

关键参数
Key Parameters

V_{DSmax}		1200	V
$R_{DS(on)}$	Typ.	16	mΩ
I_D	Max.	140	A
Die Size		5.00×5.00	mm ²

特点
Features

- 高开关频率 High Switching Frequency
- 低开关损耗 Low Switching Loss
- 软、快速开关 Soft, fast Switching
- 易并联使用 Easy Paralleling

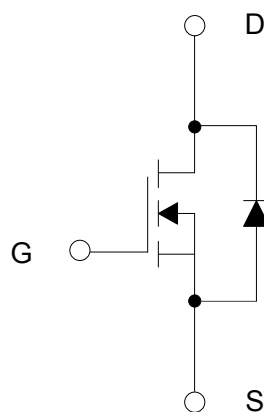
电路结构
Circuit Configuration


图 1. 电路结构

Fig. 1 Circuit configuration

最大额定值
Maximum Ratings

符号 Symbol	参数名称 Parameter	数值 Value	单位 Unit
V_{DSmax}	漏源极电压 Drain-source voltage	1200	V
V_{GSS}	栅源峰值电压 Gate-source voltage	-8/+23	V
I_D	持续正向电流, 由 $T_{vj\ max}^{(*1)}$ 限制 Continuous forward current, limited by $T_{vj\ max}^{(*1)}$	140	A
I_{DM}	最大重复正向电流, 由 $T_{vj\ max}$ 限制 Maximum repetitive forward current, limited by $T_{vj\ max}$	280	A
$T_{vj\ max}$	最大允许结温 Max. Junction temperature	175	°C
$T_{vj(op)}$	工作结温 Operation junction temperature	-40...+175	°C
$T_{Proc}^{(*2)}$	最大加工温度 Maximum processing temperature	325	°C

电特性值
Electrical Characteristics

 除非特别声明, 否则 $T_{vj} = 25\text{ }^{\circ}\text{C}$
 $T_{vj} = 25\text{ }^{\circ}\text{C}$ unless otherwise stated

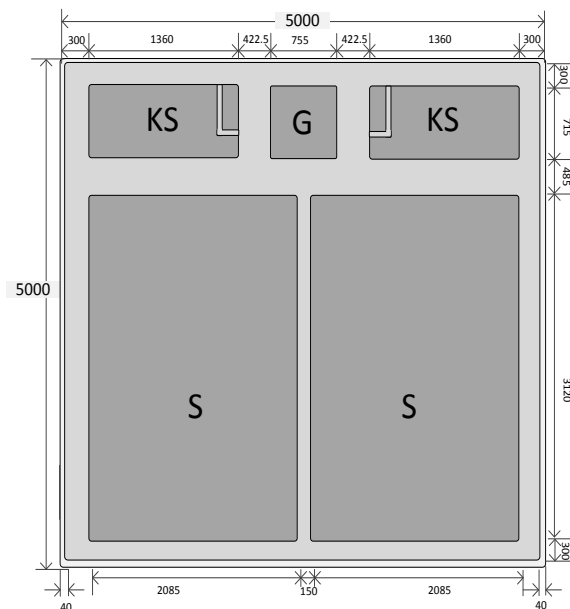
符号 Symbol	参数名称 Parameter	测试条件 Test Conditions	最小值 Min.	典型值 Typ.	最大值 Max.	单位 Unit
I_{DSS}	零栅压漏极电流 Zero gate voltage drain current	$V_{GS} = 0V, V_{DS} = V_{DSS}$			1	μA
I_{GSS}	栅极漏电流 Gate leakage current	$V_{GS} = V_{GSS}, V_{DS} = 0V$			20	nA
$V_{GS(th)}^{(*)3}$	栅极-源极阈值电压 Gate threshold voltage	$I_D = 10\text{ mA}, V_{GS} = V_{DS}$	2.2	2.8	3.4	V
$R_{DS(on)}$	漏极-源极通态电阻 Drain-source on-state resistance	$V_{GS} = 18V, I_D = 70A$		16		m Ω
		$V_{GS} = 18V, I_D = 70A, T_{vj} = 175\text{ }^{\circ}\text{C}$		24		m Ω
g_{fs}	跨导 Forward transconductance	TBD		TBD		S
C_{iss}	输入电容 Input capacitance	$V_{DS} = 1000V, V_{GS} = 0V,$ $f = 100\text{ kHz}, V_{AC} = 30\text{ mV}$		4000		pF
C_{oss}	输出电容 Output capacitance			230		pF
C_{rss}	反向传输电容 Reverse transfer capacitance			12		pF
E_{oss}	电容存储能量 C_{oss} Stored Energy			TBD		μJ
R_{Gint}	内部栅极电阻 Internal gate resistor	$V_{GS} = 0V$		7.0		Ω
Q_{gs}	栅源电荷 Gate to source charge	TBD		TBD		nC
Q_{gd}	栅漏电荷 Gate to drain charge			TBD		nC
Q_g	总栅极电荷 Total gate charge			TBD		nC
V_{SD}	二极管正向电压 Diode forward voltage	$I_{SD} = 70A, V_{GS} = -4V$	4	5.3	6	V
		$I_{SD} = 70A, V_{GS} = -4V, T_{vj} = 175\text{ }^{\circ}\text{C}$	4	5.3	6	V

注意:
Note:

- (*1)表示热阻值 $R_{th}(J-C) \leq 0.28\text{ }^{\circ}\text{C/W}$ ((*1)) indicates $R_{th}(J-C) \leq 0.28\text{ }^{\circ}\text{C/W}$);
- (*2) 表示最长持续时间 10min ((*2)) indicates 10min, maximum);
- (*3) 表示做过预处理后的测试值 ((*3) indicates $V_{GS(th)}$ is preprocessed);

工艺参数值
Mechanical Parameters

芯片尺寸 Chip size	5.00×5.00	mm ²
源极键合区尺寸(不包含开尔文源级) Source pad size (excl. Kelvin Source pad)	2×(3.120×2.085)	mm ²
栅极键合区尺寸 Gate pad size	0.76×0.72	mm ²
总面积 Area total	25.00	mm ²
厚度 Thickness	150±10	μm
晶圆尺寸 Wafer size	150	mm
每片晶圆上最大芯片数 Max. possible chips per wafer	558	
正面金属 Frontside (Source and Gate) metal	Ni:Pd:Au (2.0:0.2:0.1μm)	
背面金属 Backside (Drain) metal	Ni:Pd:Au (2.0:0.2:0.1μm)	
正面钝化 Passivation frontside	Polyimide	
建议存储环境 Recommended storage environment	存储在原始容器中, 23°C 干燥氮气柜小于 6 个月 Store in original container, in dry nitrogen, <6 months at an ambient temperature of 23°C	



S=源极 G=栅极 KS=开尔文源极 单位：微米

S=Source G=Gate KS=Kelvin Source Unit: μm

图 2. 芯片外观尺寸

Fig. 2 Chip drawing

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