

Industrial applications

MagnaChip product Portfolios of Industrial applications are discrete IGBT, MV MOSFET and SJ MOSFET. MagnaChip delivers semiconductor to contribute in minimizing power loss and maximizing power savings of entire systems in wide industrial applications.



Drives

- General inverter
- Sewing machine
- Treadmill



Renewable Energy

- Solar inverter
- Wind power
- Energy storage



Power tool

- Electric saw
- Vacuum cleaner
- Motor drill



E-vehicles

- E-bike
- Segway
- Electric wheelchair

MagnaChip solution

Discrete IGBT

Key features & benefits

- 650V/1200V, 25A/40A/50A/60A
- Field Stop Trench
- Low $V_{ce(sat)}$ and High Speed
- High ruggedness for industrial applications

Major applications



Products lists

Type	Product Number	V_{CES} [V]	I_C [A] 100°C	$V_{ce(sat)}$ [V]	Short circuit [μs]	Package
Low $V_{CE(sat)}$	MBQ40T65FEHCTH	650	40	1.6	5	TO-247
	MBQ50T65FEHCTH	650	50	1.6	5	TO-247
High speed	MBQ40T65FESCTH	650	40	1.95	5	TO-247
	MBQ50T65FESCTH	650	50	1.95	5	TO-247
	MBQ60T65PESTH	650	60	1.9	5	TO-247
	MBQ25T120FESCTH	1200	25	2	10	TO-247
	MBQ40T120FESTH	1200	40	2	10	TO-247
	MBQ40T120PESTH	1200	40	1.65	10	TO-247

MagnaChip solution

MV MOSFET

Key features & benefits

- 40V/60V/80V/100V/150V
- Optimized Motor Drive MOSFET
- Suitable for Synchronous Rectification and Motor Drive applications
- 100% UIL & Rg tested

Major applications



Products lists

Product Number	V_{DS} [V]	I_D [A] = 25°C	$V_{GS(th)}$ [V, Max]	$R_{ds(on)}$ [Ohm Max] at $V_{GS}=10V$	Package
MDU04N010VRH	40	100	2.0	1.0	PDFN56
MDU1721VRH	40	100	3.0	1.4	PDFN56
MDU06N031VRH	60	100.0	4.0	3.1	PDFN56
MDU06N150RH	60	100	2.5	15.0	PDFN56
MDP1930TH	80	120.0	4.0	2.3	TO-220
MDP10N055TH*	100	120.0	5.5	4.5	TO-220
MDE10N054RH*	100	120.0	5.4	4.5	D2PAK
MDF1921TH	100	60.0	4.0	4.8	TO-220F
MDV10N150VRH*	100	40	2.0	15.0	PDFN33
MDP15N075TH*	150	120.0	4.5	7.5	TO-220
MDD1051RH	150	28	3.2	46.0	DPAK

* : Under development

MagnaChip solution

SJ MOSFET

Key features & benefits

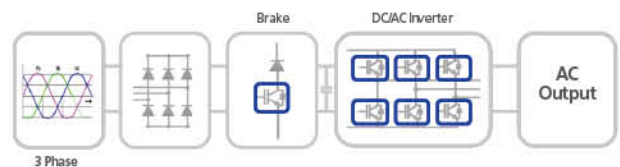
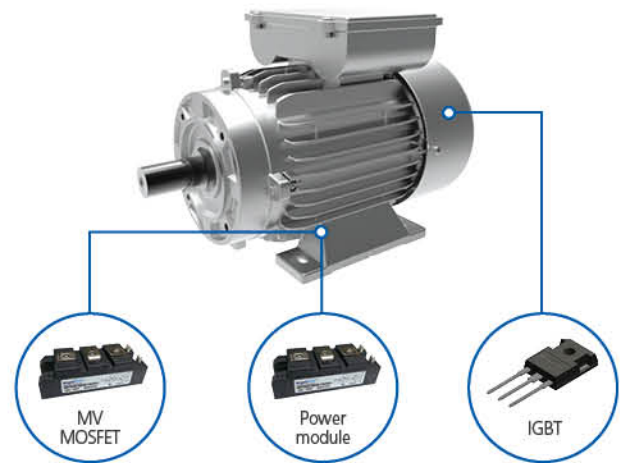
- High performance : Good FOM
- High reliability & high ruggedness
- Easy to use : Optimal Rg
- Various packages

Products lists

Product Number	V_{DS} [V]	I_D [A] = 25°C	$V_{GS(th)}$ [V, Max]	$R_{ds(on)}$ [Ohm Max] at $V_{GS}=10V$		Qg [nC, Typ]	Package
				Max	Typ		
MME60R290PRH	600	13.0	4.0	0.290	0.260	33	TO-263
MMF60R115PTH	600	33.0	4.0	0.115	0.104	79	TO-220F
MMF60R190PTH	600	20.0	4.0	0.190	0.170	51	TO-220F
MMF60R190QTH	600	20.0	3.5	0.190	TBD	TBD	TO-220F
MMF60R290PTH	600	13.0	4.0	0.290	0.260	33	TO-220F
MMP60R195PCTH	600	20.0	4.0	0.195	0.175	44	TO-220
MMUB60R199PCRH	600	20.0	4.0	0.199	0.180	44	PDFN88
MMFT60R115PCTH	600	33.0	4.0	0.115	0.104	77	TO-220FT
MMFT60R290PCTH	600	13.0	4.0	0.290	0.260	32	TO-220FT
MMFT60R195PCTH	600	20.0	4.0	0.195	0.175	44	TO-220FT
MMP60R290PCTH	600	13.0	4.0	0.290	0.260	32	TO-220
MMFT60R195PTH	600	20.0	4.0	0.195	0.175	51	TO-220FT
MMFT60R290PTH	600	13.0	4.0	0.290	0.260	33	TO-220FT
MMFT60R290PCTH	600	13.0	4.0	0.290	0.260	33	TO-220FT
MML60R190PTH	600	20.0	4.0	0.190	0.170	51	TO-262
MML60R290PTH	600	13.0	4.0	0.290	0.260	33	TO-262
MMP60R190PTH	600	20.0	4.0	0.190	0.170	51	TO-220
MMP60R290PTH	600	13.0	4.0	0.290	0.260	33	TO-220
MMQ60R070PTH	600	53.0	4.0	0.070	0.063	132	TO-247
MMQ60R115PCTH	600	33.0	4.0	0.115	0.104	77	TO-247
MMQ60R115PTH	600	33.0	4.0	0.115	0.104	79	TO-247
MMQ60R190PTH	600	20.0	4.0	0.190	0.170	51	TO-247
MML65R190PTH	650	20.0	4.0	0.190	0.170	53	TO-262
MMF65R190PTH	650	20.0	4.0	0.190	0.170	53	TO-220F
MMP65R190PTH	650	20.0	4.0	0.190	0.170	53	TO-220
MMFT65R195PTH	650	20.0	4.0	0.195	0.175	53	TO-220FT
MMUB65R120QRH*	650	TBD	4.0	0.120	TBD	TBD	PDFN88
MMUB65R090QRH*	650	TBD	4.0	0.090	TBD	TBD	PDFN88

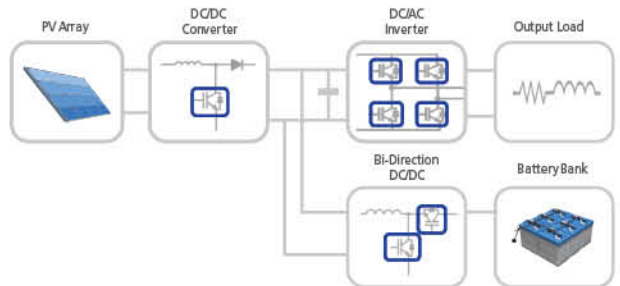
* : Under development

MagnaChip
Motor drives



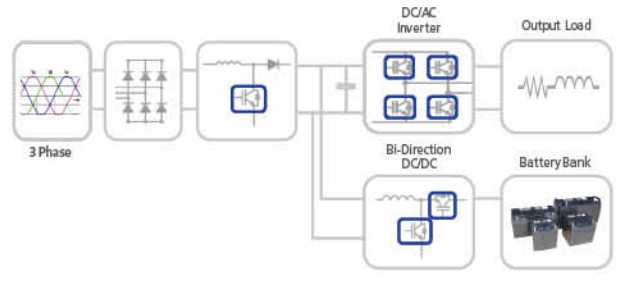
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DC-AC Inverter	Half bridge/ Full bridge	Discrete IGBT	650	MBQ40T65FESCSTH MBQ50T65FESCSTH MBQ60T65PESTH
			1200	MBQ40T120FESTH MBQ40T120PESTH
		IGBT module	1200	MPMB(C/D)100/200/300B120RH
	Rectifier	Diode	400/600 /1200	MPKB2CA100/150U40/60/120RH MPKC2CA200/300U40/60/120RH

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Renewable energy



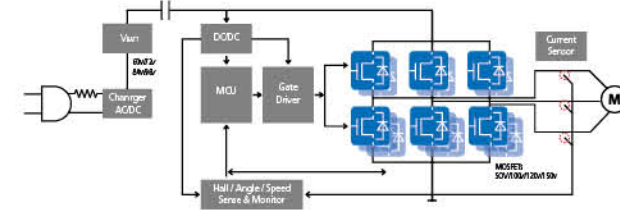
Block	Topology	Product group	Voltage	Recommendation
DC-AC Inverter	Half bridge/ Full bridge	Discrete IGBT	650	MBQ40T65FESCSTH MBQ50T65FESCSTH MBQ60T65PESTH
			1200	MBQ40T120FESTH MBQ40T120PESTH
		IGBT module	1200	MPMB(C/D)100/200/300B120RH
	Rectifier	Diode	400/600 /1200	MPKB2CA100/150U40/60/120RH MPKC2CA200/300U40/60/120RH

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UPS



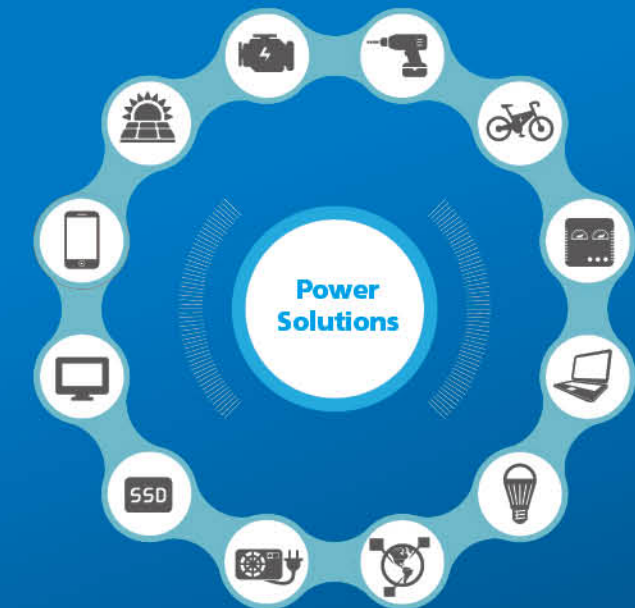
Block	Topology	Product group	Voltage	Recommendation
DC-AC Inverter	Half bridge/ Full bridge	Discrete IGBT	650	MBQ40T65FESCSTH MBQ50T65FESCSTH MBQ60T65PESTH
			1200	MBQ40T120FESTH MBQ40T120PESTH
		IGBT module	1200	MPMB(C/D)100/200/300B120RH
	Rectifier	Diode	400/600 /1200	MPKB2CA100/150U40/60/120RH MPKC2CA200/300U40/60/120RH

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E-vehicles



Block	Topology	Product group	Voltage	Recommendation
DC-AC Inverter	Half bridge/ Full bridge	MV MOSFET	40V	MDU04N010RH
			60V	MDES06N010RH*
			80V	MDP1930TH
			100V	MDP10N055TH* MDE10N054RH*
			150V	MDP15N075TH

*: Under development



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