

关键参数
Key Parameters

V_R		1200	V
V_F	Typ.	1.65	V
I_F	Max.	150	A
Die Size		9.20×9.20	mm ²

特点
Features

- 多重寿命控制 Multi-level Life Control Technology
- 低开关损耗 Low Switching Loss
- 软、快速开关 Soft, Fast Switching
- 易并联使用 Easy Paralleling

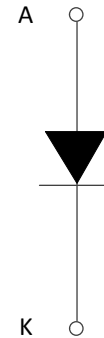
电路结构
Circuit Configuration


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_{RRM}	反向重复峰值电压 Repetitive peak reverse voltage	1200	V
I_F	持续正向电流, 由 $T_{vj\ max}$ 限制 Continuous forward current, limited by $T_{vj\ max}$	150	A
I_{FRM}	正向重复峰值电流, 由 $T_{vj\ max}$ 限制 Maximum repetitive forward current, limited by $T_{vj\ max}$	300	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...+150	°C

静态特性值
Static Characteristics

晶圆测试, $T_{vj}=25\ ^\circ\text{C}$

Tested on wafer, $T_{vj}=25\ ^\circ\text{C}$

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
V_{BR}	阴极-阳极击穿电压 Cathode-Anode breakdown Voltage	$I_R=1\text{mA}$	1200			V
V_F	正向电压 Forward voltage	$I_F=50\text{A}$	1.10	1.35	1.60	V
I_R	反向漏电流 Reverse leakage current	$V_R=1200\text{V}$			10	μA

电特性值
Electrical Characteristics

除非特别声明，否则 $T_J = 25\text{ }^{\circ}\text{C}$
 $T_J = 25\text{ }^{\circ}\text{C}$ 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
V_F	正向电压 Forward voltage drop	$I_F = 150\text{A}$		1.65		V
		$I_F = 150\text{A}, T_J = 150\text{ }^{\circ}\text{C}$		1.75		V

工艺参数值
Mechanical Parameters

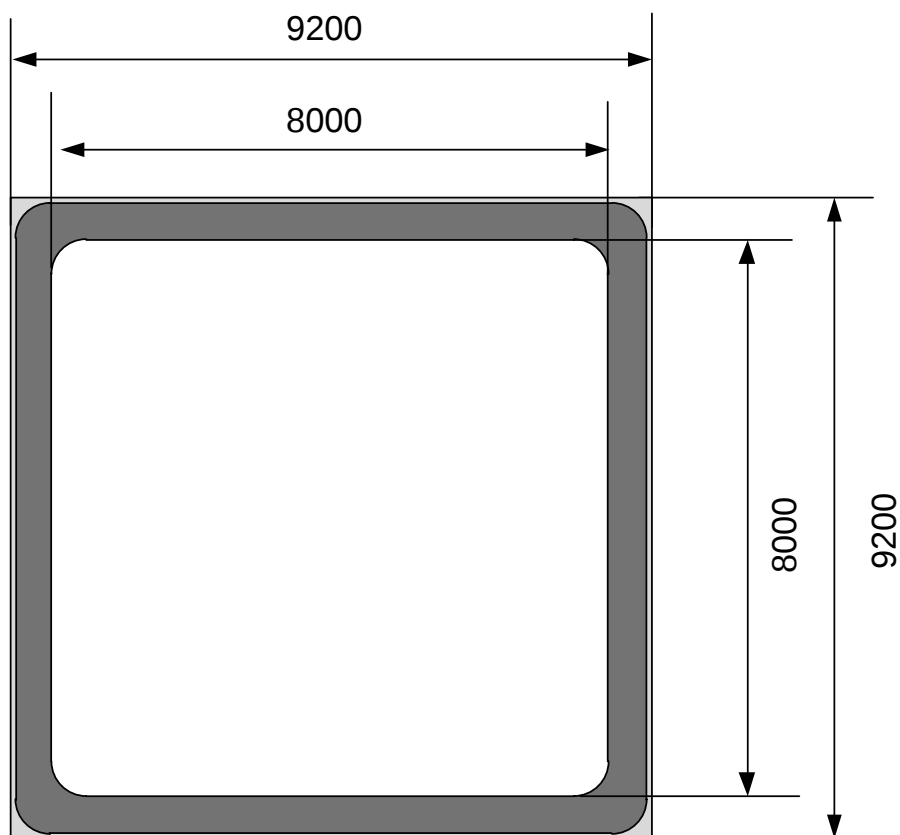
芯片尺寸 Chip size	9.20×9.20	mm^2
阳极区尺寸 Anode pad size	8.00×8.00	mm^2
总面积 Area total	84.64	mm^2
厚度 Thickness	125	μm
晶圆尺寸 Wafer size	200	mm
每片晶圆上最大芯片数 Max. possible chips per wafer	304	
阳极金属 Anode metal	Al/Si	
阴极金属 Cathode metal	Al-Ti-Ni-Ag	
正面钝化 Passivation frontside	Polyimide	
建议存储环境 Recommended storage 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	

其他电特性
Further Electrical Characteristics

开关和热学特性请参考相关模块数据手册

For switching characteristic and thermal properties, please refer to the device datasheet

This chip datasheet refers to the device datasheet	TG450HF12M1-S3A00	Ver 21.04
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单位：微米

Unit: μm

图 2. 芯片外观尺寸

Fig. 2 Chip drawing

株洲中车时代半导体有限公司

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