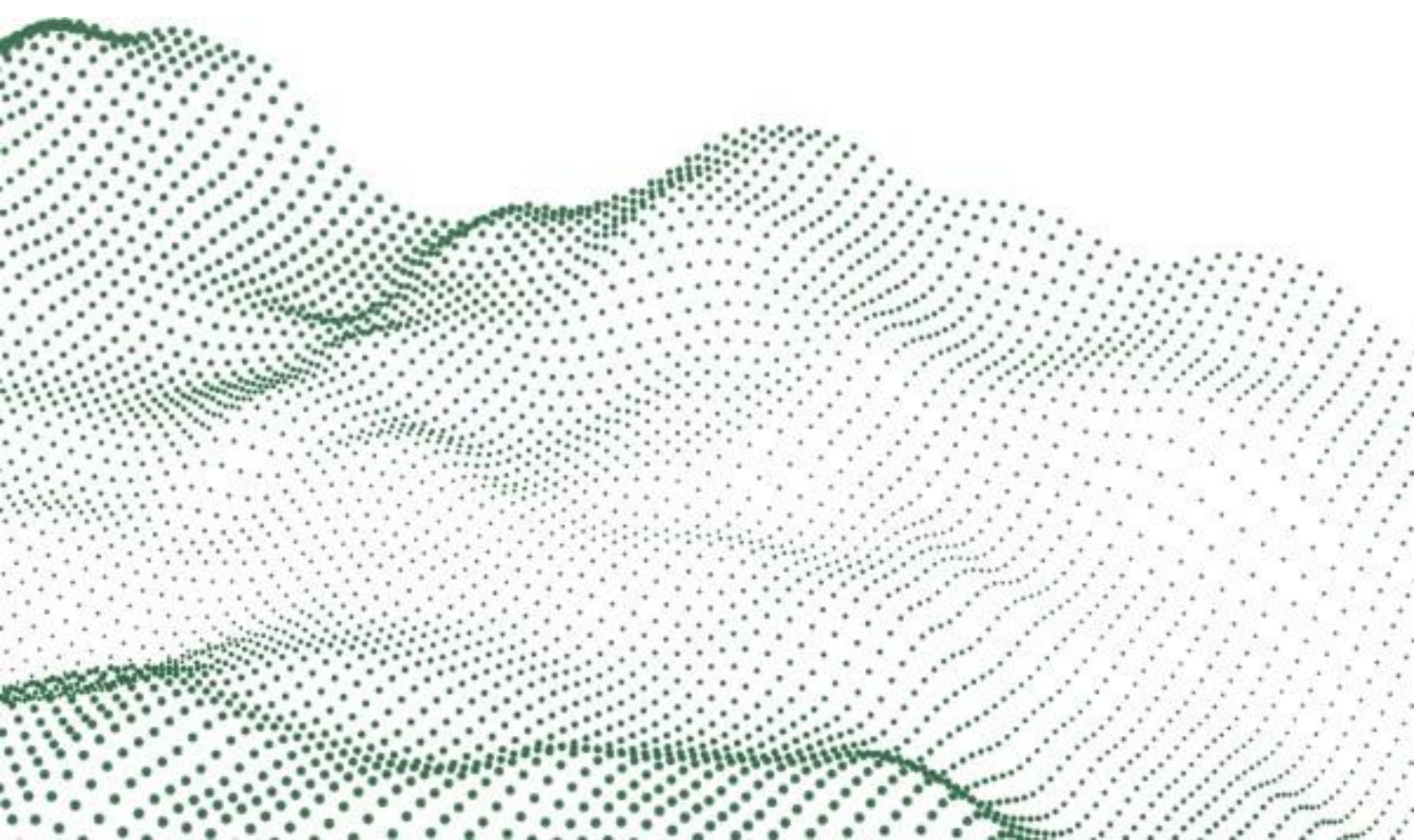




Products Introduction And Selection Guide

-Mar 2025-



About us

Bruckewell Technology Co., LTD is a discrete semiconductor design company that have the able to offer KGD wafer-level products to provide silicon and wide bandgap (WBG) power semiconductor devices.

We pride ourselves in our expertise in all areas of power semiconductor technology and business operations, our technical team that from Vishay & Infineon contributes over 25 years expertise in power semiconductor.

Through innovation technical excellence and continuous improvement.



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Isolated Dual-Channel Gate Driver-IGD8233 series

P2P compatibility with **Skyworks SI8233** and **Novosense NSI6602** makes the IGD8233 Series a top choice for replacing scarce materials, especially amidst the surge of cutting-edge technologies in power supplies, motors, and air conditioning drivers.

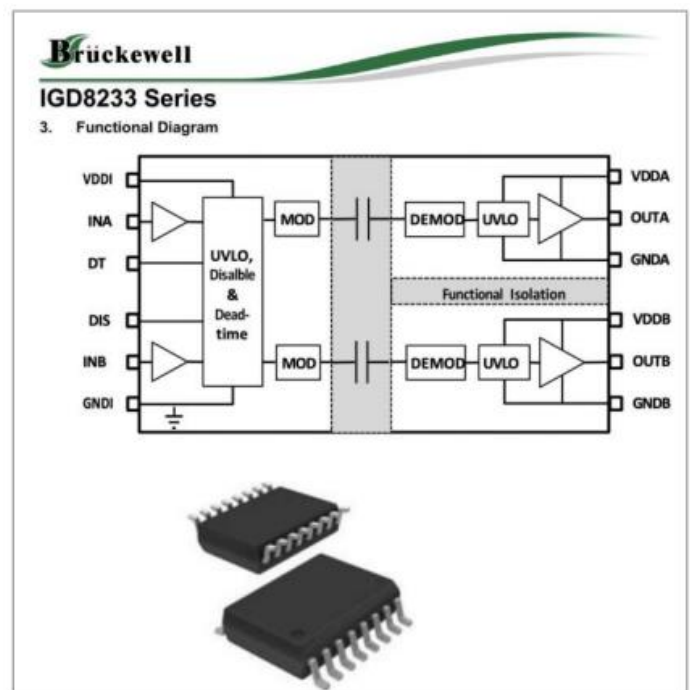
Designed to optimize Brückewell MOSFETs and IGBTs

Industrial Applications:

- Power Delivery Systems
- Motor Control Systems
- Isolated DC-DC Power Supplies
- Lighting Control Systems
- Plasma Displays
- Solar and Industrial Inverters

Automotive Applications:

- On-board Chargers
- Battery Management Systems
- Charging Stations
- Traction Inverters
- Hybrid Electric Vehicles
- Battery Electric Vehicles



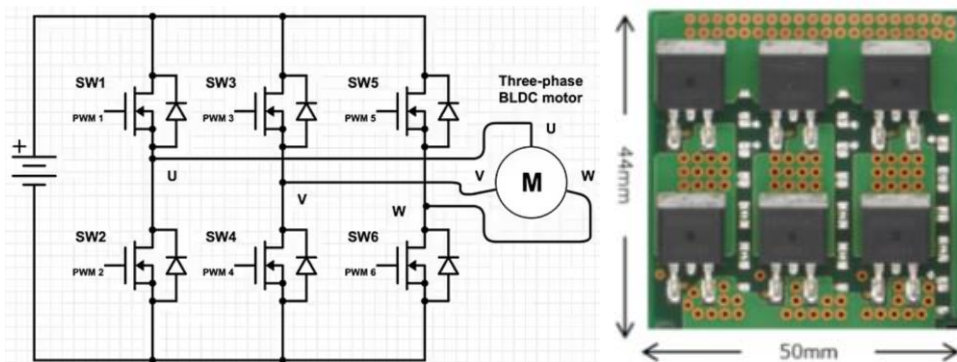
Part Number	Peak Current	UVLO	DT	DIS	Package
IGD8233AW	+4.0A/-6.0A	6.5V/6.85V	Y	Y	SOW16
IGD 8233BW	+4.0A/-6.0A	8.5V/8.0V	Y	Y	SOW16
IGD 8233CW	+4.0A/-6.0A	13.2V/12.2V	Y	Y	SOW16
IGD 8233AS	+4.0A/-6.0A	6.5V/6.85V	Y	Y	SOP16
IGD 8233BS	+4.0A/-6.0A	8.5V/8.0V	Y	Y	SOP16
IGD 8233CS	+4.0A/-6.0A	13.2V/12.2V	Y	Y	SOP16



DFN14X12 for the three-phase BLDC motor application

Three-phase BLDC motor is typically powered by three pairs of MOSFETs arranged in a bridge structure and controlled by PWM. PWM offers precise control over the motor's speed and torque. The 40V MOSFETs inverter power module is available, will extend to 60~100V MOSFETs, and SiC MOS for the high frequency applications.

The major space of PCB is from the six MOSFET.



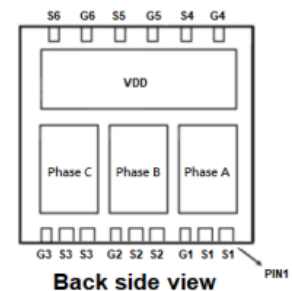
Bruckewell Proposal

The MSIE40N150-6/MSIE40N90-6 used the six MOS in one package to **save 90% area**, improve the EMI and high reliability.

This innovative power module is suitable for 12V motor control, electric assisted steering, etc., and can enhance the operation of three-phase BLDC motor.

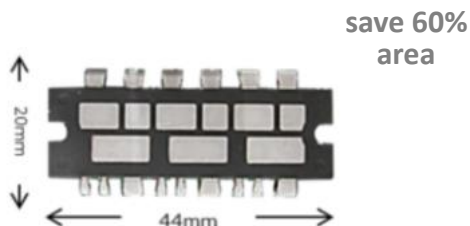


14mmX12mm

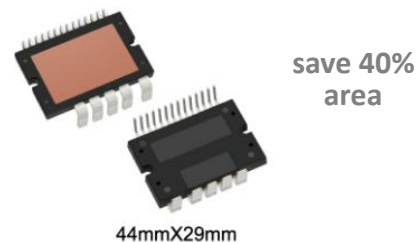


Competitors

MG031E120004A



NXV04V120DB1



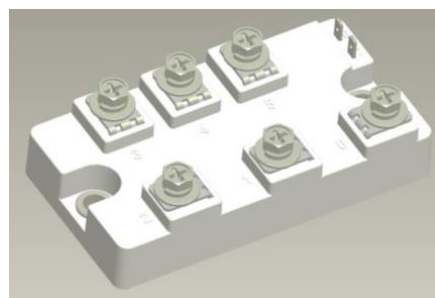
Three Phase Bridge+Thyristor

PXST75 Series

P2P compatibility with **WLMD75A**.

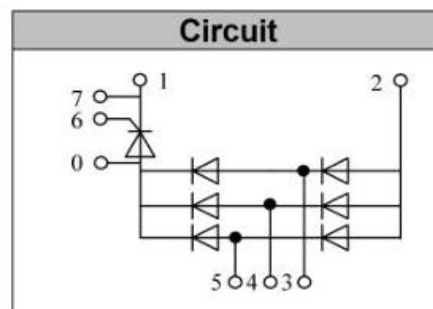
Features

- Blocking voltage : 1200 to 1800V
- Heat transfer through aluminum oxide DBC, Ceramic isolated metal baseplate
- Thick copper baseplate
- 2500 VRMS isolating voltage



Typical Applications

- Power Converters
- Inverter for AC or DC motor control
- Switching power supply
- Current stabilized power supply



Module Type		
Type	V_{DRM}	V_{RSM}
PXST75-12	1200V	1300V
PXST75-16	1600V	1700V
PXST75-18	1800V	1900V

High Power Density MOSFET Sub-Assembly Structure



Al Wire Bonding



Cu Wire Bonding



Al Ribbon(S), Wire(G)



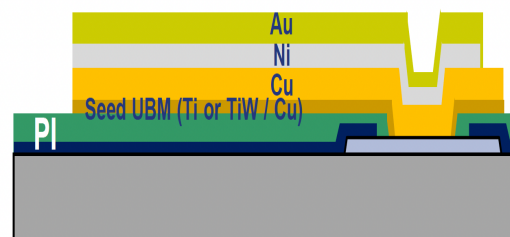
Cu Clip(S), Wire(G)



Cu Clip with Au Bump(S), Wire(G)



Wafer top metal structure, Au Bump



MOSFET Products selection guide

Shield Gate MOSFET

Part Nomenclature –Shield Gate MOSFET

Example: MSHP40N065DAU

MS	MOSFET
	Package Code Blank: SOT-23 T: SOT-26 L: SOT-223 Q: SOP-8 HS: DFN2x2 HM: DFN3.3x3.3 H: DFN5x6 HP: SO-8PP(5X6) HN: TDFN5x6 HL: DFN8x8 O: TOLL D: TO-252 U: TO-251 P: TO-220 F: TO-220F B: TO-263 W: TO-247-3L
40	Breakdown Voltage, as 40=40V
N	Polarity Code N: N Channel P: P Channel C: Complementary (N+P)
065	RDS(on), as 065=6.5mohm
DAU	Remark Code Blank: Standard, Single die, VGS=±20V, Vth=1~2.5V SA: Single die, VGS=±20V, Vth=2~4V SB: Single die, VGS=+20V/-12V, Vth=1~2.5V SC: Single die, VGS=+20V/-12V, Vth=2~4V D: Dual die AU: Automotive IN: Industrial

MOSFET Products selection guide

Trench MOSFET

Part Nomenclature –Trench MOSFET

Example: MSD100P12AU

MS	MOSFET
D	Package Code Blank: SOT-23 T: SOT-26 L: SOT-223 Q: SOP-8 HS: DFN2x2 HM: DFN3.3x3.3 H: DFN5x6 HP: SO-8PP(5X6) HN: TDFN5x6 HL: DFN8x8 O: TOLL D: TO-252 U: TO-251 P: TO-220 F: TO-220F B: TO-263 W: TO-247-3L
100	Breakdown Voltage, as 100=1100V
P	Polarity Code N: N Channel P: P Channel C: Complementary (N+P)
12	ID Continuous Drain Current, as 12=12Amp
AU	Remark Code D: Dual die AU: Automotive IN: Industrial

MOSFET Products selection guide

Voltage and RDS(on) distribution

N-channel

Voltage	SOT-523	SOT-363	SOT-323	SOT-23	SOT-26	SOT-223
16						
20				26~55mΩ		
30				26~30mΩ		
40				32mΩ		
50		3500mΩ	3500mΩ	3500mΩ		
60	5000mΩ	1500mΩ		60~2000mΩ		50~100mΩ
65				85mΩ		
80						
100				150~6000mΩ	50~110mΩ	170mΩ
150						
200						1000mΩ
250						
300						
350				15000mΩ		

Voltage	SOP-8	DFN3X3	DFN5X6	SO-8PP(5X6)	TOLL
16					
20	5.8mΩ	17mΩ			
30	6~26mΩ	1.8~20mΩ	1.6~9mΩ		
40	9~30mΩ	2.1~8.5mΩ	1.7~9.5mΩ	6.5mΩ	
50					
60	5.7~40mΩ	6.8~15mΩ	2.1~42mΩ		
65			2.8~4.2mΩ		
80		7mΩ	3~8.7mΩ		
100	14~152mΩ	20~105mΩ	4.5~112mΩ		1.9-4.5mΩ
150			60mΩ		
200					
250					
300					
350					

All products are available in industrial and automotive grade.

MOSFET Products selection guide

Voltage and RDS(on) distribution

N-channel

Voltage	TO-220	TO-220F	TO-247	TO-252	TO-263
16					
20					
30				5.5mΩ	
40	3.8mΩ			3.5~6.7mΩ	3.8mΩ
50					
60	5.7~22mΩ			8.5~50mΩ	12mΩ
65	4.7mΩ			4.5mΩ	
80	8.5~8.7mΩ				
100	2.2~47mΩ	2.2mΩ		11~48mΩ	2.3~11.5mΩ
150	5.8~9mΩ			56~60mΩ	
200				120mΩ	
250			33mΩ		
300					180mΩ
350					

All products are available in industrial and automotive grade.

MOSFET Products selection guide

Voltage and RDS(on) distribution

P-channel

Voltage	SOT-523	SOT-363	SOT-323	SOT-23	SOT-26	SOT-223
16						
20				33~100mΩ	90Mω	
30				50~60mΩ	52mΩ	
40				70mΩ		
50				8000mΩ		
60				140~180mΩ	175mΩ	90~130mΩ
65						
80				290mΩ		
100				650mΩ		210mΩ
150						
200						
250						
300						
350						

Voltage	SOP-8	DFN3X3	DFN5X6	SO-8PP(5X6)	TOLL
16					
20		8mΩ			
30	4.8~45mΩ	7.2~20mΩ	3.3~15mΩ		
40	13~40mΩ	13~22mΩ	3.8~45mΩ		
50					
60	25~70mΩ	25~70mΩ	25~48mΩ		
65					
80			18mΩ		
100	210mΩ		50mΩ		
150		500mΩ			
200					
250					
300					
350					

All products are available in industrial and automotive grade.

MOSFET Products selection guide

Voltage and RDS(on) distribution

P-channel

Voltage	TO-220	TO-220F	TO-247	TO-252	TO-263
16					
20					
30	14mΩ			25mΩ	
40				13~40mΩ	
50					
60	9.5~35mΩ			28~48mΩ	
65					
80					
100				50~210mΩ	21~50mΩ
150					
200					
250					
300					
350					

N+P-channel

Voltage	SOT-26	SOP-8	DFN3X3	DFN5X6
16				
20	48~80mΩ		50~70mΩ	
30		28~52mΩ		13~17mΩ
40		28~40mΩ	30~45mΩ	
50				
60		56~90mΩ	50~100mΩ	20~35mΩ
65				
80				
100				
150				
200				
250				
300				
350				

All products are available in industrial and automotive grade.

IGBT Products selection guide

IGBT with FRED

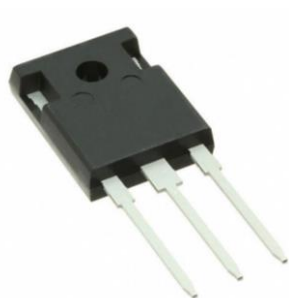
Part Nomenclature – IGBT with FRED

Example: GTW40N120

GT	IGBT with FRED
W	Package Code W: TO-247-3L B: TO-263 P: TO-220 F: TO-220F D: TO-252 K: PIM module
40	IF, Forward current, as 40A
N	N Channel
120	Breakdown Voltage, as 065=650V, 120=1200V

Product list

Amp	TO-247-3L	TO-263	TO-220	TO-220F	TO-252	PIM Module
5					GTD05N060	
10	GTW10N120					
20		GTB20N065	GTP20N065	GTF20N065		
25	GTW25N120					
30	GTW30N135					
40	GTW40N065 GTW40N120	GTB40N065				
50	GTW50N120					
60	GTW60N065					
75						GTK75N120-6
80	GTW80N065					



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IGBT Products selection guide

IGBT with FRED

Product	VCE min (V)	IC max (A)	IF max(A)	VGS(th) Max (V)	Package
GTD05N060	600	5	10	6.5	TO-252
GTF20N065	650	20	40	6.5	TO-220F
GTP20N065	650	20	40	6.5	TO-220
GTB20N065	650	20	40	6.5	TO-263
GTB40N065	650	40	60	6.5	TO-263
GTW40N065	650	40	80	6.5	TO-247-3L
GTW60N065	650	60	120	6	TO-247-3L
GTW80N065	650	80	120	6	TO-247-3L
GTW10N120	1200	10	20	6.6	TO-247-3L
GTW25N120	1200	25	50	6.5	TO-247-3L
GTW40N120	1200	40	80	6.5	TO-247-3L
GTW50N120	1200	50	100	6.5	TO-247-3L
GTK75N120-6	1200	75	130	6.5	PIM Module
GTW30N135	1350	30	60	6.5	TO-247-3L

IGBT Products selection guide

IGBT with SiC SBD

Part Nomenclature – IGBT with SiC SBD

Example: GTSM20N065

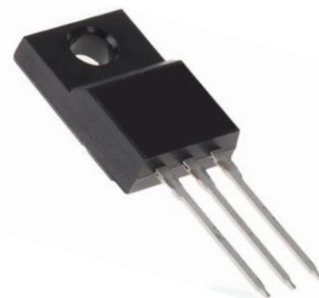
GTS	IGBT with SiC SBD
M	Package Code B: TO-263 F: TO-220F M: SOT-227
20	IF, Forward current, as 20A
N	N Channel
065	Breakdown Voltage, as 065=650V, 120=1200V

Product list

Amp	SOT-227	TO-263	TO-220F
20		GTSB20N065	GTSF20N065
40	GTSM20N065 GTSM40N065D		

Product	VCE min (V)	IC max (A)	IF max(A)	VGS(th) Max (V)	Package
GTSM20N065	650	20	40	6.5	SOT-227
GTSB20N065	650	20	40	6.5	TO-263
GTSF20N065	650	20	40	6.5	TO-220F
GTSM40N065D	650	40	80	6.5	SOT-227

More specifications products are under evaluation and will be available soon.



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SiC Series Products selection guide

SiC Schottky Diodes

Part Nomenclature - SiC Schottky

Example: CBR20P65PC

CBR	SiC Barrier Rectifier
20	IF, Forward current, as 20A
P65	Breakdown Voltage, as P65=650V, 120=1200V
PC	Package Code Blank: TO-220AC-2L P: TO-220AB PC: TO-220AB, Dual Die D: TO-252-2L, DPAK W: TO-247-2L WC: TO-247-3L, Dual Die WU: TO-247-3L, Single Die HL: DFN8x8

Product list

Amp	DFN 8X8	TO-252(DPAK)	TO-220AC	TO-220AB	TO-247-2L	TO-247-3L (Dual Die)
4		CBR04P65D	CBR04P65			
6	CBR06P65HL	CBR06P65D	CBR06P65			
8	CBR08P65HL	CBR08P65D	CBR08P65			
10	CBR10P65HL	CBR10P65D CBR10120D	CBR10P65 CBR10120	CBR10120P	CBR10120W	
20			CBR20P65 CBR20120	CBR20P65PC CBR20120P	CBR20P65W CBR20120W	CBR20P65WC CBR20120WC
30					CBR30120W	
40						CBR40P65WC CBR40120WC



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SiC Series Products selection guide

SiC Schottky Diodes

Product	IO(A)	VB min (V)	VF typ(V)	IR Max (uA)	Package	Number of Diodes
CBR04P65	4	650	1.5	10	TO-220AC	1
CBR04P65D	4	650	1.5	10	DPAK (TO-252)	1
CBR06P65	6	650	1.5	10	TO-220AC	1
CBR06P65D	6	650	1.5	10	DPAK (TO-252)	1
CBR06P65HL	6	650	1.5	10	DFN8X8	1
CBR08P65	8	650	1.5	10	TO-220AC	1
CBR08P65D	8	650	1.5	10	DPAK (TO-252)	1
CBR08P65HL	8	650	1.5	10	DFN8X8	1
CBR10P65	10	650	1.5	10	TO-220AC	1
CBR10P65D	10	650	1.5	10	DPAK (TO-252)	1
CBR10P65HL	10	650	1.5	10	DFN8X8	1
CBR20P65PC	20	650	1.5	10	TO-220AB	2
CBR20P65	20	650	1.5	10	TO-220AC	1
CBR20P65W	20	650	1.5	10	TO-247	1
CBR20P65WC	20	650	1.5	10	TO-247	2
CBR40P65WC	40	650	1.5	10	TO-247	2
CBR10120	10	1200	1.5	10	TO-220AC	1
CBR10120P	10	1200	1.5	10	TO-220AB	1
CBR10120D	10	1200	1.5	10	DPAK (TO-252)	1
CBR10120W	10	1200	1.5	10	TO-247-2L	1
CBR20120WC	20	1200	1.5	10	TO-247-3L	2
CBR20120W	20	1200	1.5	10	TO-247-2L	1
CBR20120	20	1200	1.5	10	TO-220AC	1
CBR20120P	20	1200	1.5	10	TO-220AB	1
CBR20120PC	20	1200	1.5	10	TO-220AB	2
CBR30120W	30	1200	1.5	10	TO-247-2L	1
CBR40120WC	40	1200	1.5	10	TO-247-3L	2

SiC Series Products selection guide

SiC MOSFETs

Part Nomenclature - SiC MOSFETs

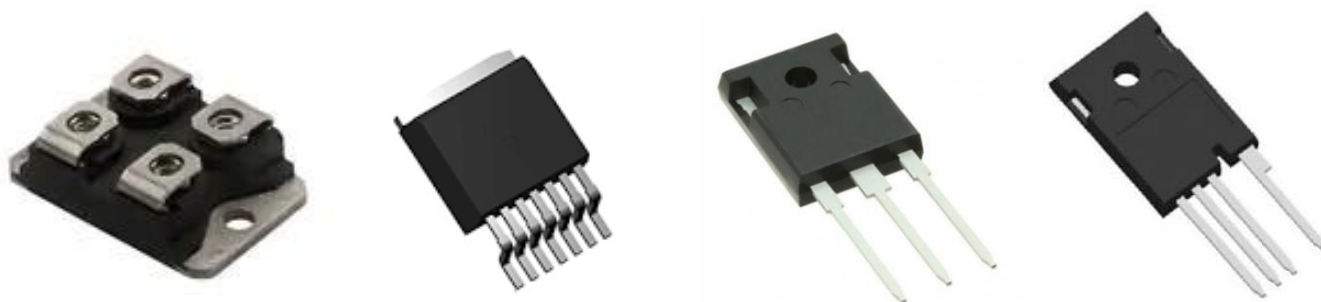
Example: CMS120N080W

CMS	SiC MOSFET
120	Drain-Source Voltage, as 120=1200V, 090=900V
N	N Channel
080	RDS (on), as 080= 80mΩ
W	Package Code W: TO-247-3L WK: TO-247-4L B: TO-263, D2PAK M: SOT-227 X: Chip

Product list

RDS (on) mohm	SOT-227	TO-263	TO-247-3L	TO-247-4L
37		CMS120N037B	CMS120N037W	CMS120N037WK
40	CMS120N040M (*)			
80	CMS120N080M (*)	CMS120N080B	CMS120N080W	CMS120N080WK

Note: (*) products are in the development stage.



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SiC Series Products selection guide

SiC MOSFETs

Product	RDS (on) (mohm)	VB min (V)	VGS(th) Max (V)	ID Max (A)	Package
CMS120N037B	37	1200	4	63	TO-263
CMS120N037W	37	1200	4	63	TO-247-3L
CMS120N037WK	37	1200	4	63	TO-247-4L
CMS120N040M	40	1200	4	60	SOT-227
CMS120N080B	80	1200	4	35	TO-263
CMS120N080W	80	1200	4	34	TO-247-3L
CMS120N080WK	80	1200	4	35	TO-247-4L
CMS120N080M	80	1200	4	30	SOT-227

Note: RDS (on) <10mohm products are under evaluation, and expected to launch in 2025 Q3.

GaN Products selection guide

GaN HEMT

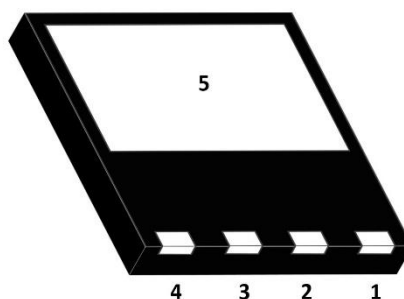
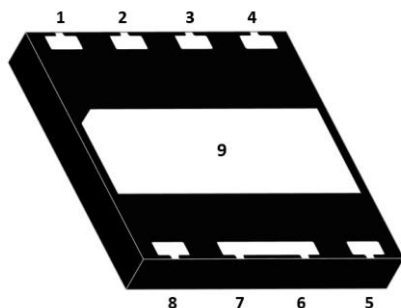
Part Nomenclature – GaN HEMT

Example: HMHL065N185C

HM	GaN HEMT
HL	Package Code HL: DFN8X8 HC: DFN8X8 (pin to pin with SJ mos) P: TO-220 F: TO-220F
065	Breakdown Voltage, as 065=650V, 120=1200V
N	N Channel
185	RDS (on), as 185=185mohm, 120=120mohm
C	Type Code C: cascode E: E-mode CI: cascode (with IC)

Product list

RDS (on)	DFN8X8	DFN8X8 (P2P SJ mos)	TO-220	TO-220F
120		HMHC065N120C	HMP065N120C	HMF070N120C
180			HMP065N180C	HMF070N180C
185	HMHL065N185C	HMHC065N185C		
240	HMHL065N170CI			



GaN Products selection guide

GaN HEMT

Product	VDS (V)	RDS (on) Max. (mohm)	ID (A)	Type	Package
HMHC065N120C	650	120	20	Cascode	DFN8X8 (P2P SJ mos)
HMP065N120C	650	120	22	Cascode	TO-220
HMP065N180C	650	180	16	Cascode	TO-220
HMHL065N185C	650	185	12	Cascode	DFN8X8
HMHC065N185C	650	185	15	Cascode	DFN8X8 (P2P SJ mos)
HMHL065N170CI	650	240	8	Cascode(with IC)	DFN8X8
HMF070N120C	700	120	22	Cascode	TO-220F
HMF070N180C	700	180	16	Cascode	TO-220F

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