



**Driving Efficiency  
Empowering Industries**

Sanan Semiconductor  
**2026 Product  
Brochure**

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# Company Profile

## Sanan Semiconductor

Sanan Semiconductor is a manufacturer of power semiconductor products and technology services specializing in SiC and GaN power electronics.

The company is engaged in the research and development, design, manufacture, sales and service of wide band gap semiconductors, and its products and services include SiC MOSFET/SBDs, SiC substrate/epitaxial wafers, automotive-grade SiC power modules, and GaN-on-Si wafer foundry services. The core performance and reliability of Sanan products meet the global industry's highest quality standards, and serve more than 800 customers worldwide in the fields of green energy, automotive, DC charging piles, photovoltaics, energy storage, industrial power supplies, household appliances, consumer electronics, and various other applications. The cumulative total of SiC chips/devices shipped is 400 million pieces.

Sanan has one of the few vertically integrated manufacturing service platforms for the whole SiC industry value chain, which can provide services of crystal growth, substrate preparation, epitaxial growth, chip processing. The comprehensive control of product proliferation and customization, quality and delivery, and its massive production capacity, scale and technology level are unique in the global SiC industry and can ensure Sanan's ability to meet the market demand with short lead times. Sanan has a leading semiconductor R&D and manufacturing team which has developed and industrialized many generations of wide-band gap semiconductor products, and its SiC MOSFET/SBD products have obtained AEC-Q101 qualification.

research and development

design

manufacture

sales

service

## Quality Management System Certification



▲ ESD S 20.20



▲ ISO9001



▲ ISO14001



▲ IATF16949



▲ ISO22301



▲ ISO45001



▲ ISOIEC 27001



▲ QC080000



▲ SA8000

\*The company has implemented the VDA 6.3 process audit methodology;  
 \*The company has JEDEC/AEC-Q101/AQG-324 reliability test capabilities.

## Global Presence

- 💡
**R&D Center**  
 Xiamen, Changsha, Silicon Valley, Tokyo, Munich, London, California
- 👤
**Sales Departments**  
 China, Japan, USA, the United Kingdom, Germany
- 🏭
**Manufacturing Locations**  
 Xiamen, Tianjin, Wuhu, Quanzhou, Ezhou, Changsha, Chongqing, London



## SiC Mega Factory



**667,000 m<sup>2</sup>**  
(165 Acres)

Land area



**2.3 billion USD**  
(16 billion CNY)

Total investment

▶ The annual production capacity of 6-inch silicon carbide wafers in Phase I is **300,000** pieces, and that of silicon-based gallium nitride wafers is **20,000** pieces.

▶ After the completion of Phase II, the annual production capacity of 6-inch silicon carbide wafers will reach **360,000** pieces, and that of 8-inch silicon carbide wafers will be **480,000** pieces.

### 6/8-inch SiC Chips Factory

- ▶ State-of-the-art tools and metrology
- ▶ CMOS FAB with all SiC process

### 8 inch SiC Device Fab

### 6/8-inch SiC Substrate Factory

- ▶ Advanced and efficient cutting, grinding, and polishing processes
- ▶ 6-inch capacity is **300,000** pieces per year.
- ▶ 8-inch capacity is **20,000** pieces per year.

### 6/8-inch SiC Crystal Growth Factory

- ▶ Self-produced high-purity SiC powder
- ▶ Self-develop PVT

### 6 inch SiC Device Fab

### GaN-on-Si

### 6/8-inch SiC Epitaxy Factory

- ▶ Excellent thickness/doping uniformity control
- ▶ 6-inch capacity is **240,000** pieces per year.
- ▶ 8-inch capacity is **20,000** pieces per year.

## SiC MOSFET product overview

$V_{DSS}$	650V					750V					
$R_{DS(ON)}$	18mΩ	27mΩ	35mΩ	50mΩ	65mΩ	9mΩ					
$V_{DSS}$	1200V								1400V		
$R_{DS(ON)}$	13mΩ	14mΩ	20mΩ	32mΩ	40mΩ	60mΩ	75mΩ	120mΩ	20mΩ	32mΩ	
$V_{DSS}$	1700V					2000V					
$R_{DS(ON)}$	1700V 1Ω					20mΩ		35mΩ			

- Features:**
- ▶ Easy to drive
  - ▶ High reverse blocking capabilities
  - ▶ AEC-Q101 qualified
  - ▶ Low Rdson
  - ▶ Low reverse recovery time

- Applications:**
- ▶ Automotive drive
  - ▶ Charging piles
  - ▶ Energy storage
  - ▶ OBC
  - ▶ PV inverter

## SiC SBD product overview

$V_{RRM}$	650V													
$I_F$	1A	2A	4A	6A	8A	10A	12A	16A	20A	25A	30A	40A	50A	60A
$V_{RRM}$	750V													
$I_F$	30A							50A						
$V_{RRM}$	1200V													
$I_F$	1A	2A	3A	5A	10A	15A	20A	27A	30A	40A	50A	60A	80A	
$V_{RRM}$	1400V													
$I_F$	20A				40A				80A					
$V_{RRM}$	1700V													
$I_F$	5A					25A				50A				
$V_{RRM}$	2000V													
$I_F$	20A				40A				80A					

- Features:**
- ▶ High reliability MPS structure
  - ▶ AEC-Q101 qualified
  - ▶ Low forward Vf
  - ▶ Zero reverse recovery
  - ▶ Thinner wafer platform

- Applications:**
- ▶ PV inverter
  - ▶ Server power supply
  - ▶ Charging piles
  - ▶ OBC
  - ▶ Energy storage
  - ▶ Base station power supply
  - ▶ Home appliance
  - ▶ DC/DC

## SiC MOSFET product portfolio

$V_{DSS}$	$R_{DS(ON)}$	Bare die	TO247-3L	TO247-4LB	TO247-4L Plus	TO247-4LA	TO247-4LC	TO263-7L	TOLL	QDPAK	TOLT	X2PAK
650V	18mΩ	●	●	●		○		○	○	○	○	
	27mΩ	●		●			○	●	○	●		●
	35mΩ	●	○	●				○	●	○		○
	50mΩ	●	●	●				●	○	○		●
	65mΩ	●		●				●				
750V	9mΩ	●		●						○		○
1200V	12mΩ	○		○								
	14mΩ	●		●						○		
	20mΩ	●		●								○
	32mΩ	●		●		●	○	●		○		●
	40mΩ	●	●	●		●		●		○		○
	60mΩ	●		●			○	●		○		●
	75mΩ	●	●	●				●		○		○
120mΩ	●		●				○	○	○		○	
1400V	20mΩ	○				○						
	32mΩ	○				○						
1700V	1Ω	●	●					○				
2000V	35mΩ	○				○						

● MP ○ Samp.

SiC SBD product portfolio

$V_{RRM}$	$I_F$	Bare die	TO220-2L	TO220F-2L	TO220N-2L	TO247-2L	TO247-3L	TO247N-3L	TO252-2L	TO263-2L	TO3PF-3L	DFN8x8-4L	SMA	SMB	
650V	1A	●												●	
	2A	●	●						●					●	
	4A	●	●						●				●	●	
	6A	●	●			●			●	●		●			
	8A	●	●			●			●	●		●			
	10A	●	●			●			●	●		●			
	12A	●	●			●						●			
	16A	●	●	●		●	●								
	20A	●	●				●	●	●	●	●	●			
	30A	●	●				●	●		●	●				
	40A	●					●	●							
	50A	●					●				●				
	60A							●							
	750V	30A	●				●								
50A		○				○								●	
1200V	1A	●												●	
	2A	●							●						
	3A	●							●						
	5A	●	●						●						
	10A	●	●			●	●		●	●					
	15A	●	●				●								
	20A	●	●				●	●			●				
	27A	●					●								
	30A	●					●	●							
	40A	●					●	●							
	50A	●					●								
	60A	●					●	●							
	80A						●								
1400V	20A	●				●									
	40A	●				●									
	80A	●				○									
1700V	5A	●				●									
	25A	●				●									
	50A	●				●									
2000V	20A	●				●									
	40A	●				●									
	80A					○									

● MP ○ Samp.

SiC SBD product list

No.#	Product PN	V <sub>RRM</sub>	I <sub>F</sub>	Gen	PKG	Grade	Status
1	ADS16E3	650V	1A	G3	SMB	Automotive	MP
2	SDS065J002D3	650V	2A	G3	TO252-2L	Industrial	MP
3	SDS065J002C3	650V	2A	G3	TO220-2L	Industrial	MP
4	SDS065J004D3	650V	4A	G3	TO252-2L	Industrial	MP
5	SDS065J004C3	650V	4A	G3	TO220-2L	Industrial	MP
6	SDS065J006E3	650V	6A	G3	TO263-2L	Industrial	MP
7	SDS065J006D3	650V	6A	G3	TO252-2L	Industrial	MP
8	SDS065J006C3	650V	6A	G3	TO220-2L	Industrial	MP
9	SDS065J006S3	650V	6A	G3	DFN8*8-4L	Industrial	MP
10	SDS065J008C3	650V	8A	G3	TO220-2L	Industrial	MP
11	ADS065J008C3	650V	8A	G3	TO220-2L	Automotive	Samp.
12	SDS065J008N3	650V	8A	G3	TO220N-2L	Industrial	MP
13	SDS065J008D3	650V	8A	G3	TO252-2L	Industrial	MP
14	SDS065J008E3	650V	8A	G3	TO263-2L	Industrial	MP
15	SDS065J008S3	650V	8A	G3	DFN8*8-4L	Industrial	MP
16	SDS065J010C3	650V	10A	G3	TO220-2L	Industrial	MP
17	SDS065J010N3	650V	10A	G3	TO220N-2L	Industrial	MP
18	SDS065J010D3	650V	10A	G3	TO252-2L	Industrial	MP
19	SDS065J010E3	650V	10A	G3	TO263-2L	Industrial	MP
20	SDS065J010S3	650V	10A	G3	DFN8*8-4L	Industrial	MP
21	SDS065J012C3	650V	12A	G3	TO220-2L	Industrial	MP
22	SDS065J012N3	650V	12A	G3	TO220N-2L	Industrial	MP
23	SDS065J012S3	650V	12A	G3	DFN8*8-4L	Industrial	MP
24	SDS065J016G3	650V	16A	G3	TO247-3L	Industrial	MP
25	SDS065J016H3	650V	16A	G3	TO247-2L	Industrial	MP
26	SDS065J016C3	650V	16A	G3	TO220-2L	Industrial	MP
27	SDS065J016F3	650V	16A	G3	TO220F-2L	Industrial	MP
28	SDS065J016N3	650V	16A	G3	TO220N-2L	Industrial	MP
29	ADS065J016G3	650V	16A	G3	TO247-3L	Automotive	MP
30	SDS065J020H3	650V	20A	G3	TO247-2L	Industrial	MP
31	SDS065J020C3	650V	20A	G3	TO220-2L	Industrial	MP

No.#	Product PN	V <sub>RRM</sub>	I <sub>F</sub>	Gen	PKG	Grade	Status
32	ADS065J020H3	650V	20A	G3	TO247-2L	Automotive	MP
33	ADS065J020C3	650V	20A	G3	TO220-2L	Automotive	MP
34	ADS065J020G3	650V	20A	G3	TO247-3L	Automotive	MP
35	ADS065J020D3	650V	20A	G3	TO252-2L	Automotive	MP
36	ADS065J020E3	650V	20A	G3	TO263-2L	Automotive	MP
37	SDS065J020D3	650V	20A	G3	TO252-2L	Industrial	MP
38	SDS065J020G3	650V	20A	G3	TO247-3L	Industrial	MP
39	SDS065J025H3	650V	25A	G3	TO247-2L	Industrial	MP
40	SDS065J030G3	650V	30A	G3	TO247-3L	Industrial	MP
41	SDS065J030H3	650V	30A	G3	TO247-2L	Industrial	MP
42	SDS065J030M3	650V	30A	G3	TO247N-3L	Industrial	MP
43	ADS065J030E3	650V	30A	G3	TO263-2L	Automotive	MP
44	ADS065J030D3	650V	30A	G3	TO252-2L	Automotive	MP
45	ADS065J030C3	650V	30A	G3	TO220-2L	Automotive	MP
46	SDS065J040G3	650V	40A	G3	TO247-3L	Industrial	MP
47	SDS065J040H3	650V	40A	G3	TO247-2L	Industrial	MP
48	ADS065J040G3	650V	40A	G3	TO247-3L	Automotive	MP
49	SDS065J040P3	650V	40A	G3	QDPAK	Industrial	Samp.
50	SDS065J050H3	650V	50A	G3	TO247-2L	Industrial	MP
51	SDS065J050E3	650V	50A	G3	TO263-2L	Industrial	MP
52	SDS065J060G3	650V	60A	G3	TO247-3L	Industrial	MP
53	SDS075J030H3	750V	30A	G3	TO247-2L	Industrial	MP
54	SDS075J050H3	750V	50A	G3	TO247-2L	Industrial	Samp.
55	ADS12E3	1200V	1A	G3	SMB	Automotive	MP
56	SDS12C3	1200V	1A	G3	SMC	Industrial	MP
57	SDS120J002D3	1200V	2A	G3	TO252-2L	Industrial	MP
58	SDS120J002C3	1200V	2A	G3	TO220-2L	Industrial	MP
59	SDS120J003D3	1200V	3A	G3	TO252-2L	Industrial	MP
60	SDS120J005D3	1200V	5A	G3	TO252-2L	Industrial	MP
61	SDS120J005C3	1200V	5A	G3	TO220-2L	Industrial	MP
62	ADS120J005D3	1200V	5A	G3	TO252-2L	Automotive	MP

SiC SBD product list

No.#	Product PN	$V_{RRM}$	$I_F$	Gen	PKG	Grade	Status
63	SDS120J010H3	1200V	10A	G3	TO247-2L	Industrial	MP
64	SDS120J010E3	1200V	10A	G3	TO263-2L	Industrial	MP
65	SDS120J010C3	1200V	10A	G3	TO220-2L	Industrial	MP
66	SDS120J010D3	1200V	10A	G3	TO252-2L	Industrial	MP
67	SDS120J010G3	1200V	10A	G3	TO247-3L	Industrial	MP
68	SDS120J015H3	1200V	15A	G3	TO247-2L	Industrial	MP
69	SDS120J015C3	1200V	15A	G3	TO220-2L	Industrial	MP
70	SDS120J020H3	1200V	20A	G3	TO247-2L	Industrial	MP
71	SDS120J020G3	1200V	20A	G3	TO247-3L	Industrial	MP
72	ADS120J020H3	1200V	20A	G3	TO247-2L	Automotive	MP
73	ADS120J020E3	1200V	20A	G3	TO263-2L	Automotive	MP
74	ADS120J020C3	1200V	20A	G3	TO220-2L	Automotive	MP
75	SDS120J027H3	1200V	27A	G3	TO247-2L	Industrial	MP
76	SDS120J030H3	1200V	30A	G3	TO247-2L	Industrial	MP
77	SDS120J030G3	1200V	30A	G3	TO247-3L	Industrial	MP
78	SDS120J040H3	1200V	40A	G3	TO247-2L	Industrial	MP
79	SDS120J040G3	1200V	40A	G3	TO247-3L	Industrial	MP
80	SDS120J050H3	1200V	50A	G3	TO247-2L	Industrial	MP
81	SDS120J060G3	1200V	60A	G3	TO247-3L	Industrial	MP
82	SDS120J060H3	1200V	60A	G3	TO247-2L	Industrial	MP
83	SDS140J020H3	1400V	20A	G3	TO247-2L	Industrial	MP
84	SDS140J040H3	1400V	40A	G3	TO247-2L	Industrial	MP
85	SDS140J080J3	1400V	80A	G3	TO247-2L	Industrial	Samp.
86	SDS065J004C4	650V	4A	G4	TO220-2L	Industrial	MP
87	SDS065J004D4	650V	4A	G4	TO252-2L	Industrial	MP
88	SDS065J006C4	650V	6A	G4	TO220-2L	Industrial	MP
89	SDS065J006N4	650V	6A	G4	TO220N-2L	Industrial	MP
90	SDS065J006D4	650V	6A	G4	TO252-2L	Industrial	MP
91	SDS065J008D4	650V	8A	G4	TO252-2L	Industrial	MP
92	SDS065J010C4	650V	10A	G4	TO220-2L	Industrial	MP
93	SDS065J010N4	650V	10A	G4	TO220N-2L	Industrial	MP

No.#	Product PN	$V_{RRM}$	$I_F$	Gen	PKG	Grade	Status
94	SDS065J020M4	650V	20A	G4	TO247N-3L	Industrial	MP
95	SDS065J020W4	650V	20A	G4	TO3PF-3L	Industrial	MP
96	SDS120J010C5	1200V	10A	G5	TO220-2L	Industrial	MP
97	SDS120J015D5	1200V	15A	G5	TO252-2L	Industrial	MP
98	SDS120J015H5	1200V	15A	G5	TO247-2L	Industrial	MP
99	SDS120J020C5	1200V	20A	G5	TO220-2L	Industrial	MP
100	SDS120J020G5	1200V	20A	G5	TO247-3L	Industrial	MP
101	SDS120J020E5	1200V	20A	G5	TO263-2L	Industrial	MP
102	SDS120J020H5	1200V	20A	G5	TO247-2L	Industrial	MP
103	SDS120J030G5	1200V	30A	G5	TO247-3L	Industrial	MP
104	SDS120J030H5	1200V	30A	G5	TO247-2L	Industrial	MP
105	SDS120J040J5	1200V	40A	G5	TO247-2L	Industrial	MP
106	SDS120J040G5	1200V	40A	G5	TO247-3L	Industrial	MP
107	SDS120J040H5	1200V	40A	G5	TO247-2L	Industrial	MP
108	SDS120J050H5	1200V	50A	G5	TO247-2L	Industrial	MP
109	SDS120J060H5	1200V	60A	G5	TO247-2L	Industrial	MP
110	SDS120J060J5	1200V	60A	G5	TO247-2L	Industrial	MP
111	SDS120J080J5	1200V	80A	G5	TO247-2L	Industrial	MP
112	SDS170J005H5	1700V	5A	G5	TO247-2L	Industrial	MP
113	SDS170J025H5	1700V	25A	G5	TO247-2L	Industrial	MP
114	SDS170J050H5	1700V	50A	G5	TO247-2L	Industrial	MP
115	SDS200J020H5	2000V	20A	G5	TO247-2L	Industrial	MP
116	SDS200J040H5	2000V	40A	G5	TO247-2L	Industrial	MP
117	SDS200J080J5	2000V	80A	G5	TO247-2L	Industrial	Samp.
118	PS6D060BB	650V	2A	G6	SMB	Consumer	MP
119	PS6D060DA	650V	4A	G6	SMA	Consumer	MP
120	PS6D060DB	650V	4A	G6	SMB	Consumer	MP
121	PS6D060DD	650V	4A	G6	TO252-2L	Consumer	MP
122	SDS065J00	650V	4A	G6	TO220-2L	Consumer	MP
123	PS6D060FD	650V	6A	G6	TO252-2L	Consumer	MP
124	AC6D06A0D	650V	10A	G6	TO252-2L	Consumer	MP
125	AC6D06A0N	650V	10A	G6	TO220N-2L	Consumer	MP

SiC MOSFET product list

No.#	Product PN	Type	Vds	Wfr SPEC	Wfr Gen	PKG	Grade	Status
1	AMS0650018M2-ASATH	Device	650V	18mΩ	G2	TO247-4LB	Automotive	MP
2	AMS0650018K2-ASATH	Device	650V	18mΩ	G2	TO247-3L	Automotive	MP
3	SMS0650018Z2-ISARH	Device	650V	18mΩ	G2	TOLT	Industry	Developing
4	AMS0650018P2-ASARH	Device	650V	18mΩ	G2	TO263-7L	Automotive	Developing
5	SMS0650018Y2-ISARH	Device	650V	18mΩ	G2	TOLL	Industry	Developing
6	AMS0650027M2-ASATH	Device	650V	27mΩ	G2	TO247-4LB	Automotive	MP
7	AMS0650027P2-ASARH	Device	650V	27mΩ	G2	TO263-7L	Automotive	MP
8	SMS0650027Y2-ISARH	Device	650V	27mΩ	G2	TOLL	Industry	Samp.
9	AMS0650027VA2-ASARH	Device	650V	27mΩ	G2	X2PAK	Automotive	Samp.
10	AMS0650027MC2-ASATH	Device	650V	27mΩ	G2	TO247-4LC	Automotive	Developing
11	AMS0650035M2-ASATH	Device	650V	35mΩ	G2	TO247-4LB	Automotive	MP
12	SMS0650035Y2-ISARH	Device	650V	35mΩ	G2	TOLL	Industry	Developing
13	AMS0650035P2-ASARH	Device	650V	35mΩ	G2	TO263-7L	Automotive	Developing
14	AMS0650035VA2-ASARH	Device	650V	35mΩ	G2	X2PAK	Automotive	Developing
15	AMS0650050M2-ASATH	Device	650V	50mΩ	G2	TO247-4LB	Automotive	MP
16	SMS0650050K2-ISATH	Device	650V	50mΩ	G2	TO247-3L	Industry	MP
17	AMS0650050P2-ASARH	Device	650V	50mΩ	G2	TO263-7L	Automotive	MP
18	SMS0650050Y2-ISARH	Device	650V	50mΩ	G2	TOLL	Industry	Samp.
19	AMS0650050VA2-ASARH	Device	650V	50mΩ	G2	X2PAK	Automotive	Samp.
20	AMS0650065M2-ASATH	Device	650V	65mΩ	G2	TO247-4LB	Automotive	MP
21	AMS0750009M2-ASATH	Device	750V	9mΩ	G2	TO247-4LB	Automotive	MP
22	AMS0750009Q2-ASARH	Device	750V	9mΩ	G2	QDPAK	Automotive	Developing
23	AMS0750009VA2-ASARH	Device	750V	9mΩ	G2	X2PAK	Automotive	Samp.
24	AMS0750018Q2-ASARH	Device	750V	18mΩ	G2	QDPAK	Industry	Developing
25	AMS0750027Q2-ASARH	Device	750V	27mΩ	G2	QDPAK	Automotive	MP
26	AMS0750035Q2-ASARH	Device	750V	35mΩ	G2	QDPAK	Automotive	Developing
27	AMS0750050Q2-ASARH	Device	750V	50mΩ	G2	QDPAK	Automotive	Developing
28	AMS1200012M4-ASATH	Device	1200V	12mΩ	G4	TO247-4LB	Automotive	Samp.
29	AMS1200012VA2-ASARH	Device	1200V	12mΩ	G4	X2PAK	Automotive	Developing
30	SMS1200014Q3-ISARH	Device	1200V	14mΩ	G3	QDPAK	Industry	Samp.
31	SMS1200014M3-ISATH	Device	1200V	14mΩ	G3	TO247-4LB	Industry	MP
32	SMS1200020M2-ISATH	Device	1200V	20mΩ	G2	TO247-4LB	Industry	MP
33	AMS1200020VA2-ASARH	Device	1200V	20mΩ	G2	X2PAK	Automotive	Samp.
34	AMS1200020M2-ASATH	Device	1200V	20mΩ	G2	TO247-4LB	Automotive	Samp.

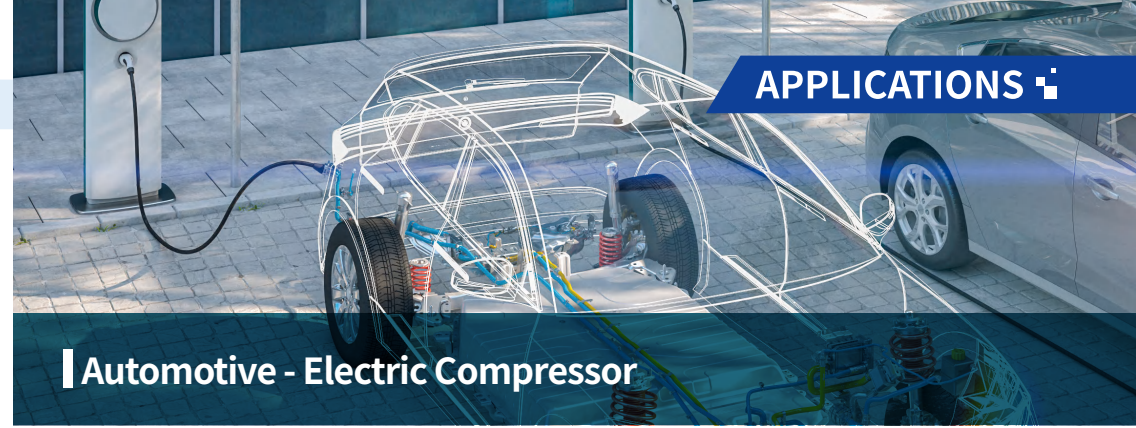
No.#	Product PN	Type	Vds	Wfr SPEC	Wfr Gen	PKG	Grade	Status
35	AMS1200032M2-ASATH	Device	1200V	32mΩ	G2	TO247-4LB	Automotive	MP
36	AMS1200032VA2-ASARH	Device	1200V	32mΩ	G2	X2PAK	Automotive	Samp.
37	SMS1200032M2-ISATH	Device	1200V	32mΩ	G2	TO247-4LB	Industry	MP
38	SMS1200032MA2-ISATH	Device	1200V	32mΩ	G2	TO247-4LA	Industry	MP
39	SMS1200032P2-ISARH	Device	1200V	32mΩ	G2	TO263-7L	Industry	MP
40	AMS1200032P2-ASARH	Device	1200V	32mΩ	G2	TO263-7L	Automotive	Developing
41	AMS1200032Q2-ASARH	Device	1200V	32mΩ	G2	QDPAK	Automotive	Developing
42	AMS1200032MC2-ASATH	Device	1200V	32mΩ	G2	TO247-4LC	Automotive	Developing
43	SMS1200040M2-ISATH	Device	1200V	40mΩ	G2	TO247-4LB	Industry	MP
44	AMS1200040K2-ASATH	Device	1200V	40mΩ	G2	TO247-3L	Automotive	MP
45	SMS1200040MA2-ISATH	Device	1200V	40mΩ	G2	TO247-4LA	Industry	MP
46	AMS1200040M2-ASATH	Device	1200V	40mΩ	G2	TO247-4LB	Automotive	MP
47	AMS1200040P2-ASARH	Device	1200V	40mΩ	G2	TO263-7L	Automotive	MP
48	AMS1200040Q2-ASARH	Device	1200V	40mΩ	G2	QDPAK	Automotive	MP
49	AMS1200040VA2-ASARH	Device	1200V	40mΩ	G2	X2PAK	Automotive	Samp.
50	AMS1200060M2-ASATH	Device	1200V	60mΩ	G2	TO247-4LB	Automotive	MP
51	AMS1200060P2-ASARH	Device	1200V	60mΩ	G2	TO263-7L	Automotive	MP
52	AMS1200060VA2-ASARH	Device	1200V	60mΩ	G2	X2PAK	Automotive	Samp.
53	AMS1200060Q2-ASARH	Device	1200V	60mΩ	G2	QDPAK	Automotive	Samp.
54	AMS1200060MC2-ASATH	Device	1200V	60mΩ	G2	TO247-4LC	Automotive	Developing
55	AMS1200075M2-ASATH	Device	1200V	75mΩ	G2	TO247-4LB	Automotive	MP
56	AMS1200075P2-ASARH	Device	1200V	75mΩ	G2	TO263-7L	Automotive	MP
57	AMS1200075K2-ASATH	Device	1200V	75mΩ	G2	TO247-3L	Automotive	MP
58	AMS1200075Q2-ASARH	Device	1200V	75mΩ	G2	QDPAK	Automotive	Developing
59	AMS1200075VA2-ASARH	Device	1200V	75mΩ	G2	X2PAK	Automotive	Samp.
60	AMS1200120MC2-ASATH	Device	1200V	120mΩ	G2	TO247-4LC	Automotive	Developing
61	AMS1200120M3-ASATH	Device	1200V	120mΩ	G3	TO247-4LB	Automotive	MP
62	AMS1200120P3-ASARH	Device	1200V	120mΩ	G3	TO263-7L	Automotive	Developing
63	AMS1200120Q3-ASARH	Device	1200V	120mΩ	G3	QDPAK	Automotive	Developing
64	SMS1400020MA2-ISATH	Device	1400V	20mΩ	G2	TO247-4LA	Industry	Developing
65	SMS1400032MA2-ISATH	Device	1400V	32mΩ	G2	TO247-4LA	Industry	Developing
66	SMS1701000K-ISATH	Device	1700V	1000mΩ	G1	TO247-3L	Industry	MP
67	AMS1701000K-ASATH	Device	1700V	1000mΩ	G1	TO247-3L	Automotive	Samp.
68	SMS1701000P-ISARH	Device	1700V	1000mΩ	G1	TO263-7L	Industry	Samp.
69	SMS2000035X2-ISATH	Device	2000V	35mΩ	G2	TO247-4L Plus	Industry	Samp.

## GaN HEMT product list

No.#	Product PN	Type	VDss	RDS(ON)	Gen	PKG	Grade
1	SMG0700150S4	Device	700V	150mΩ	G4	DFN8*8	Consumer
2	SMG0700150B4	Bare die	700V	150mΩ	G4	Bare die	Consumer
3	SMG0650030Y2	Device	650V	30mΩ	G2	TOLL	Industry
4	SMG0650030B2	Bare die	650V	30mΩ	G2	Bare die	Industry
5	SMG0100055B2	Bare die	100V	5.5mΩ	G2	Bare die	Industry

## Sic Module product list

No.#	Product PN	Type	V <sub>RRM</sub>	I <sub>F</sub>	Gen	PKG	Grade	Status
1	SLS065J100A	Module	650V	100A*2	G3	SOT-227	Industry	MP
2	SLS120J060A	Module	1200V	60A*2	G3	SOT-227	Industry	MP
3	SLS120J080A	Module	1200V	80A*2	G3	SOT-227	Industry	MP
4	SLS120J100A	Module	1200V	100A*2	G3	SOT-227	Industry	MP

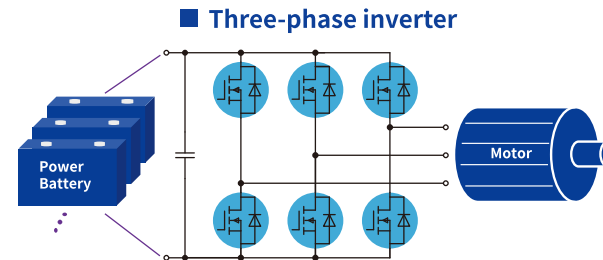


## Automotive - Electric Compressor

### Recommended Products

Type	Voltage	Rdson/IF	Package													
			Bare die	TO247-4LB	TO247-4LC	TO247-3L	TO247-2L	TO263-7L	TO263-2L	X2PAK	QDAPK	TO220-2L	TO252-2L	SMBF		
SiC MOS	650V	18mΩ	✓	✓		✓			✓							
	650V	27mΩ	✓	✓	✓				✓		✓					
	650V	35mΩ	✓	✓					✓		✓					
	650V	50mΩ	✓	✓					✓		✓					
	750V	9mΩ	✓	✓							✓					
	1200V	20mΩ	✓	✓							✓					
	1200V	32mΩ	✓	✓	✓				✓		✓	✓				
	1200V	40mΩ	✓	✓		✓			✓		✓	✓				
	1200V	60mΩ	✓	✓	✓				✓		✓	✓				
	1200V	75mΩ	✓	✓		✓			✓		✓	✓				
	1200V	120mΩ	✓	✓	✓					✓		✓				

### Topology Diagrams



### System Advantages



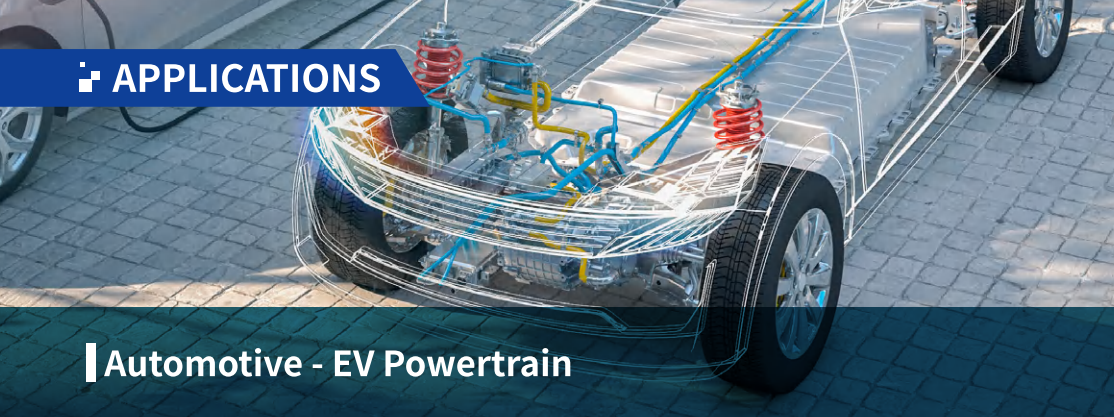
High power density, peak up to 20 kW/L



High efficiency, system loss reduced by about 50%



Low loss and low vehicle energy consumption extend the overall driving range by 5–10 km

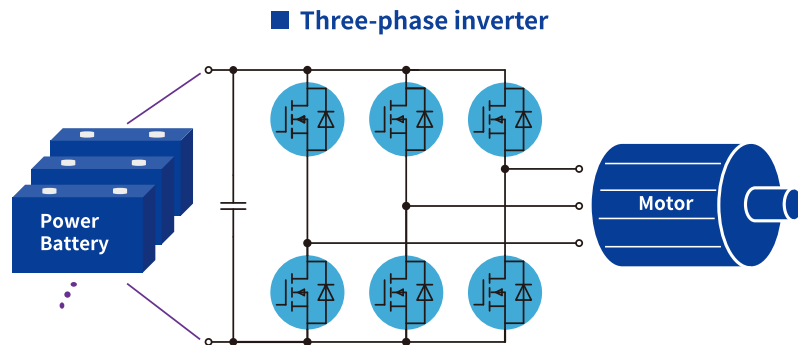


Automotive - EV Powertrain

Recommended Products

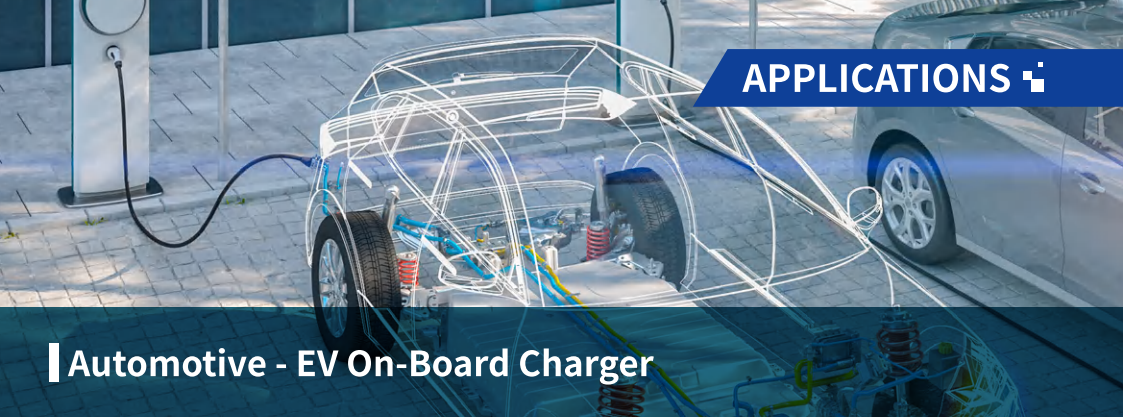
Type	Voltage	Rdson/IF	Package
			Bare die
SiC MOS	1200V	12mΩ	✓
	750V	9mΩ	✓

Topology Diagrams



System Advantages

- High power density, peak up to 100kW/L
- High efficiency, switching loss reduced by about 70%
- Low loss, low vehicle energy consumption, comprehensive range can be increased by about 4-8%

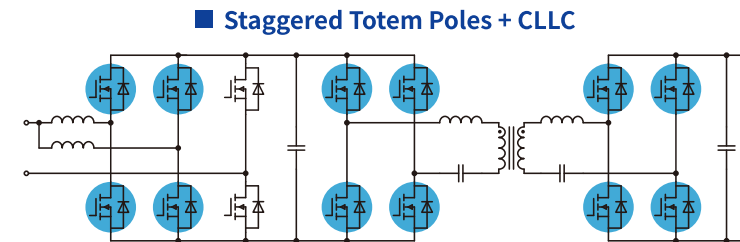


Automotive - EV On-Board Charger

Recommended Products

Type	Voltage	Rdson/IF	Package													
			Bare die	TO247-4LB	TO247-4LC	TO247-3L	TO247-2L	TO263-7L	TO263-2L	X2PAK	QDAPK	TO220-2L	TO252-2L	SMBF		
SiC MOS	650V	18mΩ	✓	✓		✓			✓							
	650V	27mΩ	✓	✓	✓				✓							
	650V	35mΩ	✓	✓					✓							
	650V	50mΩ	✓	✓					✓							
	750V	9mΩ	✓	✓												
	1200V	20mΩ	✓	✓					✓							
	1200V	32mΩ	✓	✓	✓					✓		✓				
	1200V	40mΩ	✓	✓		✓				✓		✓				
	1200V	60mΩ	✓	✓	✓					✓		✓				
	1200V	75mΩ	✓	✓		✓				✓		✓				
1200V	120mΩ	✓	✓	✓							✓					
SiC SBD	650V	20A	✓			✓	✓			✓			✓	✓		
	650V	30A	✓							✓				✓		
	650V	40A	✓			✓										
	1200V	1A	✓													✓
	1200V	5A	✓													
	1200V	20A	✓				✓			✓			✓			
	1200V	50A	✓													

Topology Diagrams



System Advantages

- High frequency, increased power density
- High efficiency, enables system integration
- Efficient bidirectional charging and discharging function (V2X)

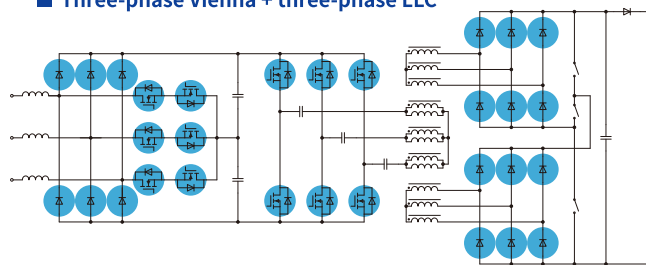
# Automotive – Charging Pile

## Recommended Products

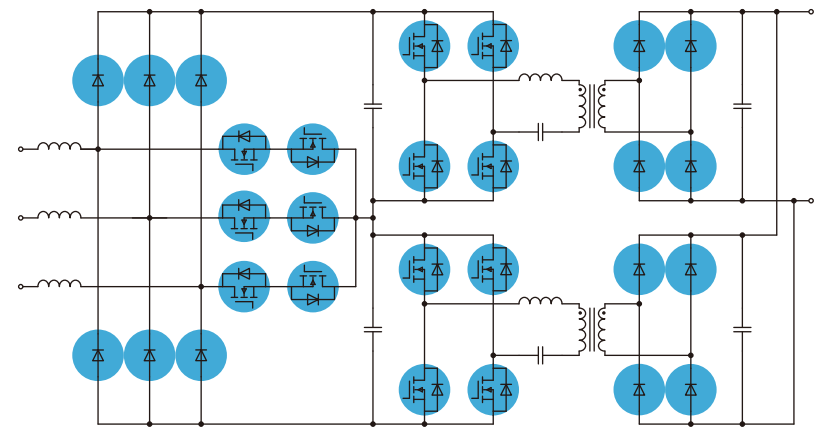
Type	Voltage	Rdson/IF	Package						
			TO247-4LA	TO247-4LB	TO247-4LC	TO247-3L	TO247-2L	TO263-7L	SAPKG-9L
SiC MOS	650V	18mΩ		✓		✓			
	650V	27mΩ		✓		✓			
	650V	35mΩ		✓	✓	✓		✓	✓
	650V	50mΩ		✓		✓		✓	✓
	650V	65mΩ		✓		✓			
	750V	9mΩ		✓					✓
	1200V	12mΩ		✓					
	1200V	14mΩ		✓					
	1200V	20mΩ		✓					
	1200V	32mΩ	✓	✓	✓			✓	✓
	1200V	40mΩ	✓	✓		✓		✓	✓
	1200V	60mΩ		✓	✓	✓		✓	✓
	1200V	75mΩ		✓		✓		✓	
	1200V	120mΩ		✓	✓	✓			
SiC SBD	1400V	20mΩ	✓						
	1400V	32mΩ	✓						
	650V	40A				✓	✓		
	650V	50A				✓	✓		
	1200V	20A				✓	✓		
	1200V	30A				✓	✓		
	1200V	40A				✓	✓		
	1200V	50A				✓	✓		
	1200V	60A				✓	✓		
	1200V	80A				✓	✓		
	1700V	25A				✓	✓		
1700V	50A				✓	✓			
2000V	20A				✓	✓			
2000V	40A				✓	✓			

## Topology Diagrams

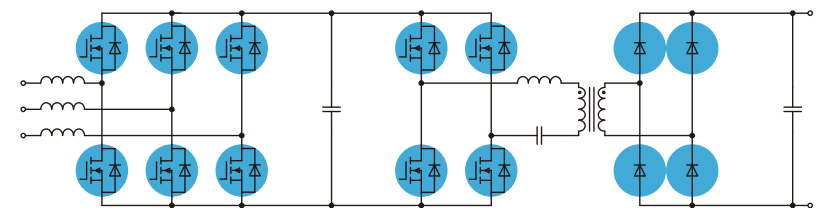
Three-phase Vienna + three-phase LLC



Three-phase Vienna + series LLC



Three-phase bridge PFC



## System Advantages



Simple topology and easy control



High efficiency, charging and discharging modes > 98.5%



High power density, same volume power increase 30-50%



Low long-term cost

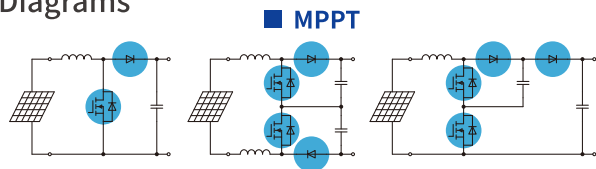


Renewable Energy – PV Inverter

Recommended Products

Type	Voltage	Rdson/IF	Package							
			TO247-4LA	TO247-4LB	TO247-4LC	TO247-4L Plus	TO247-3L	TO247-2L	TO263-7L	SAPKG-9L
SiC MOS	650V	18mΩ								
	650V	27mΩ		✓			✓			
	650V	35mΩ		✓	✓				✓	✓
	650V	50mΩ		✓			✓		✓	✓
	650V	65mΩ		✓						
	750V	9mΩ		✓						
	1200V	12mΩ		✓						
	1200V	14mΩ		✓						
	1200V	20mΩ		✓						
	1200V	32mΩ		✓	✓				✓	✓
	1200V	40mΩ		✓			✓		✓	
	1200V	60mΩ		✓	✓				✓	✓
	1200V	75mΩ		✓	✓		✓		✓	
	1200V	120mΩ		✓	✓				✓	
	1400V	20mΩ		✓						
	1400V	32mΩ		✓						
1700V	1Ω					✓		✓		
2000V	35mΩ				✓					
SiC SBD	1200V	20A					✓	✓		
	1200V	30A					✓	✓		
	1200V	40A					✓	✓		
	1200V	50A					✓	✓		
	1200V	60A					✓	✓		
	1200V	80A					✓	✓		
	1700V	25A					✓	✓		
	1700V	50A					✓	✓		
	2000V	20A					✓	✓		
	2000V	40A					✓	✓		

Topology Diagrams



System Advantages

- Low loss, high efficiency
- Simplified power circuit topology
- High operating junction temperature, high reliability

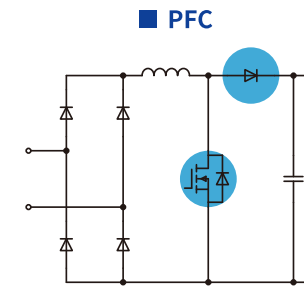


Home Appliance – Air Conditioner

Recommended Products

Type	Voltage	Rdson/IF	Package						
			TO247-4LB	TO247-3L	TO263-7L	TO3PF-3L	X2PAK	TO220N-2L	TO220F-2L
SiC MOS	650V	18mΩ	✓	✓	✓				
	650V	27mΩ	✓		✓		✓		
	650V	35mΩ	✓		✓		✓		
	650V	50mΩ	✓	✓	✓		✓		
	650V	65mΩ	✓						
	750V	9mΩ	✓				✓		
SiC SBD	650V	10A						✓	
	650V	12A						✓	
	650V	16A						✓	✓
	650V	20A				✓			✓

Topology Diagrams



System Advantages

- System efficiency increased by 1-3%
- Energy loss reduced by about 40%
- Switching frequency increased by 100-200%
- Inductor size reduced by about 30%
- Heat sink size reduced by about 5%