SiC Power Semiconductor and IC Solution

Product Brochure

Looking Forward , powering The Future

InventChip Technology Co., Ltd.

2026-01

Content

SiC Power Device Wafer Fab in Zhejiang, China

Company Profile

Inventchip Technology Co., Ltd. (abbr: IVCT) has been dedicated to developing SiC power devices, gate-drivers and controller ICs. IVCT provides customers with one-stop chip solutions focusing on SiC power semiconductor applications.

IVCT pioneered SiC MOSFET technology on 6-in wafers in China. With an automotive-grade SiC wafer Fab, IVCT commits on-time and high-quality delivery of SiC products to customers and pursues continuous technology innovations.

Mission

Customer and Market-oriented.

With high-quality products and services, we continuously improve human life.

Values

Be Honest, open-minded, concentrated and persevere.

Continuous innovation, Global mindset.

Vision

We aim to be a world-class IDM focusing on High performance Power and Analog semiconductors by embracing the opportunities of disruptive impact of WBG semiconductor technology.

Honors

Second Prize of Shanghai Technical Invention Award-SiC MOSFET Process and Automotive products, 2022

Excellent Product Innovation (IVCC1102) -8th China Power Supply Society Tech Award

Star of Tomorrow
Shanghai Lingang, 2024

Annual Recommended SiC IDM Brand
IFWS & SSL , 2021-2024

Global Gazelles
Hurun2024

VIGOROUS 100 List
China-Venture 2022,2023

Excellent semiconductor company
Cailian Press 2023

Enterprise 50 of Chiptech
KPMG 2022, 2021

China New Energy Tech 50
EqualOcean 2022

Sigur's Joint Innovation Award
2024

APsmart's Strategic Partner Award
2022-2023

Fox ESS's Potential Supplier Award
2023

Outstanding Power Device Brand
HQ Electronic 2024

Top 10 China SiC Device IDM
HangJia Aurora Award 2022-2025

SiC Industry Excellence Award
21st Century Power 2022-2025

Annual Innovative technology Award
TMC2025

Top 50 Automotive ICs Supplier
Gasgoo 2023

Top 10 Power Device Companies
AspenCore 2022

Most Influential Product Award
Hangjia 2023-2024

Qualifications, Certifications and Memberships

Qualifications

China High-Tech Enterprise

China "Little Giant" Enterprise (Specialized, Refined, Differential, Innovative, SRDI)

Shanghai "SRDI" SME

Shanghai Municipal Enterprise Tech Center

Pudong New Area Enterprise R&D Institution

Technology Giant (Incubation) Enterprise

Quality Systems

Shanghai : ISO 9001 QMS Certification

Zhejiang : ISO 9001 QMS Certification

IATF 16949 Automotive QMS Certification

ISO 14001 Environmental Certification

ISO 45001 Occupational Health and Safety Certification

QC 080000 Hazardous Substance Process Certification

ESD S20.20 Electrostatic Discharge Protection Certification

Electrical insulation VDE 0884-17:2021 Certification

Memberships

Vice Chairman of Zhejiang Semiconductor Association

Council Member of Shanghai IC Industry Association

Member of

the Third-Generation Semi-Industry Tech Innovation Strategic Alliance

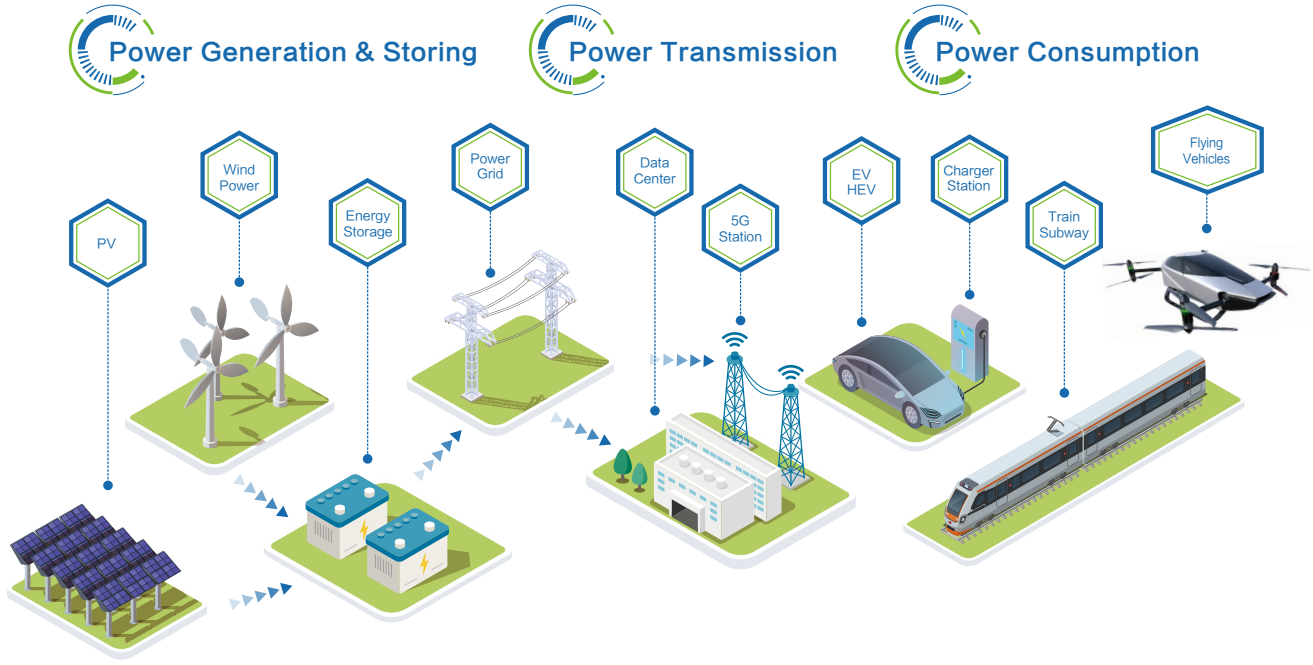
China Semi-Industry Association

China Power Supply Society

Applications

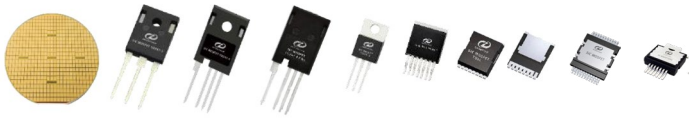
IVCT provides one-stop "power conversion" solutions for SiC applications, including SiC power devices ,SiC power modules, gate drivers and controller ICs,.

SiC applications cover all aspects of electric power including generation, storage, transmission, distribution, and utilization. It has been widely implemented in various fields such as electric vehicles, photovoltaic inverters, energy storage converters, charging piles, , and AI server power supply and home appliances supplies.



Products overview

SiC MOSFETs



V_{DS}	650 V	750 V	1200 V	1400 V	1700 V	2000 V	3300 V
$R_{DS(ON)}$	25~60 mΩ	11 mΩ	10~750 mΩ	25~35 mΩ	20 mΩ~50 Ω	45 mΩ	50 mΩ~50 Ω

Highlight

- 15~20 V drive voltage
- Industry-leading low switching losses
- Low $R_{DS(ON)}$ at 175°C
- High threshold voltage
- Strong robustness
- High reliability, AEC-Q101

SiC Schottky Diodes

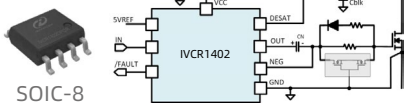
V_{RRM}	650 V	1200 V	2000 V
I_F	4~90 A	2~60 A	20-40 A

Highlight

- Lower forward voltage drop
- High BV and low IR
- High surge capability
- More than JEDEC reliability standard
- AEC-Q101

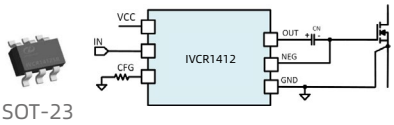
Dedicated SiC Driver ICs

4 A peak sk current , be able to drive IGBT, Si MOSFET, and GaN devices.



SOIC-8

IVCR1402



SOT-23

IVCR1412

Highlight

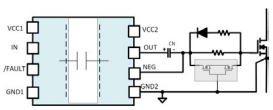
1. Compact package and be next to device
2. Integrated negative drive voltage
3. High sink current and low delay allow high-speed switching
4. Integrated Active Miller Clamping, Desat protection
5. Integrated UVLO, fault alarm and more

Isolated Gate-drivers

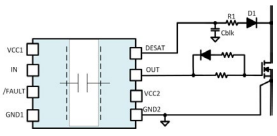
Be able to drive SiC/Si MOSFETs and Si IGBTs.

SOIC-8
Narrow body
3.75 kVrms

SOIC-8
Wide body
5.7 kVrms



IVCO1412



IVCO1411

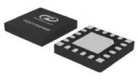
Highlight

1. Isolation selection：3.75 kVrms or 5 kVrms.
2. Desaturation-protection (IVCO1411, 4 A/4 A)
3. Negative voltage drive (IVCO1412 , 4 A/4 A)
4. Split output (IVCO1A01, 10 A/10 A)
5. Active Miller clamp (IVCO1A02 , 10 A/10 A):
6. High CMTI , minimum dv/dt of 100 V/ns

Power Management Controller ICs

Compact package. Precise analog control, No programming needed.

IVCC1104DR
SOIC-16



IVCC1104F4AR
QFN-20 (4x4)

Highlight

1. Inductor current reversing prevention at AC drop
2. Smooth current zero-crossing control
3. Low THD
4. Fast/Non-linear voltage loop control
5. Lighting protection and more.

SiC MOSFET Discretes Overview

V_{DS}	$R_{DS(ON)}$	TO247 - 4	TO247 - 4Slim	TO247 - 3	TO247 - 3 HCC	TO220 - 3	TO263 - 7	TOLL	TC3Pak	X2Pak	QDPak
											
650 V	25 mΩ	IV2Q06025T4Z					IV2Q06025D7Z	IV2Q06025L1			
		IV3Q06025T4Z								IV3Q06025K2Z	IV3Q06025QDZ
	40 mΩ	IV2Q06040T4Z		IV1Q06040T3			IV2Q06040D7Z	IV2Q06040L1			
		IV3Q06040T4Z					IV3Q06040D7Z				IV3Q06040QDZ
	60 mΩ	IV2Q06060T4Z		IV1Q06060T3G		IV2Q06060O3Z	IV2Q06060D7Z	IV2Q06060L1			
		IV1Q06060T4ZGB	IV3Q06060T9Z				IV3Q06060D7Z				IV3Q06060QDZ
750 V	11 mΩ	IV3Q07011T4Z									
1200 V	13 mΩ	IV3Q12013T4Z									
	17 mΩ	IV2Q12017T4Z									
	18 mΩ	IV3Q12018T4Z									IV3Q12018QDZ
	21 mΩ	IV3Q12021T4Z	IV3Q12021T9Z								IV3Q12021QDZ
	26 mΩ	IV3Q12026T4Z	IV3Q12026T9								
	30 mΩ	IV2Q12030T4Z					IV2Q12030D7Z				
	35 mΩ	IV3Q12035T4Z	IV3Q12035T9Z				IV3Q12035D7Z		IV3Q12035K1Z		
		IV3Q12035T4ZB	IV3Q12035T9ZB				IV3Q12035D7ZB		IV3Q12035K1ZB	IV3Q12035K2ZB	IV3Q12035QDZB
	35 mΩ+ AP Diode		IV3M12035T935								
	40 mΩ	IV2Q12040T4Z					IV2Q12040D7Z		IV2Q12040K1Z		
	50 mΩ	IV1Q12050T4/Z		IV1Q12050T3			IV1Q12050D7Z				
	60 mΩ	IV3Q12060T4Z	IV3Q12060T9Z				IV3Q12060D7Z			IV3Q12060K2Z	IV3Q12060QDZ
	65 mΩ						IV2Q12065D7Z				
	75 mΩ	IV3Q12075T4Z	IV3Q12075T9Z				IV3Q12075D7Z		IV3Q12075K1Z	IV3Q12075K2Z	IV3Q12075QDZ
	80 mΩ	IV2Q12080T4Z		IV1Q12080T3/Z			IV2Q12080D7Z		IV2Q12080K1Z		
	120 mΩ	IV3Q12120T4Z	IV3Q12120T9Z				IV3Q12120D7Z			IV3Q12120K2Z	IV3Q12120QDZ
	150 mΩ	IV3Q12150T4Z	IV3Q12150T9Z				IV3Q12150D7Z				IV3Q12150QDZ
	160 mΩ	IV2Q12160T4Z		IV1Q12160T3			IV2Q12160D7Z				
	750 mΩ			IV1Q12750T3		IV1Q12750O3					
1400 V	25 mΩ		IV3Q14025T9Z								
	25 mΩ+ AP Diode		IV3M14025T9								
	35 mΩ		IV3Q14035T9Z				IV3Q14035D7Z				
1700 V	20 mΩ	IV2Q17020T4Z									
	40 mΩ	IV2Q17040T4Z									
	80 mΩ	IV2Q17080T4Z	IV2Q17080T9Z								
	1 Ω			IV2Q171R0T3	IV2Q171R0T7		IV2Q171R0D7Z				
2000 V	45 mΩ	IV2Q20045T4									
3300 V	50 mΩ	IV3Q33050T4									

Notes: Green: Mass Production, Blue: Sample, No painting : Coming soon, End in "Z" : Automotive-grade

1.1 SiC MOSFET Discretes

Part Numbers	Qualification	V_{DS}	$R_{DS(ON)}$ (25°C)	I_D (25°C)	V_{TH} (25°C)	V_{TH} (175°C)	Q_G	Operating Temperature	Package		Status
IV2Q06025T4Z	Automotive	650 V	25 mΩ	99 A	2.8 V	2.0 V	125.0 nC	-55° C to 175° C	TO247-4		Active
IV2Q06025L1	Industrial	650 V	25 mΩ	111 A	2.8 V	2.0 V	125.0 nC	-55° C to 175° C	TOLL		Active
IV2Q06025D7Z	Automotive	650 V	25 mΩ	111 A	2.8 V	2.0 V	125.0 nC	-55° C to 175° C	TO263-7		Active
IV3Q06025T4Z*	Automotive	650 V	25 mΩ	93 A	2.8 V	2.0 V	84.7 nC	-55° C to 175° C	TO247-4		Sample
IV3Q06025K2Z*	Automotive	650 V	25 mΩ					-55° C to 175° C	X2Pak		Coming soon
IV3Q06025QDZ*	Automotive	650 V	25 mΩ					-55° C to 175° C	QDPak		Coming soon
IV1Q06040T3	Industrial	650 V	40 mΩ	72 A	3.2 V	2.2 V	110.8 nC	-55° C to 175° C	TO247-3		Active
IV2Q06040T4Z	Automotive	650 V	40 mΩ	60 A	2.8 V	2.1 V	94.7 nC	-55° C to 175° C	TO247-4		Active
IV2Q06040L1	Industrial	650 V	40 mΩ	60 A	2.8 V	2.1 V	94.7 nC	-55° C to 175° C	TOLL		Active
IV2Q06040D7Z	Automotive	650 V	40 mΩ	60 A	2.8 V	2.1 V	94.7 nC	-55° C to 175° C	TO263-7		Active
IV3Q06040T4Z*	Automotive	650 V	40 mΩ					-55° C to 175° C	TO247-4		Coming soon
IV3Q06040D7Z*	Automotive	650 V	40 mΩ					-55° C to 175° C	TO263-7		Coming soon
IV3Q06040QDZ*	Automotive	650 V	40 mΩ					-55° C to 175° C	QDPak		Coming soon
IV2Q06060T4Z	Industrial	650 V	60 mΩ	43 A	2.8 V	2.0 V	64.0 nC	-55° C to 175° C	TO247-4		Active
IV1Q06060T4ZGB	Automotive	650 V	60 mΩ	50 A	2.8 V	2.1 V	69.5 nC	-55° C to 175° C	TO247-4		Active
IV1Q06060T3G	Industrial	650 V	60 mΩ	50 A	2.8 V	2.1 V	69.5 nC	-55° C to 175° C	TO247-3		Active
IV2Q06060O3Z	Automotive	650 V	60 mΩ	43 A	2.8 V	2.0 V	64.0 nC	-55° C to 175° C	TO220-3		Active
IV2Q06060D7Z	Automotive	650 V	60 mΩ	43 A	2.8 V	2.0 V	64.0 nC	-55° C to 175° C	TO263-7		Active
IV2Q06060L1	Industrial	650 V	60 mΩ	43 A	2.8 V	2.0 V	64.0 nC	-55° C to 175° C	TOLL		Active
IV3Q06060T9Z*	Automotive	650 V	60 mΩ					-55° C to 175° C	TO247-4Slim		Coming soon

Part Numbers	Qualification	V_{DS}	$R_{DS(ON)}$ (25°C)	I_D (25°C)	V_{TH} (25°C)	V_{TH} (175°C)	Q_G	Operating Temperature	Package		Status
IV3Q06060D7Z*	Automotive	650 V	60 mΩ					-55° C to 175° C	TO263-7		Coming soon
IV3Q06060QDZ*	Automotive	650 V	60 mΩ					-55° C to 175° C	QDPak		Coming soon
IV3Q07011T4Z	Automotive	750 V	11 mΩ	167 A	2.6 V	1.86 V	183.7 nC	-55° C to 175° C	TO247-4		Active
IV3Q12013T4Z	Automotive	1200 V	13 mΩ	147 A	2.8 V	2.0 V	187.0 nC	-55° C to 175° C	TO247-4		Active
IV2Q12017T4Z	Automotive	1200 V	17 mΩ	118 A	2.8 V	2.1 V	214.0 nC	-55° C to 175° C	TO247-4		Active
IV3Q12018T4Z*	Automotive	1200 V	18 mΩ	112 A	2.8 V	2.0 V	149.0 nC	-55° C to 175° C	TO247-4		sample
IV3Q12018QDZ*	Automotive	1200 V	18 mΩ					-55° C to 175° C	QDPak		Coming soon
IV3Q12021T4Z*	Automotive	1200 V	21mΩ	102 A	2.7 V	2.0 V	130.0 nC	-55° C to 175° C	TO247-4		Sample
IV3Q12021T9Z*	Automotive	1200 V	21mΩ	102 A	2.7 V	2.0 V	130.0 nC	-55° C to 175° C	TO247-4Slim		Sample
IV3Q12021QDZ*	Automotive	1200 V	21 mΩ					-55° C to 175° C	QDPak		Coming soon
IV3Q12026T4Z*	Automotive	1200 V	26 mΩ	84 A	2.8 V	2.0 V	108.0 nC	-55° C to 175° C	TO247-4		sample
IV3Q12026T9*	Industrial	1200 V	26 mΩ					-55° C to 175° C	TO247-4Slim		Coming soon
IV2Q12030T4Z	Automotive	1200 V	30 mΩ	84 A	2.8 V	2.0 V	135.0 nC	-55° C to 175° C	TO247-4		Active
IV2Q12030D7Z	Automotive	1200 V	30 mΩ	79 A	2.8 V	2.0 V	135.0 nC	-55° C to 175° C	TO263-7		Active
IV3Q12035T4Z	Automotive	1200V	35 mΩ	67 A	2.8 V	2.0 V	83.0 nC	-55° C to 175° C	TO247-4		Active
IV3Q12035T4ZB	Automotive	1200 V	35 mΩ	67 A	2.8 V	2.0 V	83.0 nC	-55° C to 175° C	TO247-4		Active
IV3Q12035T9Z	Automotive	1200 V	35 mΩ	67 A	2.8 V	2.0 V	83.0 nC	-55° C to 175° C	TO247-4Slim		Active
IV3Q12035T9ZB	Automotive	1200 V	35 mΩ	67 A	2.8 V	2.0 V	83.0 nC	-55° C to 175° C	TO247-4Slim		Active
IV3Q12035D7Z	Automotive	1200 V	35 mΩ	68 A	2.8 V	2.0 V	83.0 nC	-55° C to 175° C	TO263-7		Active

Part Numbers	Qualification	V_{DS}	$R_{DS(ON)}$ (25°C)	I_D (25°C)	V_{TH} (25°C)	V_{TH} (175°C)	Q_G	Operating Temperature	Package		Status
IV3Q12035D7ZB*	Automotive	1200 V	35 mΩ	68 A	2.8 V	2.0 V	83.0 nC	-55° C to 175° C	TO263-7		sample
IV3Q12035K1Z*	Automotive	1200 V	35 mΩ	68 A	2.8 V	2.0 V	83.0 nC	-55° C to 175° C	TC3Pak		Sample
IV3Q12035K1ZB*	Automotive	1200 V	35 mΩ					-55° C to 175° C	TC3Pak		Coming soon
IV3Q12035K2ZB*	Automotive	1200 V	35 mΩ	68 A	2.8 V	2.0 V	83.0 nC	-55° C to 175° C	TC3Pak		sample
IV3Q12035QDZB*	Automotive	1200 V	35 mΩ	75 A	2.8 V	2.0 V	83.0 nC	-55° C to 175° C	QDPak		sample
IV3M12035T935	Industrial	1200 V	35 mΩ SiC MOSFET+35 A Si Diode	48 A, T_C=100°C	2.8 V	2.0 V	83.0 nC	-40° C to 150° C	TO247-4Slim		Active
IV2Q12040T4Z	Automotive	1200 V	40 mΩ	65 A	2.8 V	2.1 V	110.0 nC	-55° C to 175° C	TO247-4		Active
IV2Q12040D7Z	Automotive	1200 V	40 mΩ	65 A	2.8 V	2.1 V	110.0 nC	-55° C to 175° C	TO263-7		Active
IV2Q12040K1Z	Automotive	1200 V	40 mΩ	65 A	2.8 V	2.1 V	110.0 nC	-55° C to 175° C	TC3Pak		Active
IV1Q12050T4	Industrial	1200 V	50 mΩ	58 A	3.2 V	2.2 V	120.0 nC	-55° C to 175° C	TO247-4		Active
IV1Q12050T4Z	Automotive	1200 V	50 mΩ	58 A	3.2 V	2.2 V	120.0 nC	-55° C to 175° C	TO247-4		Active
IV1Q12050T3	Industrial	1200 V	50 mΩ	58 A	3.2 V	2.2 V	120.0 nC	-55° C to 175° C	TO247-3		Active
IV1Q12050D7Z	Automotive	1200 V	50 mΩ	58 A	3.2 V	2.2 V	120.0 nC	-55° C to 175° C	TO263-7		Active
IV3Q12060T4Z	Automotive	1200 V	55 mΩ	48.3 A	2.8 V	2.0 V	55.6 nC	-55° C to 175° C	TO247-4		sample
IV3Q12060T9Z	Automotive	1200 V	55 mΩ	45.2 A	2.8 V	2.0 V	55.6 nC	-55° C to 175° C	TO247-4Slim		sample
IV3Q12060D7Z*	Automotive	1200 V	55 mΩ	50.2 A	2.8 V	2.0 V	55.6 nC	-55° C to 175° C	TO263-7		sample
IV3Q12060K2Z*	Automotive	1200 V	55 mΩ	44.9 A	2.8 V	2.0 V	55.6 nC	-55° C to 175° C	X2Pak		Coming soon
IV3Q12060QDZ*	Automotive	1200 V	55 mΩ	49.2 A	2.8 V	2.0 V	55.6 nC	-55° C to 175° C	QDPak		Sample
IV2Q12065D7Z	Automotive	1200 V	65 mΩ	48 A	2.9 V	2.0 V	75 nC	-55° C to 175° C	TO263-7		Active
IV3Q12075T4Z*	Automotive	1200 V	68 mΩ	36.3 A	2.8 V	2.0 V	47.3 nC	-55° C to 175° C	TO247-4		sample

Part Numbers	Qualification	V_{DS}	$R_{DS(ON)}$ (25°C)	I_D (25°C)	V_{TH} (25°C)	V_{TH} (175°C)	Q_G	Operating Temperature	Package		Status
IV3Q12075T9Z*	Automotive	1200 V	68 mΩ	39.8 A	2.8 V	2.0 V	47.3 nC	-55° C to 175° C	TO247-4Slim		sample
IV3Q12075D7Z*	Automotive	1200 V	68 mΩ	39.1 A	2.8 V	2.0 V	47.3 nC	-55° C to 175° C	TO263-7		sample
IV3Q12075K1Z*	Automotive	1200 V	68 mΩ	36.7 A	2.8 V	2.0 V	47.3 nC	-55° C to 175° C	TC3Pak		sample
IV3Q12075K2Z*	Automotive	1200 V	68mΩ	36.7 A	2.8 V	2.0 V	47.3 nC	-55° C to 175° C	TC3Pak		Coming soon
IV3Q12075QDZ*	Automotive	1200 V	68 mΩ	39 A	2.8 V	2.0 V	47.3 nC	-55° C to 175° C	QDPak		sample
IV2Q12080T4Z	Automotive	1200 V	80 mΩ	41 A	2.9 V	2.1 V	14.0 nC	-55° C to 175° C	TO247-4		Active
IV1Q12080T3	Industrial	1200 V	80 mΩ	42 A	3.6 V	2.7 V	76.0 nC	-55° C to 175° C	TO247-3		Active
IV1Q12080T3Z	Automotive	1200 V	80 mΩ	42 A	3.6 V	2.7 V	76.0 nC	-55° C to 175° C	TO247-3		Active
IV2Q12080D7Z	Automotive	1200 V	80 mΩ	41 A	2.9 V	2.1 V	53.0 nC	-55° C to 175° C	TO263-7		Active
IV2Q12080K1Z	Automotive	1200 V	80 mΩ	41 A	2.9 V	2.1 V	53.0 nC	-55° C to 175° C	TC3Pak		Active
IV3Q12120T4Z*	Automotive	1200 V	120 mΩ	23 A	2.8 V	2.0 V	30.0 nC	-55° C to 175° C	TO247-4		sample
IV3Q12120D7Z*	Automotive	1200 V	120 mΩ	23.5 A	2.8 V	2.0 V	30.0 nC	-55° C to 175° C	TO263-7		sample
IV3Q12120T9Z*	Automotive	1200 V	120 mΩ	23.5 A	2.8 V	2.0 V	30.0 nC	-55° C to 175° C	TO247-4Slim		sample
IV3Q12120K2Z*	Automotive	1200 V	120 mΩ					-55° C to 175° C	TC3Pak		sample
IV3Q12120QDZ*	Automotive	1200 V	120 mΩ	23.8 A	2.8 V	2.0 V	30.0 nC	-55° C to 175° C	QDPak		sample
IV3Q12150T4Z*	Automotive	1200 V	150 mΩ	24 A	2.8 V	2.0 V	27.6 nC	-55° C to 175° C	TO247-4		sample
IV3Q12150T9Z*	Automotive	1200 V	150 mΩ					-55° C to 175° C	TO247-4Slim		Coming soon
IV3Q12150D7Z*	Automotive	1200 V	150 mΩ					-55° C to 175° C	TO263-7		sample
IV3Q12150QDZ*	Automotive	1200 V	150 mΩ					-55° C to 175° C	QDPak		Coming soon
IV1Q12160T3	Industrial	1200 V	160 mΩ	19 A	2.9 V	1.9 V	43.0 nC	-55° C to 175° C	TO247-3		Active

Part Numbers	Qualification	V_{DS}	$R_{DS(ON)}$ (25°C)	I_D (25°C)	V_{TH} (25°C)	V_{TH} (175°C)	Q_G	Operating Temperature	Package		Status
IV2Q12160T4Z	Automotive	1200 V	160 mΩ	19 A	2.8 V	2.1 V	29.0 nC	-55° C to 175° C	TO247-4		Active
IV2Q12160D7Z	Automotive	1200 V	160 mΩ	20 A	3.0 V	2.2 V	29.0 nC	-55° C to 175° C	TO263-7		Active
IV1Q12750O3	Industrial	1200 V	750 mΩ	6.4 A	4.3 V	3.3 V	15.8 nC	-55° C to 175° C	TO220-3		Active
IV1Q12750T3	Industrial	1200 V	750 mΩ	6.8 A	4.3 V	3.3 V	15.8 nC	-55° C to 175° C	TO247-3		Active
IV3Q14025T9Z*	Automotive	1400 V	25 mΩ	93 A	2.8 V	2.1 V	139.0 nC	-55° C to 175° C	TO247-4Slim		sample
IV3M14025T9*	Industrial	1400 V	25 mΩ SiC MOSFET+ Si Diode					-55° C to 175° C	TO247-4Slim		Coming soon
IV3Q14035T9Z*	Automotive	1400 V	35 mΩ	63 A	2.8 V	2.1 V	106.0 nC	-55° C to 175° C	TO247-4Slim		Coming soon
IV3Q14035D7Z*	Automotive	1400 V	35 mΩ					-55° C to 175° C	TO263-7		Coming soon
IV2Q17020T4Z	Automotive	1700 V	20 mΩ	94 A	3.0 V	2.2 V	234 nC	-55° C to 175° C	TO247-4		Active
IV2Q17040T4Z	Automotive	1700 V	40 mΩ	60.8 A	3.1 V	2.3 V	156.4 nC	-55° C to 175° C	TO247-4		Active
IV2Q17080T4Z*	Automotive	1700 V	80 mΩ	36.5 A	3.1 V	2.2 V	80.0 nC	-55° C to 175° C	TO247-4		Sample
IV2Q17080T9Z*	Automotive	1700 V	80 mΩ	36.5 A	3.1 V	2.2 V	80.0 nC	-55° C to 175° C	TO247-4Slim		Sample
IV2Q171R0T3	Industrial	1700 V	1 Ω	6.7 A	3.0 V	2.0 V	16.5 nC	-55° C to 175° C	TO247-3		Active
IV2Q171R0D7Z	Automotive	1700 V	1 Ω	6.3 A	3.0 V	2.0 V	16.5 nC	-55° C to 175° C	TO263-7		Active
IV2Q171R0T7*	Automotive	1700 V	1 Ω	7.5 A	3.0 V	2.0 V	16.5 nC	-55° C to 175° C	TO247-3 HCC		sample
IV2Q20045T4	Industrial	2000 V	45 mΩ	65 A	3.5 V	2.5 V	185.0 nC	-55° C to 175° C	TO247-4		Active
IV3Q33050T4*	Industrial	3300 V	50 mΩ	61 A	3.0 V	2.3 V	218.0 nC	-55° C to 175° C	TO247-4		Sample

SiC MOSFET Wafer Overview

SiC MOSFET Wafer				
V_{DS}	$R_{DS(ON)}$	Gen-1	Gen-2	Gen-3
650 V	25 mΩ		IV2Q06025BD	IV3Q06025BD
	40 mΩ		IV2Q06040BD	
	60 mΩ		IV2Q06060BD	
750 V	9 mΩ			IV3Q07009BA5R
	11 mΩ			IV3Q07011BA3R
				IV3Q07011BD
1200 V	10 mΩ			IV3Q12010BA3R
	13 mΩ			IV3Q12013BA3R
				IV3Q12013BA/BD
	17 mΩ		IV2Q12017BA/BD	
	18 mΩ			IV3Q12018BD
	21 mΩ			IV3Q12021BD
	30 mΩ		IV2Q12030BD	
	35 mΩ			IV3Q12035BD
	40 mΩ		IV2Q12040BD	
	60 mΩ			IV3Q12060BD
	65 mΩ		IV2Q12065BD	
	75 mΩ			IV3Q12075BD
	80 mΩ		IV2Q12080BD	
	120 mΩ			IV3Q12120BD
	150 mΩ			IV3Q12150BD
	160 mΩ		IV2Q12160BD	
	750 mΩ	IV1Q12750BD		
1400 V	25 mΩ			IV3Q14025BD
	35 mΩ			IV3Q14035BD
1700 V	20 mΩ		IV2Q17020BD	
	40 mΩ		IV2Q17040BD	
	80 mΩ		IV2Q17080BD	
	1 Ω		IV2Q171R0BD	
	1.5 Ω		IV2Q171R5BD	
	7 Ω		IV2Q177R0BD	
	10 Ω		IV2Q171S0BD	
	50 Ω		IV2Q175S0BD	
2000 V	45 mΩ		IV2Q20045BD	
3300 V	50 mΩ			IV3Q33050BD
	50 Ω			IV3Q335S0BD

Notes: Green: Mass Production, Blue: Sample, No painting: Coming soon

1.2 SiC MOSFET Wafer

Part Numbers	V_{DS}	$R_{DS(ON)}$	I_D (T_C=25°C)	V_{TH} (T_J=25°C)	V_{TH} (T_J=175°C)	Q_G	Operating Temperature	Package		Status
IV2Q06025BD	650 V	25 mΩ	99 A	2.8 V	2.0 V	125.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q06025BD*	650 V	25 mΩ					-55° C to 175° C	Bare Die		Coming soon
IV2Q06040BD	650 V	40 mΩ	60 A	2.8 V	2.1 V	94.7 nC	-55° C to 175° C	Bare Die		On request
IV2Q06060BD	650 V	60 mΩ	43 A	2.8 V	2.0 V	64.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q07009BA5R*	750 V	9 mΩ	244 A	2.8 V	2.0 V	235.5 nC	-55° C to 175° C	Bare Die		On request
IV3Q07011BA3R*	750 V	11 mΩ	167A	2.6 V	1.86 V	183.7 nC	-55° C to 175° C	Bare Die		On request
IV3Q07011BD	750 V	11 mΩ	167 A	2.6 V	1.86 V	183.7 nC	-55° C to 175° C	Bare Die		On request
IV3Q12010BA3R*	1200 V	10 mΩ	212 A	2.8 V	2.0 V	259.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q12013BA3R	1200 V	13 mΩ	147 A	2.8 V	2.0 V	196.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q12013BA	1200 V	13 mΩ	147 A	2.8 V	2.0 V	187.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q12013BD	1200 V	13 mΩ	147 A	2.8 V	2.0 V	187.0 nC	-55° C to 175° C	Bare Die		On request
IV2Q12017BA	1200 V	17 mΩ	118 A	2.8 V	2.1 V	214.0 nC	-55° C to 175° C	Bare Die		On request
IV2Q12017BD	1200 V	17 mΩ	118 A	2.8 V	2.1 V	214.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q12018BD*	1200 V	18 mΩ					-55° C to 175° C	Bare Die		Coming soon
IV3Q12021BD*	1200 V	21 mΩ					-55° C to 175° C	Bare Die		Coming soon
IV2Q12030BD	1200 V	30 mΩ	84 A	2.8 V	2.0 V	135.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q12035BD	1200 V	35 mΩ	67 A	2.8 V	2.0 V	83.0 nC	-55° C to 175° C	Bare Die		On request
IV2Q12040BD	1200 V	40 mΩ	65 A	2.8 V	2.1 V	110.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q12060BD*	1200 V	60 mΩ	44.9 A	2.8 V	2.0 V	55.6 nC	-55° C to 175° C	Bare Die		Coming soon
IV2Q12065BD	1200 V	65 mΩ	48 A	2.9 V	2.0 V	75.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q12075BD*	1200 V	75 mΩ					-55° C to 175° C	Bare Die		Coming soon

Part Numbers	V_{DS}	$R_{DS(ON)}$	I_D (T_C=25°C)	V_{TH} (T_J=25°C)	V_{TH} (T_J=175°C)	Q_G	Operating Temperature	Package		Status
IV2Q12080BD	1200 V	80 mΩ	41 A	2.9 V	2.1 V	14.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q12120BD*	1200 V	120 mΩ					-55° C to 175° C	Bare Die		Coming soon
IV3Q12150BD*	1200 V	150 mΩ					-55° C to 175° C	Bare Die		Coming soon
IV2Q12160BD	1200 V	160 mΩ	19 A	2.8 V	2.1 V	29.0 nC	-55° C to 175° C	Bare Die		On request
IV1Q12750BD	1200 V	750 mΩ	6.8 A	4.3 V	3.3 V	15.8 nC	-55° C to 175° C	Bare Die		On request
IV3Q14025BD*	1400 V	25 mΩ	93 A	2.8 V	2.1 V		-55° C to 175° C	Bare Die		On request
IV3Q14035BD*	1400 V	35 mΩ					-55° C to 175° C			Coming soon
IV2Q17020BD	1700 V	20 mΩ	94 A	3.0 V	2.2 V	234 nC	-55° C to 175° C	Bare Die		On request
IV2Q17040BD	1700 V	40 mΩ	60.8 A	3.1 V	2.3 V	156.4 nC	-55° C to 175° C	Bare Die		On request
IV2Q17080BD	1700 V	80 mΩ	36.5 A	3.1 V	2.2 V	80.0 nC	-55° C to 175° C	Bare Die		On request
IV2Q171R0BD	1700 V	1 Ω	5.8 A	3.0 V	2.0 V	16.5 nC	-55° C to 175° C	Bare Die		On request
IV2Q171R5BD	1700 V	1.5 Ω					-55° C to 175° C	Bare Die		On request
IV2Q177R0BD	1700 V	7 Ω					-55° C to 175° C	Bare Die		On request
IV2Q171S0BD*	1700 V	10 Ω	1.3 A	4.5 V	3.0 V		-55° C to 175° C	Bare Die		On request
IV2Q175S0BD	1700 V	50 Ω	350 mA	4.5 V	3.1 V	9.8 nC	-55° C to 175° C	Bare Die		On request
IV2Q20045BD	2000 V	45 mΩ	65 A	3.5 V	2.5 V	185.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q33050BD*	3300 V	50 mΩ	61 A	3.0 V	2.3 V	218.0 nC	-55° C to 175° C	Bare Die		On request
IV3Q335S0BD*	3300 V	50 Ω					-55° C to 175° C	Bare Die		On request

SiC Schottky Diode Overview

V_{RRM}	I_F	DFN 8x8	TO220-2	TO247-2	TO247-3	TO252-2	TO252-3	TO263-2	SMBF
									
650 V	4 A	IV1D06004F5	IV1D06004O2				IV1D06004P3		
	6 A	IV1D06006F5	IV1D06006O2				IV1D06006P3		
	10 A		IV1D06010O2	IV1D06010T2					
	20 A			IV1D06020T2	IV1D06020U3/Z				
			IV3D06020O2Z	IV3D06020T2		IV3D06020P2Z			
	90 A			IV1D06090T2Z					
1200 V	1 A								IV2D12001FBZ
	2 A		IV2D12002O2			IV2D12002P2			
	5 A		IV1D12005O2						
	10 A		IV1D12010O2	IV1D12010T2		IV1D12010P2Z			
	15 A			IV1D12015T2					
				IV3D12015T2					
	20 A			IV1D12020T2	IV1D12020T3				
				IV2D12020T2				IV2D12020D2Z	
				IV3D12020T2					
	30 A			IV1D12030T2	IV1D12030U3				
				IV3D12030T2					
	40 A			IV1D12040T2	IV1D12040U3/Z				
				IV2D12040T2L					
	60 A			IV2D12060T2Z	IV3D12060U3				
2000 V	20 A			IV1D20020T2					
	40 A			IV1D20040T2					

Notes: Green: Mass Production, Blue: Sample, No painting: Coming soon, End in "Z" : Automotive-grade

2.1 SiC SBD discretes

Part Numbers	Qualification	V_{RRM}	I_F (150°C)	I_{FSM} (tp=10ms)	V_F (25°C)	V_F (175°C)	I_R (25°C)	I_R (175°C)	Q_C	Package		Status
IV1D06004F5	Industrial	650 V	4 A	32 A	1.45 V	1.85 V	1.0 μA	5.0 μA	7.7 nC	DFN8*8		Active
IV1D06004O2	Industrial	650 V	4 A	32 A	1.45 V	1.85 V	1.0 μA	5.0 μA	7.7 nC	TO220-2		Active
IV1D06004P3	Industrial	650 V	4 A	32 A	1.45 V	1.85 V	1.0 μA	5.0 μA	7.7 nC	TO252-3		Active
IV1D06006F5	Industrial	650 V	6 A	42 A	1.45 V	1.85 V	1.0 μA	5.0 μA	12.5 nC	DFN8*8		Active
IV1D06006O2	Industrial	650 V	6 A	42 A	1.45 V	1.85 V	1.0 μA	5.0 μA	12.5 nC	TO220-2		Active
IV1D06006P3	Industrial	650 V	6 A	42 A	1.45 V	1.85 V	1.0 μA	5.0 μA	12.5 nC	TO252-3		Active
IV1D06010O2	Industrial	650 V	10 A	60 A	1.42 V	1.82 V	1.0 μA	10.0 μA	25.5 nC	TO220-2		Active
IV1D06010T2	Industrial	650 V	10 A	60 A	1.42 V	1.82 V	1.0 μA	10.0 μA	25.5 nC	TO247-2		Active
IV1D06020T2	Industrial	650 V	20 A	120 A	1.45 V	1.85 V	5.0 μA	30.0 μA	47.9 nC	TO247-2		Active
IV1D06020U3	Industrial	650 V	20 A	120 A	1.42 V	1.82 V	2.0 μA	20.0 μA	51.0nC	TO247-3		Active
IV1D06020U3Z	Automotive	650 V	20 A	120 A	1.42 V	1.82 V	2.0 μA	20.0 μA	51.0 nC	TO247-3		Active
IV3D06020O2Z	Automotive	650 V	20 A	180 A	1.32 V	1.48 V	5.0 μA	50.0 μA	72.8 nC	TO220-2		Active
IV3D06020T2	Industrial	650 V	20 A	180 A	1.32 V	1.48 V	5.0 μA	50.0 μA	72.8 nC	TO247-2		Active
IV3D06020P2Z	Automotive	650 V	20 A	180 A	1.32 V	1.48 V	5.0 μA	50.0 μA	72.8 nC	TO252-2		Active
IV1D06090T2Z	Automotive	650 V	90 A	380 A	1.42 V	1.68 V	5.0 μA	200.0 μA	280.0 nC	TO247-2		Active
IV2D12001FBZ	Automotive	1200 V	1 A	10 A	1.45 V	2.15 V	5.0 μA	55.0 μA	5.1 nC	SMBF		Coming soon
IV2D12002O2	Industrial	1200 V	2 A	31 A	1.45 V	2.15 V	5.0 μA	50.0 μA	9.9 nC	TO220-2		Active
IV2D12002P2	Industrial	1200 V	2 A	31 A	1.45 V	2.15 V	5.0 μA	50.0 μA	9.9 nC	TO252-2		Active
IV1D12005O2	Industrial	1200 V	5 A	35 A	1.44 V	1.9 V	2.5 μA	10.0 μA	34.0 nC	TO220-2		Active
IV1D12010O2	Industrial	1200 V	10 A	72 A	1.48 V	2 V	1.0 μA	10.0 μA	62.0 nC	TO220-2		Active
IV1D12010T2	Industrial	1200 V	10 A	72 A	1.48 V	2 V	1.0 μA	10.0 μA	62.0 nC	TO247-2		Active

Part Numbers	Qualification	V_{RRM}	I_F (150°C)	I_{FSM} (tp=10ms)	V_F (25°C)	V_F (175°C)	I_R (25°C)	I_R (175°C)	Q_C	Package		Status
IV1D12010P2Z	Automotive	1200 V	10 A	72 A	1.48 V	2 V	1.0 μA	10.0 μA	62.0 nC	TO252-2		Active
IV1D12015T2	Industrial	1200 V	15 A	120 A	1.48 V	2.1 V	2.0 μA	10.0 μA	88.0 nC	TO247-2		Active
IV3D12015T2	Industrial	1200 V	15 A	155 A	1.35 V	1.83 V	8.0 μA	50.0 μA	94.0 nC	TO247-2		Active
IV1D12020T2	Industrial	1200 V	20 A	140 A	1.48 V	2.0 V	3.0 μA	10.0 μA	107.0 nC	TO247-2		Active
IV2D12020T2	Industrial	1200 V	20 A	155 A	1.48 V	2.1 V	2.0 μA	10.0 μA	94.0 nC	TO247-2		Active
IV3D12020T2	Industrial	1200 V	20 A	210 A	1.31 V	1.72 V	10.0μA	60.0 μA	153.0 nC	TO247-2		Active
IV1D12020T3	Industrial	1200 V	20 A	144 A	1.48 V	2.0 V	2.0 μA	20.0 μA	124.0 nC	TO247-3		Active
IV2D12020D2Z	Automotive	1200 V	20 A	155 A	1.48 V	2.2 V	2.0 μA	10.0 μA	94.0 nC	TO263-2		Active
IV1D12030T2	Industrial	1200 V	30 A	210 A	1.48 V	2.2 V	10.0 μA	60.0 μA	153.0 nC	TO247-2		Active
IV1D12030U3	Industrial	1200 V	30 A	240 A	1.48 V	2.0 V	4.0 μA	20.0 μA	177.0 nC	TO247-3		Active
IV3D12030T2	Industrial	1200 V	30 A	280 A	1.36 V	1.88 V	10.0 μA	60.0 μA	192.0 nC	TO247-2		Active
IV1D12040T2	Industrial	1200 V	40 A	280 A	1.48 V	2.3 V	10.0 μA	60.0 μA	192.0 nC	TO247-2		Active
IV2D12040T2L	Industrial	1200 V	40 A	320 A	1.42 V	1.86 V	5.0 μA	50.0 μA	260.0 nC	TO247-2		Active
IV1D12040U3	Industrial	1200 V	40 A	280 A	1.48 V	2.1 V	20.0 μA	90.0 μA	214.0 nC	TO247-3		Active
IV1D12040U3Z	Automotive	1200 V	40 A	280 A	1.48 V	2.1 V	20.0 μA	90.0 μA	214.0 nC	TO247-3		Active
IV2D12060T2Z	Industrial	1200 V	60 A	300 A	1.48 V	2.05 V	10.0 μA	120.0 μA	334.0 nC	TO247-2		Active
IV3D12060U3	Industrial	1200 V	60 A	560 A	1.36 V	1.88 V	20.0 μA	120.0 μA	384.0 nC	TO247-3		Active
IV1D20020T2	Industrial	2000 V	20 A	200 A	1.55 V	2.5 V	5.0 μA	50.0 μA	196.0 nC	TO247-2		Active
IV1D20040T2*	Industrial	2000 V	40 A	360 A	1.53 V	2.59 V	1.0 μA	50.0 μA	385.0 nC	TO247-2		Sample

SiC SBD wafer Overview

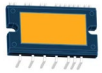
SiC Schottky Diode chip			
V_{DS}	I_F	Gen-1	Gen-2
650 V	4 A	IV1D06004BD	
	6 A	IV1D06006BD	
	10 A	IV1D06010BD	
	20 A	IV1D06020BD	
	30 A	IV1D06030BD	
	90 A	IV1D06090BA/BD	
1200 V	2 A		IV2D12002BD
	5 A	IV1D12005BD	
	10 A	IV1D12010BD	
	15 A	IV1D12015BD	
	20 A	IV1D12020BD	IV2D12020BD
	30 A	IV1D12030BD	
	40 A	IV1D12040BD	IV2D12040BDL
	60 A		IV2D12060BD/BA
2000 V	20 A	IV1D20020BD	
	40 A	IV1D20040BD	

Notes: Green: Mass Production, Blue: Sample, No painting : Coming soon

2.2 SiC SBD Wafer

Part Numbers	V_{RRM}	I_F (150°C)	I_{FSM} (tp=10ms)	V_F (25°C)	V_F (175°C)	I_R (25°C)	I_R (175°C)	Q_C	Package		Status
IV1D06004BD	650 V	4 A	32 A	1.45 V	1.85 V	1.0 μA	5.0 μA	7.7 nC	Bare Die		On request
IV1D06006BD	650 V	6 A	42 A	1.45 V	1.85 V	1.0 μA	5.0 μA	12.5 nC	Bare Die		On request
IV1D06010BD	650 V	10 A	60 A	1.42 V	1.82 V	1.0 μA	10.0 μA	25.5 nC	Bare Die		On request
IV1D06020BD	650 V	20 A	120 A	1.45 V	1.85 V	5.0 μA	30.0 μA	47.9 nC	Bare Die		On request
IV1D06030BD*	650 V	30 A	180 A	1.48 V	1.8 V	5.0 μA	50.0 μA	72.8 nC	Bare Die		On request
IV1D06090BA	650 V	90 A	380 A	1.42 V	1.68 V	5.0 μA	200.0 μA	280.0 nC	Bare Die		On request
IV1D06090BD	650 V	90 A	380 A	1.42 V	1.68 V	5.0 μA	200.0 μA	280.0 nC	Bare Die		On request
IV2D12002BD	1200 V	2 A	31 A	1.45 V	2.15 V	5.0 μA	50.0 μA	9.9 nC	Bare Die		On request
IV1D12005BD	1200 V	5 A	35 A	1.44 V	1.9 V	2.5 μA	10.0 μA	34.0 nC	Bare Die		On request
IV1D12010BD	1200 V	10 A	72 A	1.48 V	2.0 V	1.0 μA	10.0 μA	62.0 nC	Bare Die		On request
IV1D12015BD	1200 V	15 A	120 A	1.48 V	2.1 V	2.0 μA	10.0 μA	88.0 nC	Bare Die		On request
IV1D12020BD	1200 V	20 A	140 A	1.48 V	2.0 V	3.0 μA	10.0 μA	107.0 nC	Bare Die		On request
IV2D12020BD	1200 V	20 A	155 A	1.48 V	2.1 V	2.0 μA	10.0 μA	94.0 nC	Bare Die		On request
IV1D12030BD	1200 V	30 A	210 A	1.48 V	2.2 V	10.0 μA	60.0 μA	153.0 nC	Bare Die		On request
IV1D12040BD	1200 V	40 A	280 A	1.48 V	2.3 V	10.0 μA	60.0 μA	192.0 nC	Bare Die		On request
IV2D12040BDL	1200 V	40 A	280 A	1.48 V	2.3 V	10.0 μA	60.0 μA	192.0 nC	Bare Die		On request
IV2D12060BD	1200 V	60 A	300 A	1.48 V	2.05 V	10.0 μA	120.0 μA	334.0 nC	Bare Die		On request
IV2D12060BA	1200 V	60 A	300 A	1.48 V	2.05 V	10.0 μA	120.0 μA	334.0 nC	Bare Die		On request
IV1D20020BD	2000 V	20 A	200 A	1.55 V	2.5 V	5.0 μA	50.0 μA	196.0 nC	Bare Die		On request
IV1D20040BD*	2000 V	40 A	360 A	1.53 V	2.59 V	1.0 μA			Bare Die		On request

SiC Power Modules Overview

Voltage	Configuration	$R_{DS(ON)}$ or I_F	1B	3B	SOT-227	SMPD	Transfer-mold	HPD	mini HPD
									
750 V	3-Phase Bridge	1.5 mΩ						IVHD071M5TB3Z	
1200 V		1.4 mΩ						IVHD121M4TA3Z	
		2.2 mΩ						IVHD122M2TA3Z	
		2.5 mΩ							IVHD122M5TM3Z
		3.3 mΩ							IVHD123M3TM3Z
	Single Die	17 mΩ			IVST12017SA1L				
	AP SiC Diode	13 mΩ+40A			IVST12013MA3L				
		17 mΩ+40A			IVST12017MA1L				
		50 mΩ+20A			IVST12050MA1L				
	Half Bridge	9 mΩ	IV1B12009HA2L						
650 V	Half Bridge	25 mΩ				IVSM06025HA2Z			
						IVSM06025HA3Z			
1200 V		35 mΩ				IVSM12035HA3Z			
		75 mΩ				IVSM12075HA3Z			
	3-Phase Bridge	80 mΩ					IVTM12080TA1Z		
	Dual die	2x20 A			IVST12040DA1L				
		2x40 A			IVST12080DA1L				
		2x60 A			IVST12120DA1L				
		2x80 A			IVST12160DA1L				
2000 V	4-Phase boosts	23 mΩ		IV3B20023BA2					

Notes: Green: Active for mass production; Yellow: Mass production on demand; Blue: Sample is available; No painting : Sample is Coming soon

3. SiC Power Modules

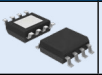
Part Numbers	Qualification	voltage	$R_{DS(ON)}$ or I_F	Current	V_{TH} (25°C)	Configuration	Operating Temperature	Package		Status
IV1B12009HA2L	Industrial	1200 V	9 mΩ	100 A,T_C=117°C	2.8 V	Half bridge	-40° C to 150° C	1B		On request
IV3B20023BA2	Industrial	2000 V	23 mΩ	50 A,T_C=132°C	3.5 V	4 boosts	-40° C to 150° C	3B		On request
IVST12017SA1L	Industrial	1200 V	17 mΩ	85 A,T_C==100°C	3.2 V	single die	-55° C to 175° C	SOT-227		Active
IVST12040DA1L	Industrial	1200 V	2x20 A	20 A,T_C=142° C	NA	2x SiC Diode	-55° C to 175° C	SOT-227		Active
IVST12080DA1L	Industrial	1200 V	2x40 A	40 A,T_C=136° C	NA	2x SiC Diode	-55° C to 175° C	SOT-227		On request
IVST12120DA1L	Industrial	1200 V	2x60 A	60 A,T_C=98°C	NA	2x SiC Diode	-55° C to 175° C	SOT-227		On request
IVST12160DA1L	Industrial	1200 V	2x80 A	80 A, T_C=95°C	NA	2x SiC Diode	-55° C to 175° C	SOT-227		On request
IVST12013MA3L	Industrial	1200 V	13 mΩ	91 A,T_C=100°C	2.8 V	SiC MOSFET+ 40 A SiC Diode	-55° C to 175° C	SOT-227		Active
IVST12017MA1L	Industrial	1200 V	17 mΩ	85 A,T_C=100°C	3.2 V	SiC MOSFET+ 40 A SiC Diode	-55° C to 175° C	SOT-227		On request
IVST12050MA1L	Industrial	1200 V	50 mΩ	35 A,T_C=100°C	3.2 V	SiC MOSFET+ 20 A SiC Diode	-55° C to 175° C	SOT-227		Active
IVSM06025HA2Z	Automotive	650 V	25 mΩ	72 A,T_C=100°C	2.8 V	Half bridge	-55° C to 175° C	SMPD		Active
IVSM06025HA3Z*	Automotive	650 V	25 mΩ			Half bridge	-55° C to 175° C	SMPD		Coming soon
IVSM12035HA3Z*	Automotive	1200 V	35 mΩ	43 A,T_C=100°C	2.8 V	Half bridge	-55° C to 175° C	SMPD		Sample
IVSM12075HA3Z*	Automotive	1200 V	75 mΩ	23 A,T_C=100°C	2.8 V	Half bridge	-55° C to 175° C	SMPD		Sample
IVTM12080TA1Z	Automotive	1200 V	80 mΩ	31 A,T_C=100°C	3.6 V	3-phase bridge Open source	-55° C to 175° C	Transfer-mold		On request
IVHD071M5TB3Z	Automotive	750 V	1.73 mΩ	660 A,T_F=60°C	2.8 V	3-phase bridge	-55° C to 175° C	HPD		Active
IVHD121M4TA3Z	Automotive	1200 V	1.66 mΩ	759 A,T_F=60°C	2.8 V	3-phase bridge	-55° C to 175° C	HPD		Active
IVHD122M2TA3Z*	Automotive	1200 V	2.45 mΩ	522 A,T_F=60°C	2.8 V	3-phase bridge	-55° C to 175° C	HPD		Sample
IVHD122M5TM3Z*	Automotive	1200 V	3.04 mΩ	400 A,T_F=60°C	2.65 V	3-phase bridge	-55° C to 175° C	mini HPD		Sample
IVHD123M3TM3Z*	Automotive	1200 V	3.7 mΩ	300 A,T_F=60°C	2.7 V	3-phase bridge	-55° C to 175° C	mini HPD		Sample

Notes:
Sample:Engineering samples available.
On demand: Reliability verification passed; Produce in mass quantity on demand.
Active: Reliability verification passed, available for bulk supply.

4. Gate-driver ICs

Dedicated-SiC Gate-driver: Nextdrive ™

Nextdrive ™ is the trademark for the compact, high-speed, smart SiC MOSFET gate-driver ICs in the industry, and the Nextdrive IC can be also used to drive IGBT, Si MOSFET and GaN devices.

Part Numbers	Qualification	Isolation*	Description	Power Switch	Channels	V_{CC}	I_{OUT} Source /Sink	Delay	Package		Status
IVCR1401DPR	Industrial	Non-isolated	Integrated negative voltage driving, short-circuit protection, fault reporting, adjustable UVLO	SiC /IGBT	1	35 V	4/4 A	45 ns	SOIC-8 (EP)		Active
IVCR1402DPQR	Automotive	Non-isolated	Integrated negative voltage driving, short-circuit protection, fault reporting, fixed UVLO	SiC /IGBT	1	35 V	4/4 A	45 ns	SOIC-8 (EP)		Active
IVCR1412SR	Industrial	Non-isolated	Integrated negative voltage and Miller effect suppression	SiC /IGBT/ Si/GaN	1	30 V	2/4 A	15 nS	SOT-23-6		Active
IVCO1411FDWQR	Automotive	Isolated 5.7 kVrms	Short-circuit protection, 13.5 V UVLO	SiC /Si/IGBT	1	32 V	4/4 A	50 nS	SOIC(W)-8		Not for new design
IVCO1412FDWQR	Automotive	Isolated 5.7 kVrms	Integrated negative voltage driving	SiC /Si/IGBT	1	32 V	4/4 A	50 nS	SOIC(W)-8		Not for new design
IVCO1411JDWQR	Automotive	Isolated 5.7 kVrms	Short-circuit protection, 13.5 V UVLO	SiC /Si/IGBT	1	32 V	4/4 A	50 nS	SOIC(W)-8		Active
IVCO1412JDWQR	Automotive	Isolated 5.7 kVrms	Integrated negative voltage driving	SiC /Si/IGBT	1	32 V	4/4 A	50 nS	SOIC(W)-8		Active
IVCO1411ADQR	Automotive	Isolated 3.75 kVrms	Short-circuit protection, 13.5 V UVLO	SiC /Si/IGBT	1	32 V	4/4 A	50 nS	SOIC-8		Not for new design
IVCO1412ADQR	Automotive	Isolated 3.75 kVrms	Integrated negative voltage driving	SiC /Si/IGBT	1	32 V	4/4 A	50 nS	SOIC-8		Not for new design
IVCO1411LDQR	Automotive	Isolated 3.75 kVrms	Short-circuit protection, 13.5 V UVLO	SiC /Si/IGBT	1	32 V	4/4 A	50 nS	SOIC-8		Active
IVCO1412LDQR	Automotive	Isolated 3.75 kVrms	Integrated negative voltage driving	SiC /Si/IGBT	1	32 V	4/4 A	50 nS	SOIC-8		Active
IVCO1411HDWQR	Automotive	Isolated 5.7 kVrms	Short-circuit protection, 16.7 V UVLO	SiC /Si/IGBT	1	32 V	4/4 A	50 nS	SOIC(W)-8		Active
IVCO1411CDQR*	Automotive	Isolated 3.75 kVrms	Short-circuit protection, 16.7 V UVLO	SiC /Si/IGBT	1	32 V	4/4 A	50 nS	SOIC-8		Sample

General Gate-driver

Part Numbers	Qualification	Isolation*	Description	Power Switch	Channels	V_{CC}	I_{OUT} Source /Sink	Delay	Package		Status
IVCR2504DR	Industrial	Non-isolated	Non-inverting outputs, default output low, 5 A peak current	MOSFET/ IGBT	Dual-channel	4.5 V~24 V	4/4 A	16 nS	SOIC-8		Active
IVCR2402DR	Industrial	Non-isolated	Inverting outputs, default outputs high, usable for PMOS driving, 4 A peak current	MOSFET/ IGBT	Dual-channel	5.5 V~24 V	4/4 A	16 nS	SOIC-8		Active
IVCR2403DR	Industrial	Non-isolated	Inverting outputs, default outputs low, 4 A peak current	MOSFET/ IGBT	Dual-channel	4.5 V~24 V	4/4 A	16 nS	SOIC-8		Active
IVCR2404DR	Industrial	Non-isolated	Inverting outputs, default outputs low, 4 A peak current	MOSFET/ IGBT	Dual-channel	4.5 V~24 V	4/4 A	16 nS	SOIC-8		Active
IVCR2404MPR	Industrial	Non-isolated	Non-inverting outputs, default output low, 4 A peak current	MOSFET/ IGBT	Dual-channel	4.5 V~24 V	4/4 A	16 nS	MSOP-8 (EP)		Active
IVCR2404MPQR	Automotive	Non-isolated	Non-inverting outputs, default output low, 4 A peak current	MOSFET/ IGBT	Dual-channel	4.5 V~24 V	4/4 A	16 nS	MSOP-8 (EP)		Active

Part Numbers	Qualification	Isolation*	Description	Power Switch	Channels	V_{CC}	I_{OUT} Source /Sink	Delay	Package		Status
IVCR2405DR	Industrial	Non-isolated	Inverting and non-inverting outputs, independent enables, default outputs low, 4 A peak current	MOSFET/ IGBT	Dual-channel	4.5 V~24 V	4/4 A	16 nS	SOIC-8		Active
IVCR1407ASR	Industrial	Non-isolated	Dual inputs (inverting and non-inverting), default output low, 4 A peak current	Si/IGBT/GaN	Single channel	4.5 V~24 V	4/4 A	12 nS	SOT-23-5		Active
IVCR1801ASR	Industrial	Non-isolated	Dual inputs (inverting and non-inverting), split outputs, 4 A/8 A peak current	Si/IGBT/GaN	Single channel	4.5 V~24 V	4/8 A	16 nS	SOT-23-6		Active
IVCO1A01DR	Industrial	Isolated 3.75kVrms	Dual inputs (inverting and non-inverting), Split outputs, 8.4 V UVLO	SiC /Si/IGBT	Single channel	9.5 V~33 V	8.5 A/10 A	50 nS	SOIC-8		Active
IVCO1A01DQR	Automotive	Isolated 3.75kVrms	Dual inputs (inverting and non-inverting), Split outputs, 8.4 V UVLO	SiC /Si/IGBT	Single channel	9.5 V~33 V	8.5 A/10 A	50 nS	SOIC-8		Active
IVCO1A02DR	Industrial	Isolated 3.75kVrms	Dual inputs (inverting and non-inverting), Miller Clamp, 12 V UVLO	SiC /Si/IGBT	Single channel	9.5 V~33 V	8.5 A/10 A	50 nS	SOIC-8		Active
IVCO1A02DQR	Automotive	Isolated 3.75kVrms	Dual inputs (inverting and non-inverting), Miller Clamp, 12 V UVLO	SiC /Si/IGBT	Single channel	9.5 V~33 V	8.5 A/10 A	50 nS	SOIC-8		Active
IVCO1A01DWR	Industrial	Isolated 5kVrms	Dual inputs (inverting and non-inverting), Split outputs, 8.4 V UVLO	SiC /Si/IGBT	Single channel	9.5 V~33 V	8.5 A/10 A	50 nS	SOIC(W)-8		Active
IVCO1A01DWQR	Automotive	Isolated 5kVrms	Dual inputs (inverting and non-inverting), Split outputs, 8.4 V UVLO	SiC /Si/IGBT	Single channel	9.5 V~33 V	8.5 A/10 A	50 nS	SOIC(W)-8		Active
IVCO1A02DWR	Industrial	Isolated 5kVrms	Dual inputs (inverting and non-inverting), Miller Clamp, 12 V UVLO	SiC /Si/IGBT	Single channel	9.5 V~33 V	8.5 A/10 A	50 nS	SOIC(W)-8		Active
IVCO1A02DWQR	Automotive	Isolated 5kVrms	Dual inputs (inverting and non-inverting), Miller Clamp, 12V UVLO	SiC /Si/IGBT	Single channel	9.5V~33V	8.5 A/10 A	50 nS	SOIC(W)-8		Active

Note:* according to IEC 60747-17 (VDE 0884-17): 2021-102

5. Controller ICs

Part Numbers	Qualification	Description	Topology	Package		Status
IVCC1104DR	Industrial	A high-speed, precise and compact totem-pole PFC controller chip in Continuous conduction mode (CCM).	Totem-pole PFC	SOIC-16		Active
IVCC1104F4AR	Industrial	A high-speed, precise and compact totem-pole PFC controller chip in Continuous conduction mode (CCM).	Totem-pole PFC	QFN-20 (4x4)		Active
IVCC2101TPQR*	Automotive	HV wide-range power supply, integrated gate driver, adaptation to SiC/Si MOSFETs, low-power design, integrated 8-fold protection.	Boost, SEPIC, Flyback	TSSOP-14		Sample
IVCC2103TPQR*	Automotive	HV wide-range power supply, integrated gate driver, integrated HV start-up control, support for fast start-up, low-power design, integrated 8-fold protection.	Flyback	TSSOP-14		Sample

Science and Technology Award of CPSS
Outstanding Product Innovation Award
for IVCC110X

High light:

- Compact package(16pin), fast and precise analog control.
- No need for programming, enables rapid development and application.
- Anti-current backflow, Smooth zero-crossing current waveform control.
- Low THD
- Fast voltage loop control, Lightning protection.

Packaging Specifications and MOQ

1. Discrete

Packaging	Package	Minimum Packaging Qty	Inner Box Quantity	Outer Box Quantity
Tube	TO247-2	30	450	1800
	TO247-3	30	450	1800
	TO247-4	30	450	1800
	TO220-2	50	1000	6000
	TO220-3	50	1000	6000
Reel	TO263	800	800	4000
	TOLL	2000	2000	10000
	TO252	2500	2500	12500 or 25000
	SOT223	4000	4000	40000
	DFN8*8	3000	3000	21000
	TC3PAK	500	500	2500
	X2Pak	800	800	2400
	QDPak	800	800	2400

Suggested Minimum Order Quantity:
For orders within China mainland, at least one inner box is required.
For orders outside China mainland, at least one outer box is required.

2. IC

Packaging	Package	Minimum Order Quantity (MOQ)
Tape & Reel	SOIC-8	4000
	SOIC-16	2500
	SOT23-6/5	3000
	QFN-20	5000
	SOIC-8 W	1000
	MSOP-8(EP)	4000
	Exceptional PN:	Minimum Order Quantity (MOQ)
	IVCO1411ADQR	3000
	IVCO1412ADQR	3000
	IVCO1411CDQR	3000

Reliability test standards

The following tests are included in the standard testing program of Inventchip.
Additional test can be added on demand.

IC Test Specification

NO.	Testing Item	Reference Standard	Testing Conditions	Failure/Total Quantity Of Samples
1	precon	JESD22-A113H	Per appropriate MSL. level per J-STD.020	0/77*3 Lot
2	bHAST	JESD22-A110D	130℃ /85%RH (96 hrs);	0/77*3 Lot
3	TC	JESD22-A104A	-65℃ /150℃ (500 cycles);	0/77*3 Lot
4	HTOL	JESD22-A108	125℃ (1000 hrs)	0/77*3 Lot
5	HTSL	JESD22-A103	150℃^{A} (1000 hrs);	0/45*3 Lot
6	ESD HBM	JS-001	T^{A}= 25℃	1 Lot
7	ESD CDM	JS-002	T^{A}= 25℃	1 Lot
8	Latchup	JESD-78	Class I,II	0/3*1 Lot

SiC SBD Test Specification

NO.	Testing Item	Reference Standard	Testing Conditions	Failure/Total Quantity Of Samples
1	uHAST	JESD22-A118	130℃, 85%RH , 96hrs	0/77*3 Lot
2	TCT	JESD22-A104	1000cycles, -55℃ ~150℃	0/77*3 Lot
3	IOL	MIL-STD-750 Method 1037	15000cycles, 2min on/2min off, deltaTj ≥ 100℃ ,1000hrs	0/77*3 Lot
4	HTRB	JESD22-A108D	100% V_{DMax} , 175℃ ,1000hrs	0/77*3 Lot
5	HV-H3TRB	/	80% V_{DMax} , 85℃, 85%RH , 1000hrs	0/77*3 Lot

SiC MOSFET Test Specification

NO.	Testing Item	Reference Standard	Testing Conditions	Failure/Total Quantity Of Samples
1	HTRB	JESD22-A108D	175℃ ; VS= VG= 0V; 100% V_{DMax} , 1000hrs	0/77*3 Lot
2	H3TRB	JESD22-A101-D	85℃ 85%RH; VG= VS= 0V; 80% V_{DMax} ,1000hrs	0/77*3 Lot
3	HTGB (+)	JESD22-A108D	175℃ ; VS= VD= 0V; +V_{GSMax} , 1000hrs	0/77*3 Lot
4	HTGB (-)	JESD22-A108D	175℃ ; VS= VD= 0V; -V_{GSMax} , 1000hrs	0/77*3 Lot
5	IOL	MIL-STD-750 Method 1037	10000cycles , 3min on/3min off, deltaTj>100℃ , 1000hrs	0/77*3 Lot
6	TCT	JESD22-A104-D	1000cycles,-55℃ ~150℃	0/77*3 Lot
7	uHAST	JESD22 A-118	130℃, 85%RH, 96hrs	0/77*3 Lot

Reference designs and Evaluation boards

NO.	Reference design	Power devices	Driver and Controller ICs
1	20kW 3-phase PFC	IV3Q12035T4Z:1200 V 35 mΩ SiC MOSFET, TO247-4	IVCR1401DPR: low-side driver IC with Negative bias IVCO1412FDWQR: High-side driver, 5.7 kVrms isolated, Bootstrap with Negative bias
2	11kW 3-phase Motor drive	IVTM12080TA1Z: 1200 V 80 mΩ 3-phase SiC transfer-mold module	IVCR1401DPR: low-side driver IC with Negative bias IVCO1412FDWQR: High-side driver, 5.7 kVrms isolated, Bootstrap with Negative bias
3	2.5kW Totem Pole PFC	IV1Q06060T4: 650 V 60 mΩ SiC MOSFET, TO247-4	IVCR1401DPR: low-side driver IC IVCO1A01DWR: 3.75 kVrms isolated, split-output, UVLO
4	200w Flyback Bias	IV2Q171R0D7Z: 1700 V 1 Ω SiC MOSFET	IVCR1801ASR:split-output, 4 A/ 8A peak current
5	35W Flyback Bias	IV2Q171S0S1: 1700 V 10 Ω SiC MOSFET	IVCR1801ASR:split-output, 4 A/8 A peak current
6	Solid Pre-charge	IV1Q12160D7Z: 1200 V 160 mΩ SiC MOSFET, TO263-7 IV1D12010P2Z: 1200 V 10 A SiC SBD, TO252-2	IVCR1407ASR:Dual inputs (inverting and non-inverting), 4 A/4 A peak current

NO.	Evaluation board	Discription
1	IVCR1401DPEVMR1	IVCR1401 Evaluation board
2	IVCR1402DPQREVMR1	IVCR1402 Evaluation board
3	IVCR2404DEVMR1	IVCR2404 Evaluation board
4	IVCO1A01EVMR2	IVCO1A01(Narrow body)Evaluation board
5	IVCO1A02EVMR2	IVCO1A02(Narrow body)Evaluation board
6	IVCO1A012EVMR1-IVCO1A01	IVCO1A01(Wide body)Double pulse test board
7	IVCO1A012EVMR1-IVCO1A02	IVCO1A02(Wide body)Double pulse test board
8	IVCO1411EVMR1	IVCO1411(Wide body)Double pulse test board
9	IVCO1412EVMR1	IVCO1412(Wide body)Double pulse test board
10	IVCO1411EVMR2	IVCO1411(Narrow body)Evaluation Module
11	IVCO1412EVMR2	IVCO1412(Narrow body)Evaluation Module
12	IVCT-TST00115	IVCO1412+IVCR1401 Double pulse test board

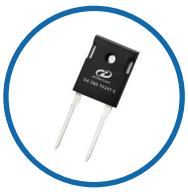
For more information,
You can log in the official website of www.inventchip.com.cn to download, or consult sales.

If you need more technical informations,just click the buttoms:

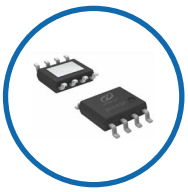
Application Note | Evalution board | Reference design | Q&A

If you need product datasheet or buy sample,just click the following buttoms:


SiC MOSFETs


SiC Schotty Diodes


SiC Modules


Gate-driver ICs


Power Controller ICs

Contacts

Headquarter in Shanghai

Tel：+86-21-60870171 Fax：+86-21-60870172

Address：Building 3-8F, No. 99, Ocean No. 4 Road, Nanhui New City Town, Pudong New District, Shanghai , China

Email：Sales@inventchip.com.cn

Web：http://www.inventchip.com.cn

SiC wafer Fab

Address： No.599 Haopai Road, Suxi Town ,Yiwu,Zhejiang, China.

Shenzhen Branch

Address： 702 Taibang Building ,No.16 Gaoxin South 6th Nanshan District, Shenzhen, China

Beijing Branch

Address： Room C1421, 4th Floor, Building 21, No. 2 Wanhong West Street, Chaoyang District, Beijing

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