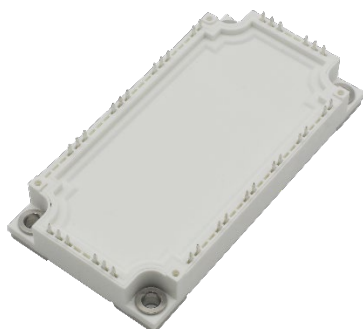


➤ 产品外观 / Appearance



$V_{CES} = 1200V$

$I_{C\ nom} = 200A / I_{CRM} = 400A$

➤ 特性 / Features

A. 低导通压降

A. Low V_{CEsat}

B. 低开关损耗

B. Low Switching Losses

C. 集成 NTC 温度传感器

C. Integrated NTC temperature sensor

➤ 用途 / Applications

A. 电机传动

A. Motor Drives

B. 不间断电源系统

B. UPS Systems

➤ 相关信息 / Related Information

条形码 / Barcode Code

二维码 / DMX – Code



公司地址：合肥市高新区创新大道与明珠大道交叉口 106 号 5 号楼 2 层 C 区、D 区。

Address: Area C and D, 2nd floor, Building 5, No. 106, Intersection of Innovation Avenue and Mingzhu Avenue, High-tech Zone, Hefei City.

6D200M120S1P

IGBT, 逆变器 / IGBT, Inverter



最大额定值 / Maximum Rated Values

集电极-发射极电压 Collector-emitter voltage	$T_j = 25^\circ\text{C}$	V_{CES}	1200	V
连续集电极直流电流 Continuous DC collector current	$T_C = 80^\circ\text{C}, T_{j\max} = 175^\circ\text{C}$	$I_{C\text{ nom}}$	200	A
集电极重复峰值电流 Repetitive peak collector current	$t_p = 1\text{ ms}$	I_{CRM}	400	A
栅极-发射极峰值电压 Gate-emitter peak voltage		V_{GES}	+/-20	V

特征值 / Characteristic Values

			Min.	Typ.	Max.		
集电极-发射极饱和电压 Collector-emitter saturation voltage	$I_C = 200\text{ A}, V_{GE} = 15\text{ V}$	$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	$V_{CE\text{ sat}}$	1.70 1.90		V	
栅极阈值电压 Gate threshold voltage	$I_C = 3\text{ mA}, V_{CE} = V_{GE}, T_j = 25^\circ\text{C}$		$V_{G\text{ eth}}$	5.0	5.6	6.8	V
栅极电荷/Gate charge	$V_{GE} = -15\text{ V} \dots +15\text{ V}$		Q_G	2.10		μC	
内部栅极电阻 Internal gate resistor			$R_{G\text{ int}}$	3.3		Ω	
输入电容/Input capacitance	$f = 1\text{ MHz}, T_j = 25^\circ\text{C}, V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}$		C_{ies}	17.3		nF	
反向传输电容 Reverse transfer capacitance			C_{res}	0.61		nF	
集电极-发射极截止电流 Collector-emitter cut-off current	$V_{CE} = 1200\text{ V}, V_{GE} = 0\text{ V}, T_j = 25^\circ\text{C}$		I_{CES}		1.0	mA	
栅极-发射极漏电流 Gate-emitter leakage current	$V_{CE} = 0\text{ V}, V_{GE} = 20\text{ V}, T_j = 25^\circ\text{C}$		I_{GES}		400	nA	
开通延迟时间/Turn-on delay time	$I_C = 200\text{ A}, V_{CE} = 600\text{ V}$ $V_{GE} = \pm 15\text{ V}$ $R_G = 2\ \Omega$ Inductive Load	$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	$t_{d\text{ on}}$	281 286		ns	
上升时间/Rise time		$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	t_r	90 95		ns	
关断延迟时间/Turn-off delay time		$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	$t_{d\text{ off}}$	271 297		ns	
下降时间/Fall time		$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	t_f	156 234		ns	
开通损耗能量/Turn-on energy loss		$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	E_{on}	10.1 15.2		mJ	
关断损耗能量/Turn-off energy loss		$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	E_{off}	12.2 19.5		mJ	
短路数据/SC data		$V_{GE} \leq 15\text{ V}, V_{CC} = 600\text{ V}$ $t_p \leq 10\ \mu\text{s}, T_j = 150^\circ\text{C}$		I_{sc}	900		A
结 - 外壳热阻 Thermal resistance, junction to case		每个 IGBT / per IGBT		R_{thJC}		0.12	K/W
在开关状态下温度 Temperature under switching			$T_{j\text{ op}}$	-40	150	$^\circ\text{C}$	

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二极管, 逆变器 / Diode, Inverter

负温度系数热敏电阻 / NTC-Thermistor



二极管, 逆变器 / Diode, Inverter

最大额定值 / Maximum Rated Values

反向重复峰值电压 Repetitive peak reverse voltage	$T_j = 25^\circ\text{C}$	V_{RRM}	1200	V
连续正向直流电流 Continuous DC forward current		I_F	200	A
正向重复峰值电流 Repetitive peak forward current	$t_p = 1\text{ ms}$	I_{FRM}	400	A

特征值 / Characteristic Values

			Min.	Typ.	Max.	
正向电压/Forward voltage	$I_F = 200\text{ A}, V_{GE} = 0\text{ V}$	$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	V_F	1.95 2.00		V
反向恢复峰值电流 Peak reverse recovery current		$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	I_{RM}	137 159		A
恢复电荷/Recovered charge	$I_F = 200\text{ A}, V_R = 600\text{ V}$ $V_{GE} = -15\text{ V}$ $-di_F/dt = 3000\text{ A}/\mu\text{s}$	$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	Q_r	21.0 35.6		μC
反向恢复损耗 Reverse recovery energy		$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	E_{rec}	9.7 16.4		mJ
结 - 外壳热阻 Thermal resistance, junction to case	每个二极管 / per diode		R_{thJC}		0.27	K/W
在开关状态下温度 Temperature under switching			T_{jop}	-40	150	$^\circ\text{C}$

负温度系数热敏电阻 / NTC-Thermistor

特征值 / Characteristic Values

			Min.	Typ.	Max.	
额定阻值/Rated resistance	$T_C = 25^\circ\text{C}$	R_{25}		5.00		k Ω
阻值误差/Deviation of R100	$T_C = 100^\circ\text{C}, R_{100} = 465\ \Omega$	$\Delta R/R$	-5		5	%
功率损耗/Power dissipation	$T_C = 25^\circ\text{C}$	P_{25}			10.0	mW
B 值/B - value	$R_2 = R_{25} \exp [B_{25/50}(1/T_2 - 1/(298.15\text{K}))]$	$B_{25/50}$		3380		K
B 值/B - value	$R_2 = R_{25} \exp [B_{25/80}(1/T_2 - 1/(298.15\text{K}))]$	$B_{25/80}$		3468		K
B 值/B - value	$R_2 = R_{25} \exp [B_{25/100}(1/T_2 - 1/(298.15\text{K}))]$	$B_{25/100}$		3523		K

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模块 / Module



绝缘测试电压 Isolation test voltage	RMS, f = 50 Hz, t = 1 min.	V _{ISOL}	2.5	kV
模块基板材料 Material of module baseplate			Cu	
内部绝缘/Internal isolation	基本绝缘 (class 1, IEC61140) Basic insulation (class 1, IEC61140)		Al ₂ O ₃	
爬电距离/Creepage distance	端子至散热器 / terminal to heatsink 端子至端子 / terminal to terminal		10.0	mm
电气间隙/Clearance	端子至散热器 / terminal to heatsink 端子至端子 / terminal to terminal		7.5	mm
相对电痕指数 Comperative tracking index		CTI	> 200	

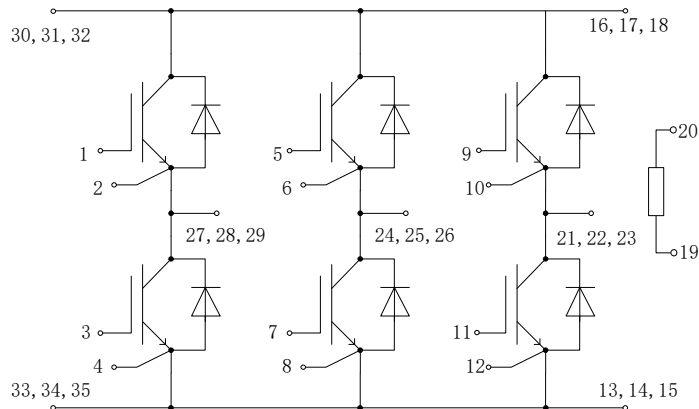
			Min.	Typ.	Max.	
杂散电感, 模块 Stray inductance module		L _{sCE}		30		nH
模块引线电阻 Module lead resistance	T _c = 25°C, 每个开关 / per switch	R _{CC'+EE}		1.6		mΩ
储存温度/Storage temperature		T _{stg}	-40		125	°C
模块安装的扭距 / Mounting torque for module mounting	螺丝 M5 / Screw M5	M	3.00		6.00	Nm
重量/Weight		G		310		g

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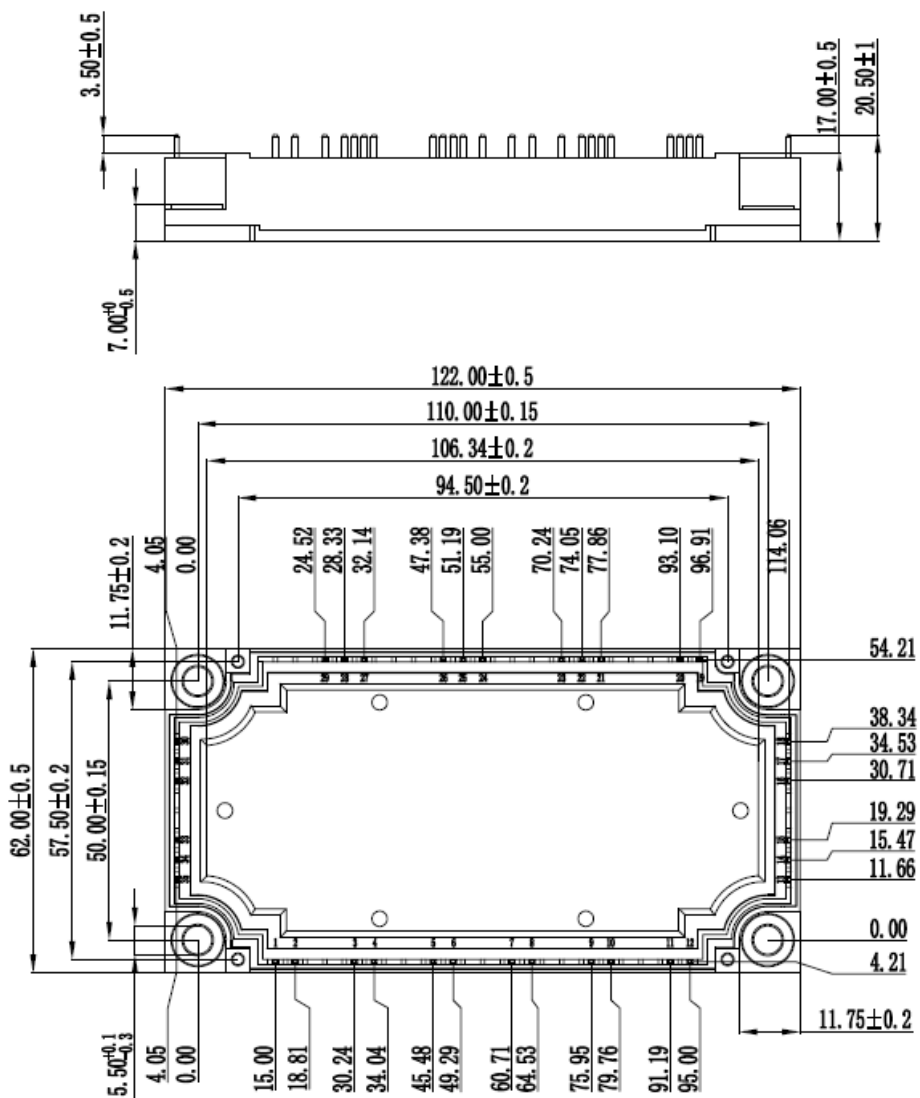
封装 / Package



接线图 / Circuit Diagram



封装尺寸 / Package outlines



6D200M120S1P

使用条件及条款

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