

浙江芯丰科技有限公司

Zhejiang Semiharv Technology Co., LTD

产品目录 2022

PRODUCT CATALOG 2022

专业的功率半导体器件设计制作公司

致力为客户提供全面的功率半导体器件解决方案

Professional Power Semiconductor Device Design and
Manufacturing Company.

Committed to providing customers with comprehensive
power semiconductor device solutions.

目录 Contents

产品命名规则 / Product naming rules.....	2
A 封装系列 / A Family.....	3
B 封装系列 / B Family.....	7
D 封装系列 / D Family.....	9
E 封装系列 / E Family.....	11
F 封装系列 / F Family.....	13
M 封装系列 / M Family.....	15
P 封装系列 / P Family.....	17

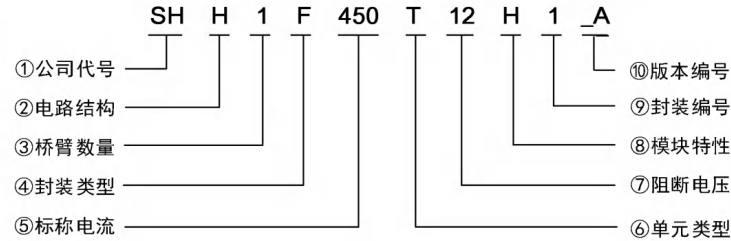
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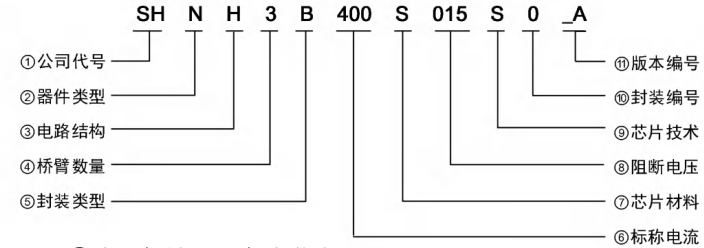
产品命名规则 / Product naming rules

IGBT产品型号编码原则:



- ①公司代号: SH 代表芯丰;
- ②电路结构: S 代表一单元结构;
H 代表两电平电路结构;
N 代表 NPT 型三电平电路结构;
T 代表 T 型三电平结构;
B 代表 Boost 电路结构;
C 代表 Buck 电路结构;
P 代表 PIM 结构, 即整流、斩波和逆变;
Q 代表六单元加整流桥结构;
- ③桥臂数量: 由数字构成, 代表桥臂数量;
注: P 型电路结构以逆变电路桥臂数量为准;
- ④封装类型: 由字母构成, 代表相应的封装系列,
例: A 代表 A 封装系列;
- ⑤标称电流: 标称电流, 单位 A;
- ⑥单元类型: T 表示 IGBT 带反向恢复二极管;
S 表示只含 IGBT;
F 表示只含 FRD;
注: 混合模块以逆变电路单元类型为准;
- ⑦阻断电压: 模块阻断电压为数字乘以 100V;
注: 07 代表 650V, 08 代表 750V;
- ⑧模块特性: L 代表低频型 (~5k);
S 代表标准型 (~10k);
H 代表高频型 (~20k);
U 代表超高频 (20k 以上);
- ⑨封装编号: 从数字 0 开始, 溢出用大写字母依序代替;
- ⑩版本编号: 从字母 A 开始, 初始版本不加, 后续版本需要加 “_” 和版本号;

MOSFET产品型号编码原则:



- ①公司代号: SH 代表芯丰;
- ②器件类型: N 代表 N 沟道型;
P 代表 P 沟道型;
- ③电路结构: S 代表一单元结构;
H 代表两电平电路结构;
N 代表 NPT 型三电平电路结构;
T 代表 T 型三电平结构;
B 代表 Boost 电路结构;
C 代表 Buck 电路结构;
P 代表 PIM 结构, 即整流、斩波和逆变;
- ④桥臂数量: 由数字构成, 代表桥臂数量;
注: P 型电路结构以逆变电路桥臂数量为准;
- ⑤封装类型: 由字母构成, 代表相应的封装系列,
例: A 代表 A 封装系列;
- ⑥标称电流: 标称电流, 单位 A;
- ⑦芯片材料: S 代表硅基;
C 代表 SiC;
A 代表 GaN;
- ⑧阻断电压: 模块阻断电压为数字乘以 10V;
- ⑨芯片技术: C 代表 COOLMOS;
P 代表 PLANT MOS;
S 代表 SGT MOS;
T 代表 TRECHMOS;
- ⑩封装编号: 从数字 0 开始, 溢出用大写字母依序代替;
- ⑪版本编号: 从字母 A 开始, 初始版本不加, 后续版本需要加 “_” 和版本号;

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A 封装系列 / A Family

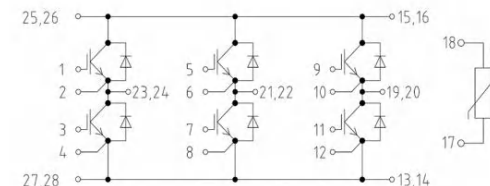
A0 概述/Abstract of A0



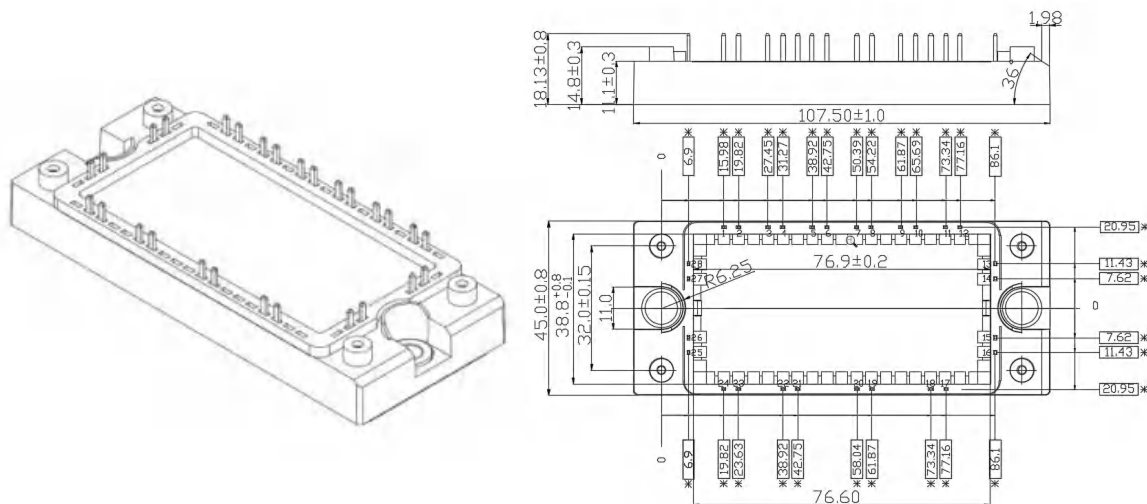
A0 封装系列提供了 1200V 电压等级, 50A 和 75A 电流规格的三相全桥模块。适用于工业变频器和电动汽车等领域。

A0 family provides the three-phase full-bridge modules of the current of 50 A and 75 A at 1200 V. Suitable for industrial frequency converters and electric vehicles.

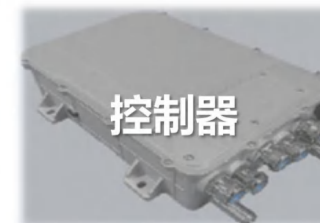
模块原理图/Scheme of modules



模块尺寸/Module size



典型应用/Typical Applications



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技术规格/Technical specifications

No.	Product Code	Article	Technology	V _{CE(s)} (V)	I _C (A)	T _{vj op} (°C)	V _{CE (sat)} Conditions	V _{CE (sat)} (V)	Dynamic Test Conditions	t _r (us)	t _f (us)	E _{on} (mJ)	E _{off} (mJ)	Typical Application	Status
1	A012	SHH3A050T12S0	Trench Gate FS	1200	50	-40~150	V _{GE} = 15V, I _C = 50A, T _{vj} = 25°C	1.95	V _{CE} = 600V, I _C = 50A, V _{GE} = ±15V, R _G = 18Ω, T _{vj} = 125°C, L _s = 200μH	0.056	0.28	5.88	3.83	Motor Drivers	Samples
2	A001	SHH3A075T12S0	Planar Gate NPT	1200	75	-40~150	TBD	TBD	TBD	TBD	TBD	TBD	TBD	Motor Drivers	R&D

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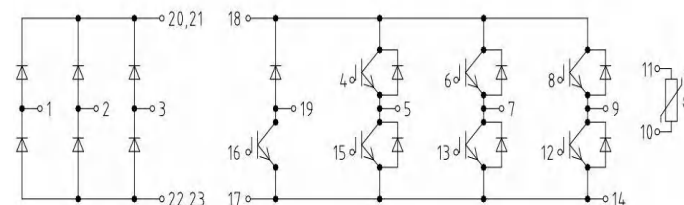
A 封装系列 / A Family

A2 概述/Abstract of A2

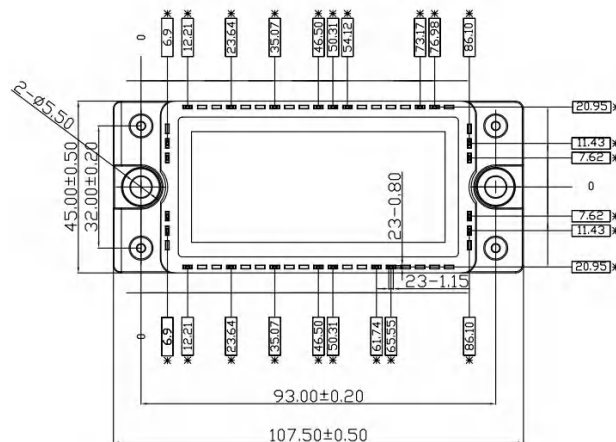
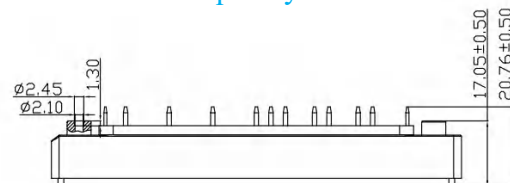
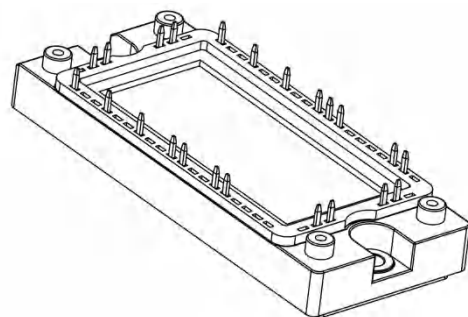
A2 封装系列提供了 1200V 电压等级，40A 和 50A 电流规格的七单元模块。适用于工业变频器。

A2 family provides the seven unit modules of the current of 40A and 50 A at 1200 V. Suitable for industrial frequency converters.

模块原理图/Scheme of modules



模块尺寸/Module size



典型应用/Typical Applications



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技术规格/Technical specifications

No.	Product Code	Article	Technology	V _{CE} (V)	I _C (A)	T _{vj op} (°C)	V _{CE (sat)} Conditions	V _{CE (sat)} (V)	Dynamic Test Conditions	t _r (us)	t _f (us)	E _{on} (mJ)	E _{off} (mJ)	Typical Application	Status
1	A205	SHP3A040T12S2	Trench Gate FS	1200	40	-40~150	V _{GE} = 15V, I _C = 40A, T _{vj} = 25°C	1.944	V _{CE} = 600V, I _C = 35A, V _{GE} = ±15V, R _G = 18Ω, T _{vj} = 25°C, L _S = 200μH	0.081	0.209	7.271	1.158	Converter	Mass Production
2	A202	SHP3A050T12S2	Trench Gate FS	1200	50	-40~150	V _{GE} = 15V, I _C = 50A, T _{vj} = 25°C	1.95	V _{CE} = 600V, I _C = 50A, V _{GE} = ±15V, R _G = 18Ω, T _{vj} = 125°C, L _S = 200μH	0.056	0.222	5.019	2.955	Converter	Mass Production

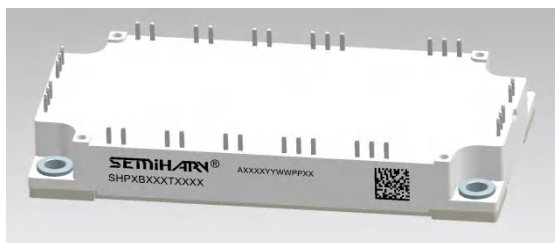
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B 封装系列 / B Family

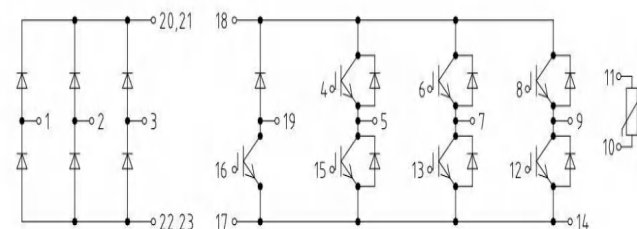
B1 概述/Abstract of B1



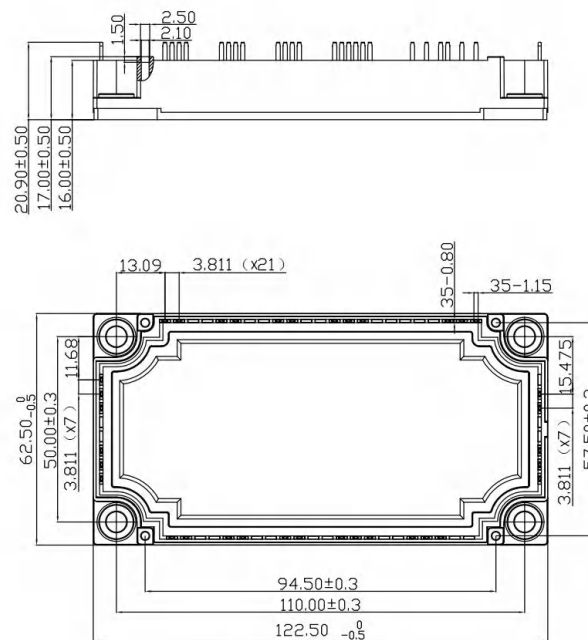
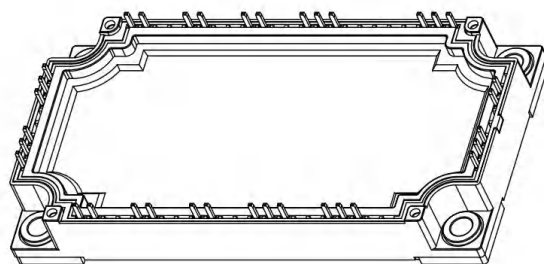
B1 封装系列提供了 1200V 电压等级，75A 到 150A 电流规格的七单元模块。适用于工业变频器。

B1 family provides the seven unit modules of the current of 75 A to 150 A at 1200 V. Suitable for industrial frequency converters.

模块原理图/Scheme of modules



模块尺寸/Module size



典型应用/Typical Applications



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技术规格/Technical specifications

No.	Product Code	Article	Technology	V _{CEs} (V)	I _C (A)	T _{vj op} (°C)	V _{CE (sat)} Conditions	V _{CE (sat)} (V)	Dynamic Test Conditions	t _r (us)	t _f (us)	E _{on} (mJ)	E _{off} (mJ)	Typical Application	Status
1	B108	SHP3B075T12S1_A	Trench Gate FS	1200	75	-40~150	V _{GE} = 15V, I _C = 75A, T _{vj} = 25°C	1.88	V _{CE} = 600V, I _C = 75A, V _{GE} = ±15V, R _G = 10Ω, T _{vj} = 125°C, L _s = 200μH	0.069	0.309	7.657	9.438	Converter	Mass Production
2	B107	SHP3B100T12S1_A	Trench Gate FS	1200	100	-40~150	V _{GE} = 15V, I _C = 100A, T _{vj} = 25°C	1.922	V _{CE} = 600V, I _C = 100A, V _{GE} = ±15V, R _G = 10Ω, T _{vj} = 125°C, L _s = 200μH	0.083	0.332	12.745	10.805	Converter	Mass Production
3	B106	SHP3B150T12S1_A	Trench Gate FS	1200	150	-40~150	V _{GE} = 15V, I _C = 150A, T _{vj} = 25°C	2.241	V _{CE} = 600V, I _C = 150A, V _{GE} = ±15V, R _G = 10Ω, T _{vj} = 125°C, L _s = 200μH	0.098	0.294	19.321	22.656	Converter	Mass Production

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SHEET 8 OF 18

D 封装系列 / D Family

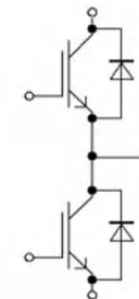
D3 概述/Abstract of D3



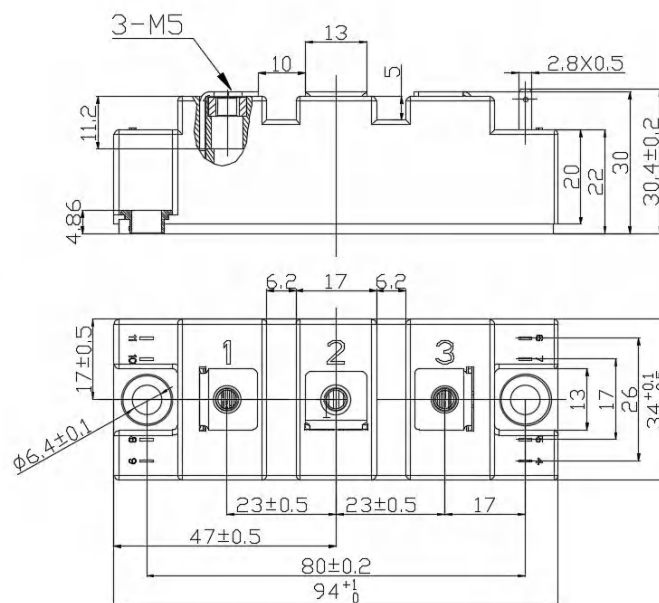
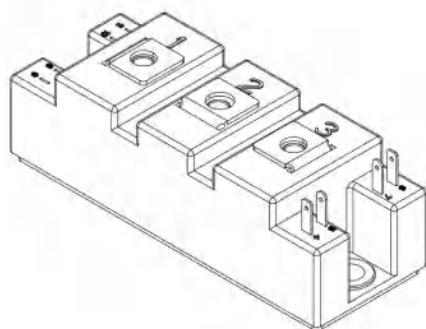
D3 系列提供了 650V 200A 和 1200V 电压等级，40A 到 100A 电流规格半桥模块，适用于电焊机、工业变频、感应加热以及 UPS 等工业领域。

D3 family provides the half-bridge modules of the current of 40 A to 100 A at 1200 V and the current of 200A at 650V. Suitable for welding machines, industrial frequency convertors, induction heating and UPS.

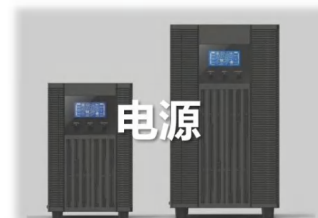
模块原理图/Scheme of modules



模块尺寸/Module size



典型应用/Typical Applications



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技术规格/Technical specifications

No.	Product Code	Article	Technology	V _{CE(S)} (V)	I _C (A)	T _{vj op} (°C)	V _{CE(sat)} Conditions	V _{CE(sat)} (V)	Dynamic Test Conditions	t _r (us)	t _f (us)	E _{on} (mJ)	E _{off} (mJ)	Typical Application	Status
1	D330	SHH1D200T07S3	Trench Gate FS	650	200	-40~150	V _{GE} = 15V, I _C = 200A, T _{vj} = 25°C	1.628	V _{CE} = 300V, I _C = 200A, V _{GE} = ±15V, R _G = 4.7Ω, T _{vj} = 125°C, Inductive load	0.128	0.174	3.89	9.27	UPS	Samples
2	D320	SHH1D040T12H3	Trench Gate FS	1200	40	-40~150	V _{GE} = 15V, I _C = 40A, T _{vj} = 25°C	1.576	V _{CE} = 600V, I _C = 40A, V _{GE} = ±15V, R _G = 10Ω, T _{vj} = 125°C, Inductive load	0.056	0.146	3.641	1.387	Electric Welder	Samples
3	D305	SHH1D050T12H3	Trench Gate FS	1200	50	-40~150	V _{GE} = 15V, I _C = 50A, T _{vj} = 25°C	1.9	V _{CE} = 600V, I _C = 50A, V _{GE} = ±15V, R _G = 10Ω, T _{vj} = 125°C, Inductive load	0.053	0.02	3.7	2.5	Electric Welder	Mass Production
4	D302	SHH1D075T12H3	Trench Gate FS	1200	75	-40~150	V _{GE} = 15V, I _C = 75A, T _{vj} = 25°C	2.0	V _{CE} = 600V, I _C = 75A, V _{GE} = ±15V, R _G = 4.7Ω, T _{vj} = 125°C, Inductive load	0.08	0.15	9.6	3.3	Electric Welder	Mass Production
5	D313	SHH1D100T12H3	Trench Gate FS	1200	100	-40~150	V _{GE} = 15V, I _C = 100A, T _{vj} = 25°C	2.021	V _{CE} = 600V, I _C = 100A, V _{GE} = ±15V, R _G = 10Ω, T _{vj} = 125°C, Inductive load	0.078	0.285	10.5	6.7	Electric Welder	Mass Production

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SHEET 10 OF 18

E 封装系列 / E Family

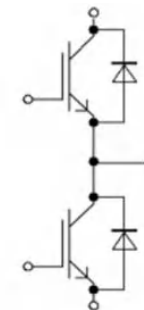
E5 概述/Abstract of E5



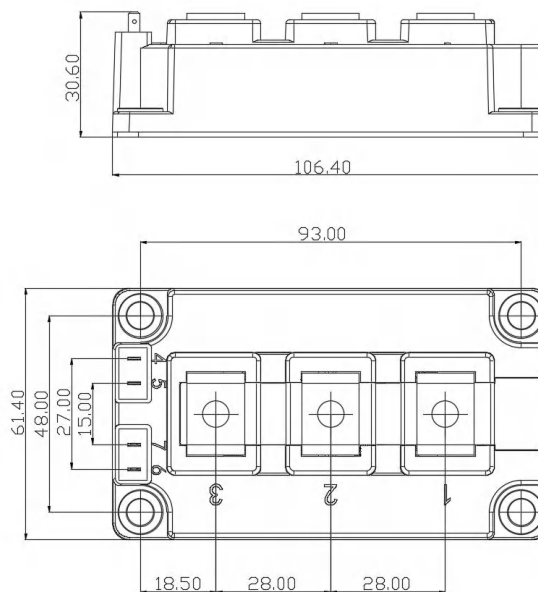
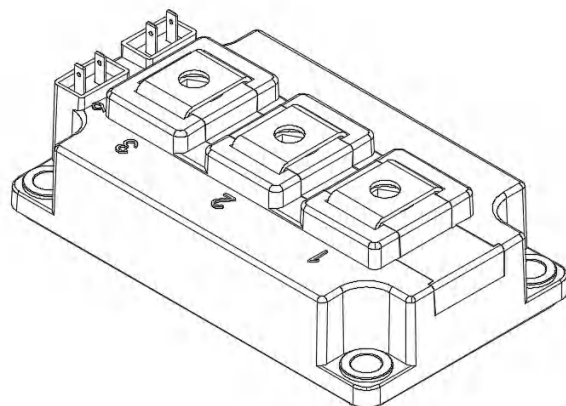
E5 封装系列提供了 1200V 电压等级，200A 到 450A 电流规格半桥模块。适用于电焊机、工业变频器、感应加热以及 UPS 等工业领域。

E5 family provides the half-bridge modules of the current of 200A to 450 A at 1200 V. Suitable for welding machines, industrial frequency convertors, induction heating and UPS.

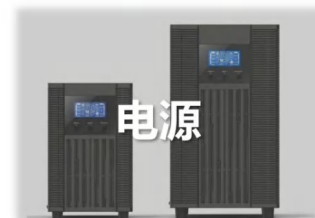
模块原理图/Scheme of modules



模块尺寸/Module size



典型应用/Typical Applications



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技术规格/Technical specifications

No.	Product Code	Article	Technology	V _{CES} (V)	I _C (A)	T _{vj op} (°C)	V _{CE (sat)} Conditions	V _{CE (sat)} (V)	Dynamic Test Conditions	t _r (us)	t _f (us)	E _{on} (mJ)	E _{off} (mJ)	Typical Application	Status
1	E526	SHH1E200T12S5_A	Trench Gate FS	1200	200	-40~150	V _{GE} = 15V, I _C = 200A, T _{vj} = 25°C	1.86	V _{CE} = 600V, I _C = 200A, V _{GE} = ±15V, R _G = 5Ω, T _{vj} = 125°C, Inductive load	0.09	0.20	19.4	18.7	UPS, Motor Drive	Mass Production
2	E525	SHH1E300T12S5_A	Trench Gate FS	1200	300	-40~150	V _{GE} = 15V, I _C = 300A, T _{vj} = 25°C	1.74	V _{CE} = 600V, I _C = 300A, V _{GE} = ±15V, R _G = 5Ω, T _{vj} = 125°C, Inductive load	0.12	0.18	27.0	38.3	UPS, Motor Drives	Mass Production
3	E017	SHH1E450T12S0	Trench Gate FS	1200	450	-40~150	TBD	TBD	TBD	TBD	TBD	TBD	TBD	UPS, Motor Drives	R&D

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SHEET 12 OF 18

F 封装系列 / F Family

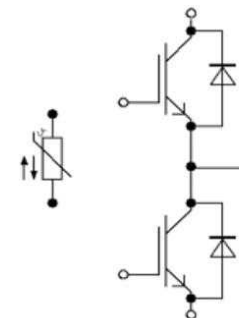
F0 概述/Abstract of F0



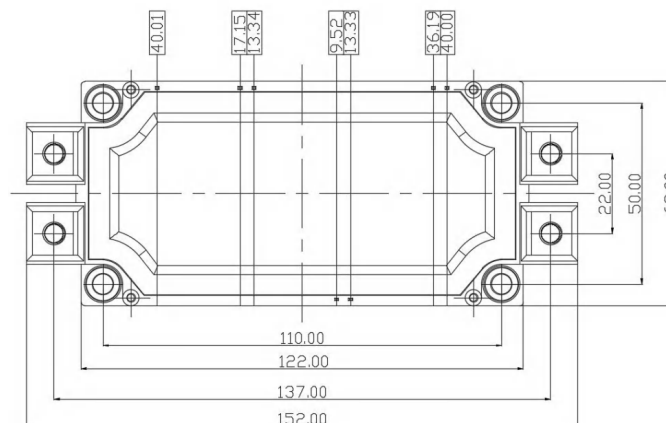
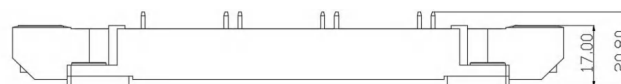
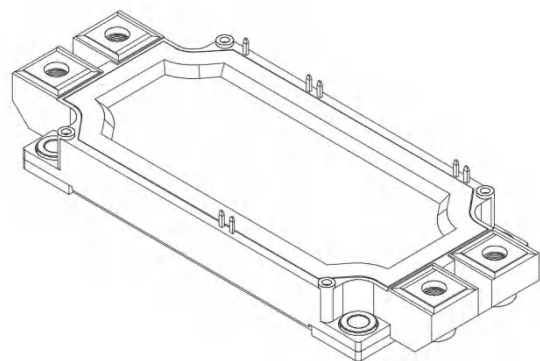
F0 封装系列提供了 1200V 电压等级，300A 到 600A 电流规格半桥模块。适用于工业变频器和电动汽车领域。

F0 family provides the half-bridge modules of the current of 300A to 600 A at 1200 V. Suitable for industrial frequency converters and electric vehicles.

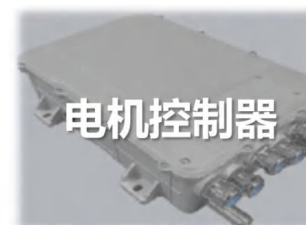
模块原理图/Scheme of modules



模块尺寸/Module size



典型应用/Typical Applications



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技术规格/Technical specifications

No.	Product Code	Article	Technology	V _{CE(S)} (V)	I _C (A)	T _{vj op} (°C)	V _{CE (sat)} Conditions	V _{CE(sat)} (V)	Dynamic Test Conditions	t _r (us)	t _f (us)	E _{on} (mJ)	E _{off} (mJ)	Typical Application	Status
1	F021	SHH1F300T12S0	Planar Gate NPT	1200	300	-40~150	V _{GE} = 15V, I _C = 300A, T _{vj} = 25°C	2.2	V _{CE} = 600V, I _C = 300A, V _{GE} = ±15V, R _G = 2.7Ω, T _{vj} = 125°C, Inductive load	0.196	0.194	43.70	51.95	Motor Drives, Solar power	Mass Production
2	F004	SHH1F450T12S0	Planar Gate NPT	1200	450	-40~150	V _{GE} = 15V, I _C = 450A, T _{vj} = 25°C	2.3	V _{CE} = 600V, I _C = 450A, V _{GE} = ±15V, R _G = 1.0Ω, T _{vj} = 125°C, Inductive load	0.167	0.145	65.2	59.3	Motor Drives, Solar power	Mass Production
3	F018	SHH1F600T12S0	Trench Gate FS	1200	600	-40~150	V _{GE} = 15V, I _C = 600A, T _{vj} = 25°C	2.1	V _{CE} = 600V, I _C = 600A, V _{GE} = ±15V, R _G = 1.0Ω, T _{vj} = 125°C, Inductive load	0.230	0.178	103.92	105.08	Motor Drives, Solar power	Mass Production

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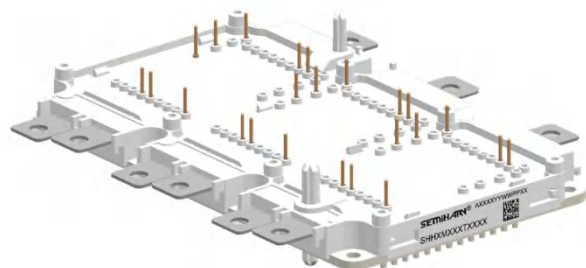
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SHEET 14 OF 18

M 封装系列 / M Family

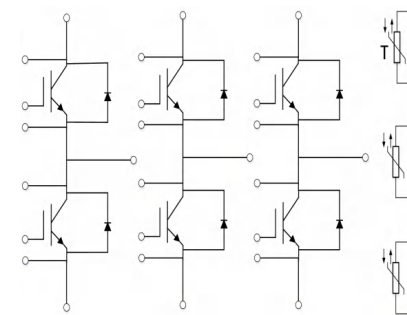
M0 概述/Abstract of M0



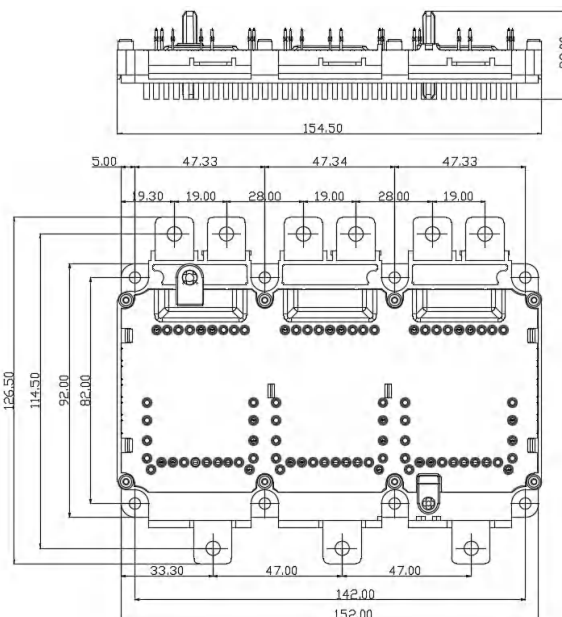
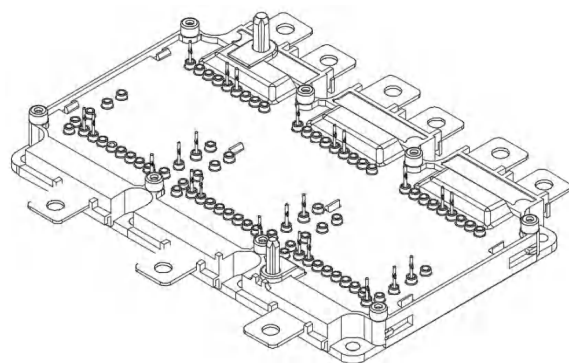
M0 封装提供了 750V 电压等级，450A 电流规格的三相全桥模块，适用于电动汽车领域。

M0 family provides the three-phase full-bridge modules of the current of 450 A at 750 V. Suitable for electric vehicles.

模块原理图/Scheme of modules



模块尺寸/Module size



典型应用/Typical Applications



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技术规格/Technical specifications

No.	Product Code	Article	Technology	V _{CEs} (V)	I _C (A)	T _{vj op} (°C)	V _{CE (sat)} Conditions	V _{CE (sat)} (V)	Dynamic Test Conditions	t _r (us)	t _f (us)	E _{on} (mJ)	E _{off} (mJ)	Typical Application	Status
1	M004	SHH3M450T08H0	Trench Gate FS	750	450	-40~150	V _{GE} = 15V, I _C = 450A, T _{vj} = 25°C	1.245	V _{CE} = 400V, I _C = 450A, V _{GE} = ±15V, R _G = 10Ω, T _{vj} = 25°C, Inductive load	0.213	0.497	22.903	73.587	Motor Drives	Samples

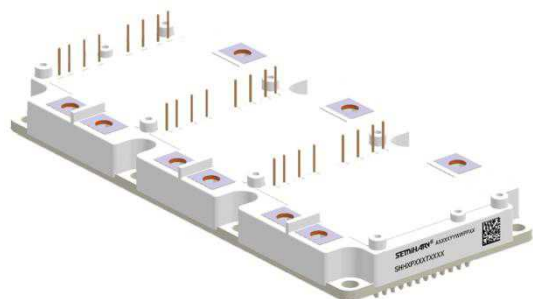
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P 封装系列 / P Family

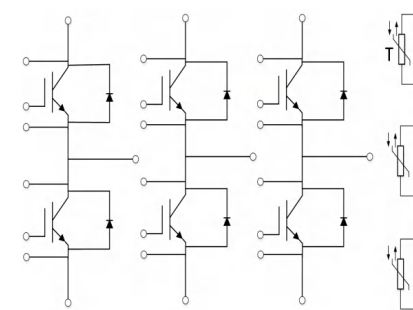
P0 概述/Abstract of P0



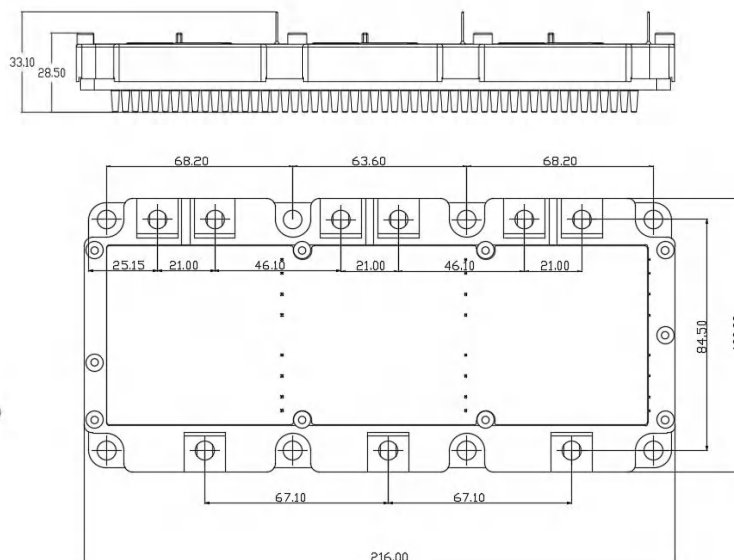
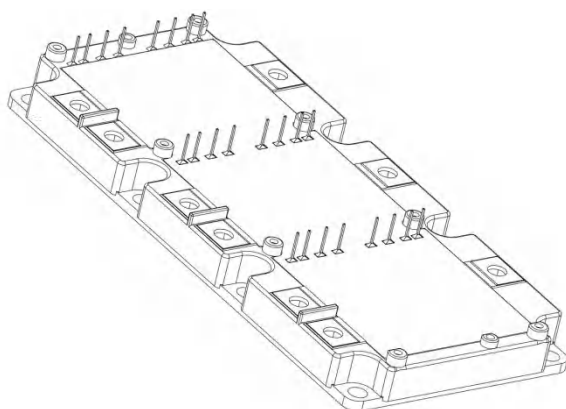
P0 系列提供了 750V 电压等级, 675A 电流规格的三相全桥模块, 适用于电动汽车领域。

P0 family provides the three-phase full-bridge modules of the current of 675 A at 750 V. Suitable for electric vehicles.

模块原理图/Scheme of modules



模块尺寸/Module size



典型应用/Typical Applications



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技术规格/Technical specifications

No.	Product Code	Article	Technology	V _{CES} (V)	I _C (A)	T _{vj op} (°C)	V _{CE (sat)} Conditions	V _{CE (sat)} (V)	Dynamic Test Conditions	t _r (us)	t _f (us)	E _{on} (mJ)	E _{off} (mJ)	Typical Application	Status
1	P008	SHH3P675T08H0	Trench Gate FS	750	675	-40~150	V _{GE} = 15V, I _C = 675A, T _{vj} = 25°C	1.36	V _{CE} = 400V, I _C = 450A, V _{GE} = 15/-8V, R _G = 10Ω, T _{vj} = 25°C, Inductive load	0.223	0595	20	106	Motor Drives	Mass Production

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