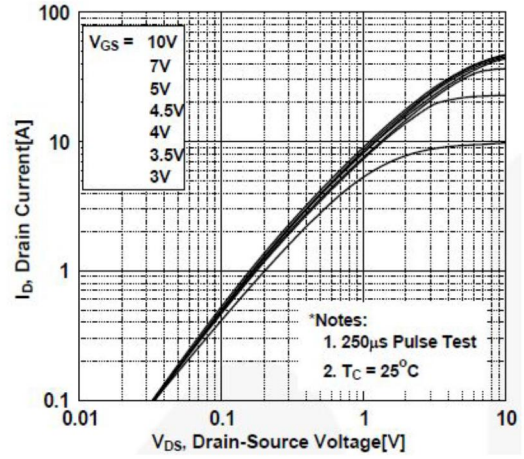


图 1 输出特性曲线, Tc=25℃

Fig1 Typical Output Characteristics, Tc=25℃

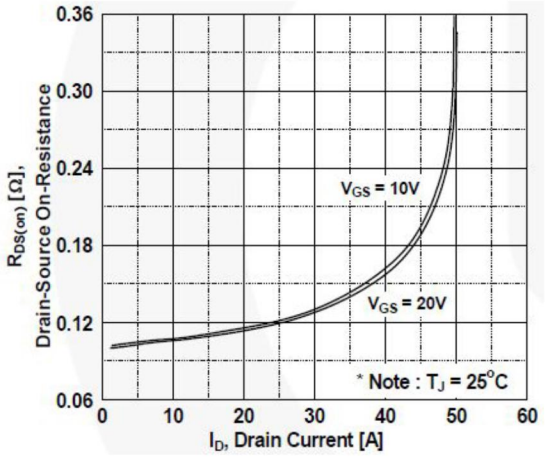


图 2 导通电阻与漏极电流和栅极电压曲线

Fig2 On-Resistance Vs.Drain Current and Gate Voltage

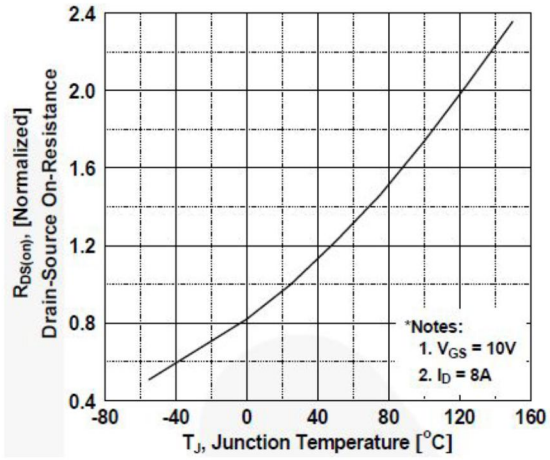


图 3 导通电阻与温度曲线

Fig3 Normalized On-Resistance Vs.Temperature

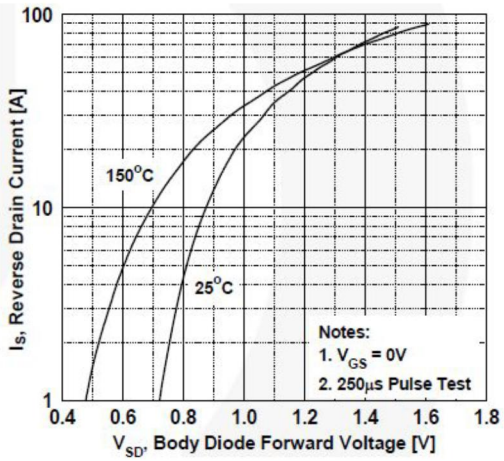


图 4 二极管正向电压曲线

Fig4 Typical Source-Drain Diode Forward Voltage

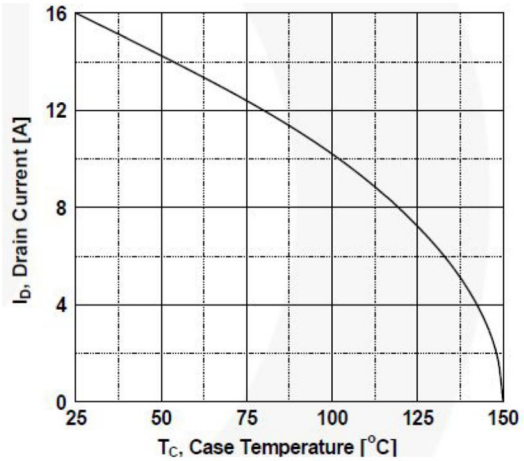


图 5 最大漏极电流与壳温曲线

Fig5 Maximum Drain Current Vs.Case Temperature

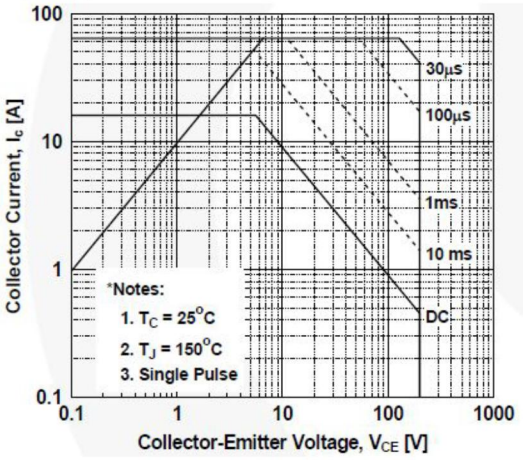


图 6 最大安全工作区曲线

Fig6 Maximum Safe Operating Area