



FE Fuji Electric
Innovating Energy Technology

Power Semiconductors **Selection Guide**

05|2020

www.fujielectric.com
www.fujielectric-europe.com

About Us

Fuji Electric Co., Ltd. was established in 1923 in Japan as a capital and technology alliance between Furukawa Electric Co., Ltd. and Siemens AG. The company name was derived from these two companies, with „Fu“ and „Si“ and the highest mountain in Japan mount Fuji.

The Fuji Electric Europe GmbH was founded 1984 in Germany and is a 100% subsidiary of Fuji Electric Co., Ltd. based in Japan. For more than 30 years, Fuji Electric has successfully supplied the European market with power semiconductors for power conversion systems.

With a strong team of sales, application and development engineers, we always support our customers from all over Europe in commercial and technical matters. Furthermore, our international distribution network ensures a special service quality and proximity to customers.

Fuji Electric offers innovative energy technologies to make a sustainable contribution to social and industrial infrastructure worldwide. Population growth and rapid industrial advances are making energy management and environmental protection increasingly important. Therefore, Fuji Electric strives continuously the development and improvement of existing technologies. Our innovative products in energy and environmental technology achieve high added value, outstanding eco-friendliness and energy with maximum efficient use.

Our Services

Application Portfolio

For a long while, the main applications of our power semiconductors were the electric drive technology (frequency converters, servo drives) and the uninterruptible power supply (UPS). The foundation stone was placed based on these applications for outstanding quality, high reliability and implementation of the latest technologies.

The application portfolio is growing steadily and it includes new applications today such as: renewable energy (wind energy, photovoltaic), hybrid/electric mobility, energy supply and distribution (smart grid), traction, etc. Technology development always requires new technical and efficient solutions with long service life as well as highest quality.

Our state-of-the-art production sites in front-end, back-end and warehouse locations enable us to supply the world's growing number of customers with power semiconductors. This ensures a flexible availability of our products and an excellent price-performance ratio.

Our 7th IGBT generation (X series) is currently replacing older generations in the market. The new products can easily replace existing products due to their electrical and mechanical compatibility while they are continuing to reduce losses.



Logistic Services

Our logistic center in Frankfurt offers our customers high availability and enables short delivery times as well as extensive logistics services.

Technical Support

Our competent application engineering team offers application support from A to Z, as well as special technical solutions. Furthermore, our development engineers support professionally and reliably with on-site design-in solutions.

Service for thermal interface material (TIM)

Our automated printing process guarantees consistent printing and improved thermal conductivity through accurate printing equipment, optimized module-specific printing patterns and software monitoring.



Fuji Electric provides Power Semiconductors well suited for various applications



Inverters (LV-INV)

Semiconductor products best suited for general-purpose inverters that carry out variable-speed operation of motors in products such as belt conveyors, fans and pumps.



Medium - Voltage Inverters (MV-INV)

Semiconductor products suitable for medium-voltage inverters that drive 3-phase AC 3kV/6kV/6.6kV high-voltage motors used in iron and steel plants, textile plants and paper mills.



Railroads (TRAIN)

Semiconductor products suited for the power electronics of railroad cars such as the main motor drive and auxiliary power supply equipment of rolling stock.



NC / Servos (SERVO)

Semiconductor products best suited to NC and servos that carry out speed control and positioning of machine tools, as well as robots that have multi-spindle control features used in assembly, welding and conveyance.



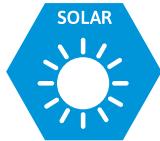
Wind Power Generation (WIND)

Semiconductor products suitable for AC/DC converters that convert the AC power output from wind turbine generators to DC power, as well as for inverters that convert DC power to AC power of commercial frequencies.



Welding Machines (WELDING)

Semiconductor products suitable for switching circuits that generate resistance heat in welding machines to melt and integrate by adding heat or pressure to two or more metallic members.



Solar (SOLAR)

Semiconductor products best suited for power conditioners that convert solar-panel generated DC power into AC power to enable the residential consumption, as well as to facilitate the recovery of the power to the power systems of power companies.



PC / Servers (PC+SERVER)

Semiconductor products suitable for the power supplies of increasingly high-performance desktop PCs and servers, as well as of increasingly compact and lightweight notebook PCs.



UPS (UPS)

Semiconductor products ideal for the power conversion circuits of UPS (uninterruptible power supply) that prevent system shutdown during power outages and instantaneous power failures.



Switching Power Supplies (PSU)

Semiconductor products best suited for general-purpose switching power supplies used in a wide variety of applications such as equipment for general consumers and OA and communication devices.



Fuji Electric Power Semiconductors contributing energy management in various fields

Fuji Electric provides Power Semiconductors enabling high-efficiency energy usage in various fields such as industrial machinery, automobile, railroad, social infrastructure, renewable energy, consumer electronics and information equipment in order to achieve a low-carbon society.



RENEWABLE ENERGY

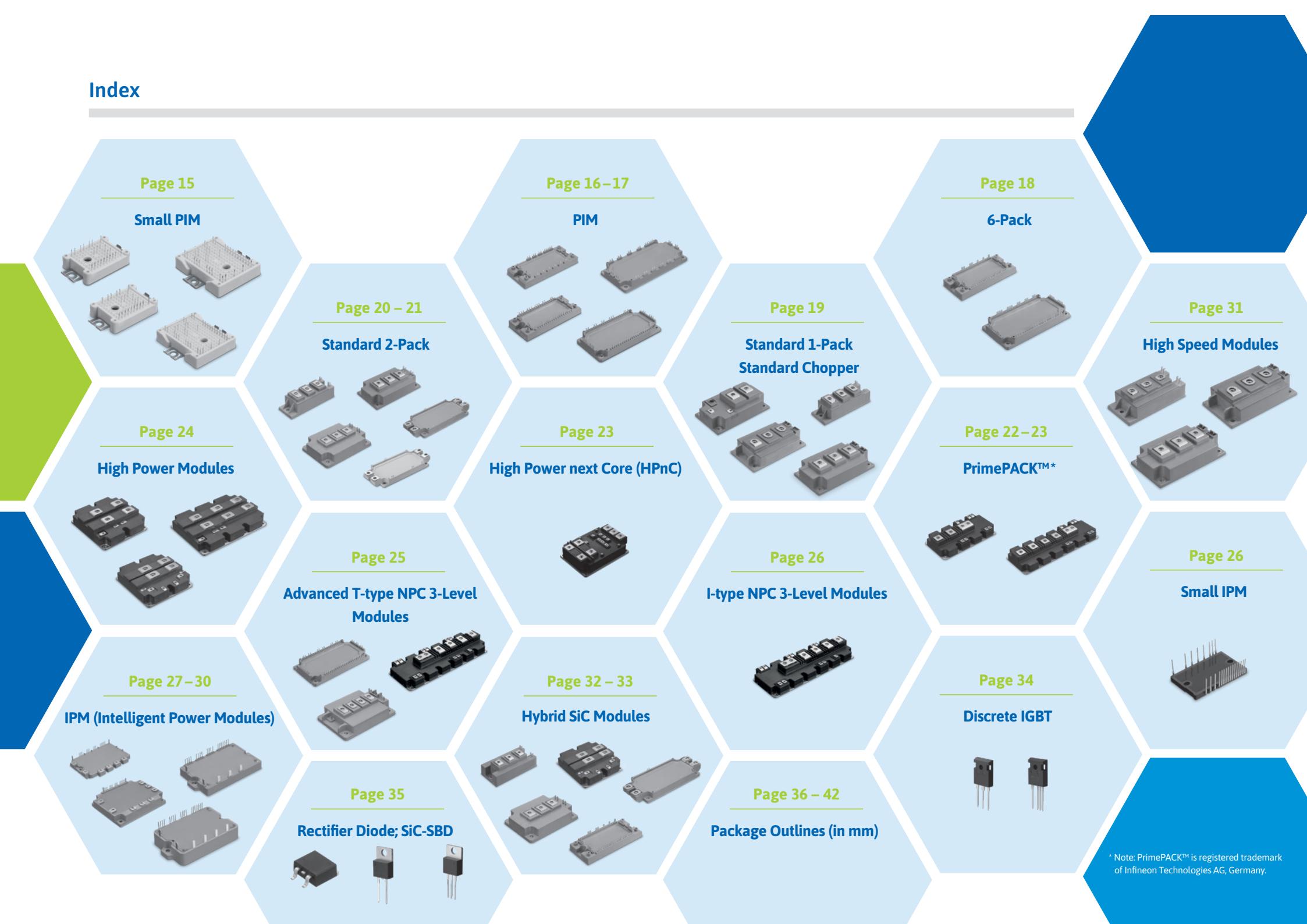


INDUSTRY



PUBLIC TRANSPORTATION

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Service for thermal interface material (TIM)

Fuji Electric's printing process of pre-applied TIM is automated and carried out by a computer controlled printing line under clean environment.

Precise printing equipment and optimized module specific printing patterns guarantee a uniform print and maximum thermal conductivity.



The range of modules with pre-applied TIM is being continually expanded.

For latest availability status please contact us:
info.semi@fujielectric-europe.com

3D-imaging tests ensure the compliance of our specified TIM thickness.

The whole process is controlled by our traceability system and qualified staff to ensure our high quality standards.

Process - Benefits

- + Outsourcing of a dirty process
- + Stable quality level
- + Increased system reliability

Features

- + Optimized pattern for Fuji modules
- + Increase lifetime of IGBT
- + Advanced IGBT power density

Thermal - Benefits

- + Higher thermal conductivity
- + Uniform thermal resistance
- + Higher reliability and lifetime

New TIM

- + Capable for T_C up to 150 °C
- + Higher thermal conductivity
- + High reliability

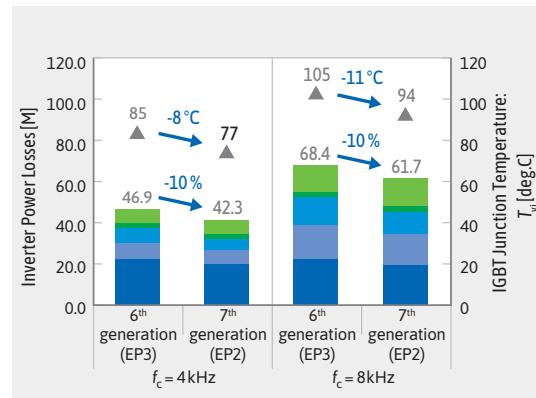


Features of IGBT module X series

1. Low loss

The module has been optimized by reducing the thickness and miniaturizing the structure of the IGBT chip and diode chip that make up the module. This reduces power losses during inverter operation compared to the previous 6th generation V series.

Reduced inverter loss by 10% and chip temperature by 10°C compared with the 6th generation V series EP3 package (75A, at $f_c = 8\text{kHz}$).



- P_{rr} : Reverse recovery loss
- P_f : FWD conduction loss
- P_{on} : Turn-on loss
- P_{off} : Turn-off loss
- P_{sat} : IGBT conduction loss
- ▲ T_{vj} : Junction temperature

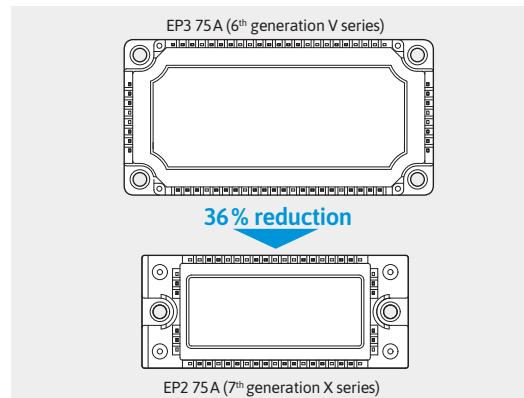
$V_{DC} = 600\text{V}$, $I_o = 35\text{ Arms}$, $f_o = 50\text{Hz}$,
Power factor = +0.9, modulation factor = 1.0,
Reverse recovery dv/dt = 10 kV/μs

2. Miniaturization

The application of the newly developed insulating board has improved the heat dissipation of the module.

A smaller footprint of about 36 % has been achieved by reducing power loss and suppressing heat generation compared with the previous product.

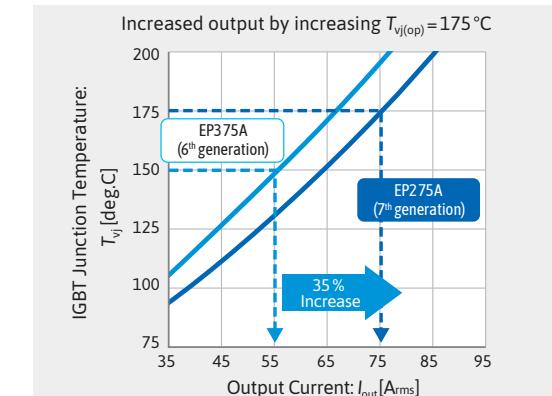
Application Example



3. High temperature operation

Achieves continuous operation at 175°C through chip optimization and improved package reliability and heat resistance.

- ▶ Up to 35 % more output than the previous generation
- ▶ ΔT_{vj} power cycle capability improvement (twice as high as before)



Product Portfolio

Number of IGBT Switches	Products Category	Internal Configuration						Max $V_{CE}(V_{RRM})$					Rated Current					Page
		IGBT Module			Discrete IGBT	Rectifier Diode	Discrete SiC-SBD	600 V	650 V	1200 V	1700 V	3300 V	$\leq 50 A$	$>50 A \leq 150 A$	$>150 A \leq 300 A$	$>300 A \leq 600 A$	$>600 A \leq 1200 A$	
		Standard Module	Power Integrated Module	Intelligent Power Module				600 V	650 V	1200 V	1700 V	3300 V	$\leq 50 A$	$>50 A \leq 150 A$	$>150 A \leq 300 A$	$>300 A \leq 600 A$	$>600 A \leq 1200 A$	
7	Small PIM EconoPIM™	•							•	•	•	•	•	•	•	•	•	15
		•							•	•	•	•	•	•	•	•	•	16
		•							•	•	•	•	•	•	•	•	•	17
6	6-Pack EconoPACK™	•						•	•	•	•	•	•	•	•	•	•	18
									•	•	•	•	•	•	•	•	•	18
2	Standard 2-Pack	•						•	•	•	•	•	•	•	•	•	•	20
		•							•	•	•	•	•	•	•	•	•	21
1	Standard 1-Pack Chopper	•						•	•	•	•	•	•	•	•	•	•	19
		•							•	•	•	•	•	•	•	•	•	19
1,2	High Speed Module	•							•	•	•	•	•	•	•	•	•	31
	High Power Module	•							•	•	•	•	•	•	•	•	•	24
	High Power next Core	•							•	•	•	•	•	•	•	•	•	23
	PrimePACK™	•							•	•	•	•	•	•	•	•	•	22/23
4,12	T/I-type NPC 3-Level	Reverse-Blocking IGBTs are integrated.						•	•	•	•	•	•	•	•	•	•	25/26
6,7	IPM			•				•	•	•	•	•	•	•	•	•	•	26
				•				•	•	•	•	•	•	•	•	•	•	27/28
				•				•	•	•	•	•	•	•	•	•	•	29/30
2,6,7	Hybrid SiC Module	•	•					•	•	•	•	•	•	•	•	•	•	32/33
1	Discrete IGBT			•				•	•	•	•	•	•	•	•	•	•	34
	Rectifier Diode				•			•	•	•	•	•	•	•	•	•	•	35
	SiC-SBD					•		•	•	•	•	•	•	•	•	•	•	35

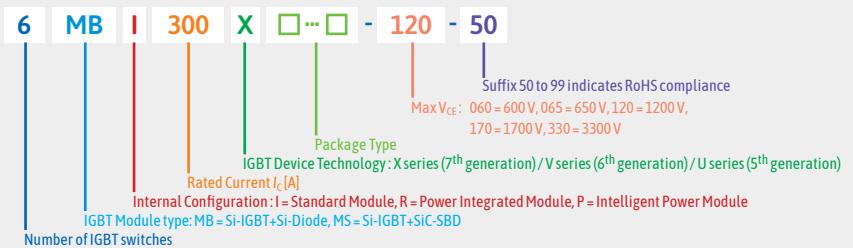
Note: PrimePACK™, EconoPIM™ and EconoPACK™ are registered trademarks of Infineon Technologies AG, Germany



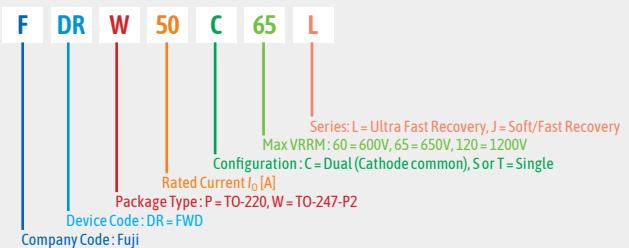
Type Name Explanation



IGBT Module Production Number



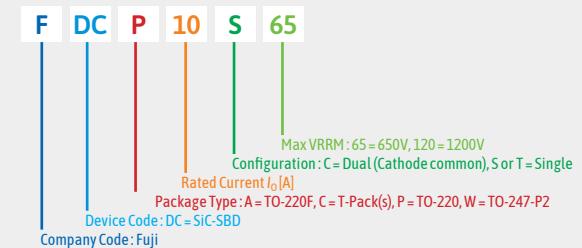
Rectifier Diode Production Number



Discrete IGBT Production Number



SiC Schottky-Barrier Diode Production Number



PIM (Power Integrated Modules) Product Map

7MBR	I_c	IGBT series & Package type				Size	Page		
		V series		X series					
	Solder pins	Press fit pins	Solder pins	Press fit pins					
	VKC	VKA	XKC	XKA	33.8 x 62.8 mm	15	EconoPIM™		
	VKD	VKB	XKD, XRKD	XKB, XRKB	56.7 x 62.8 mm				
	VA, VM, VP	VW, VY	XM, XP	XW, XY	45 x 107.5 mm	16/17			
	VB, VN, VR	VX, VZ	XN, XR	XX, XZ	62 x 122 mm	16/17			

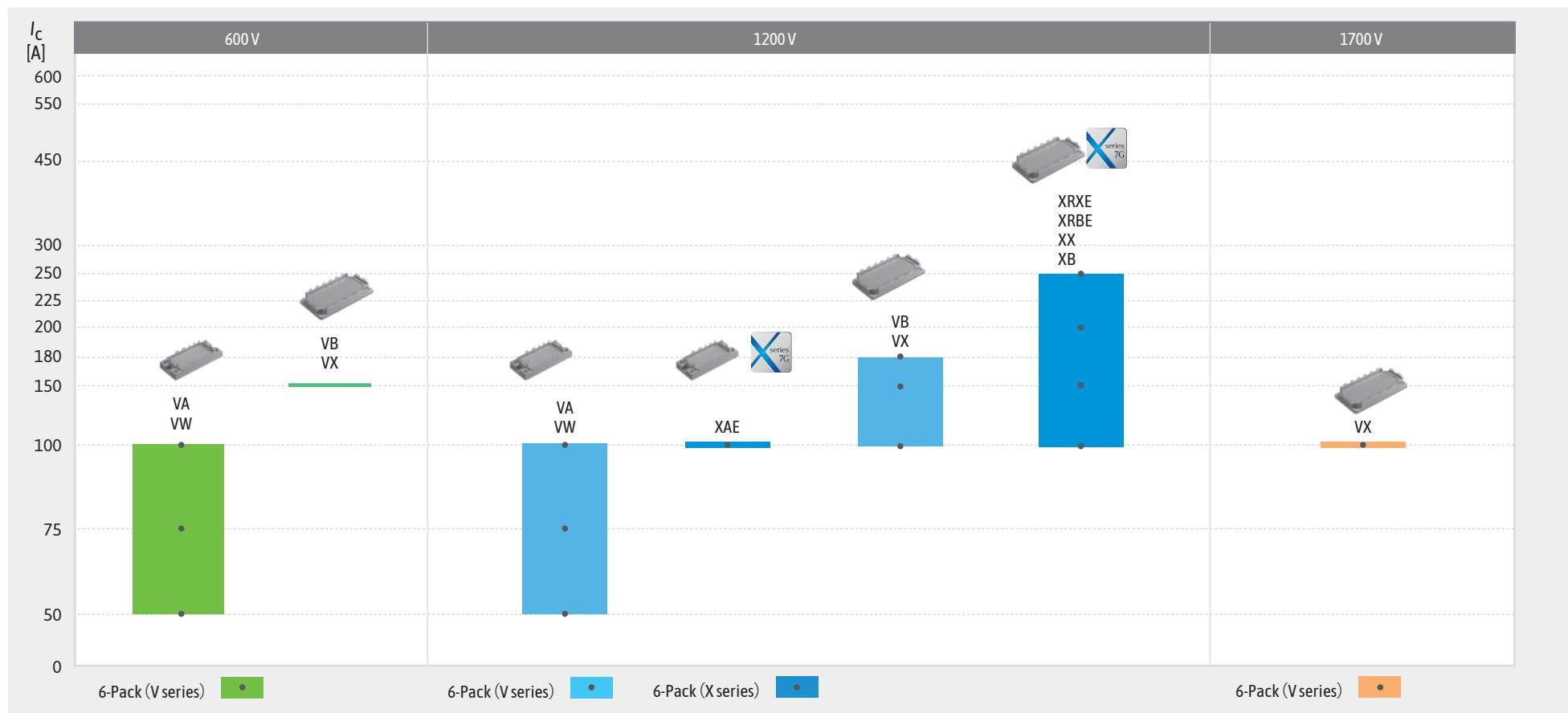
Note:
EconoPIM™ is registered trademark of
Infineon Technologies AG, Germany.



6-Pack Product Map

6MBI	I_c	IGBT series & Package type				Size	Page		
		Vseries		Xseries					
		Solder pins	Press fit pins	Solder pins	Press fit pins				
		VA	VW	XAE		45x107.5 mm	18		
		VB	VX	XB,XRBE	XX,XRXE	62x122 mm	18		

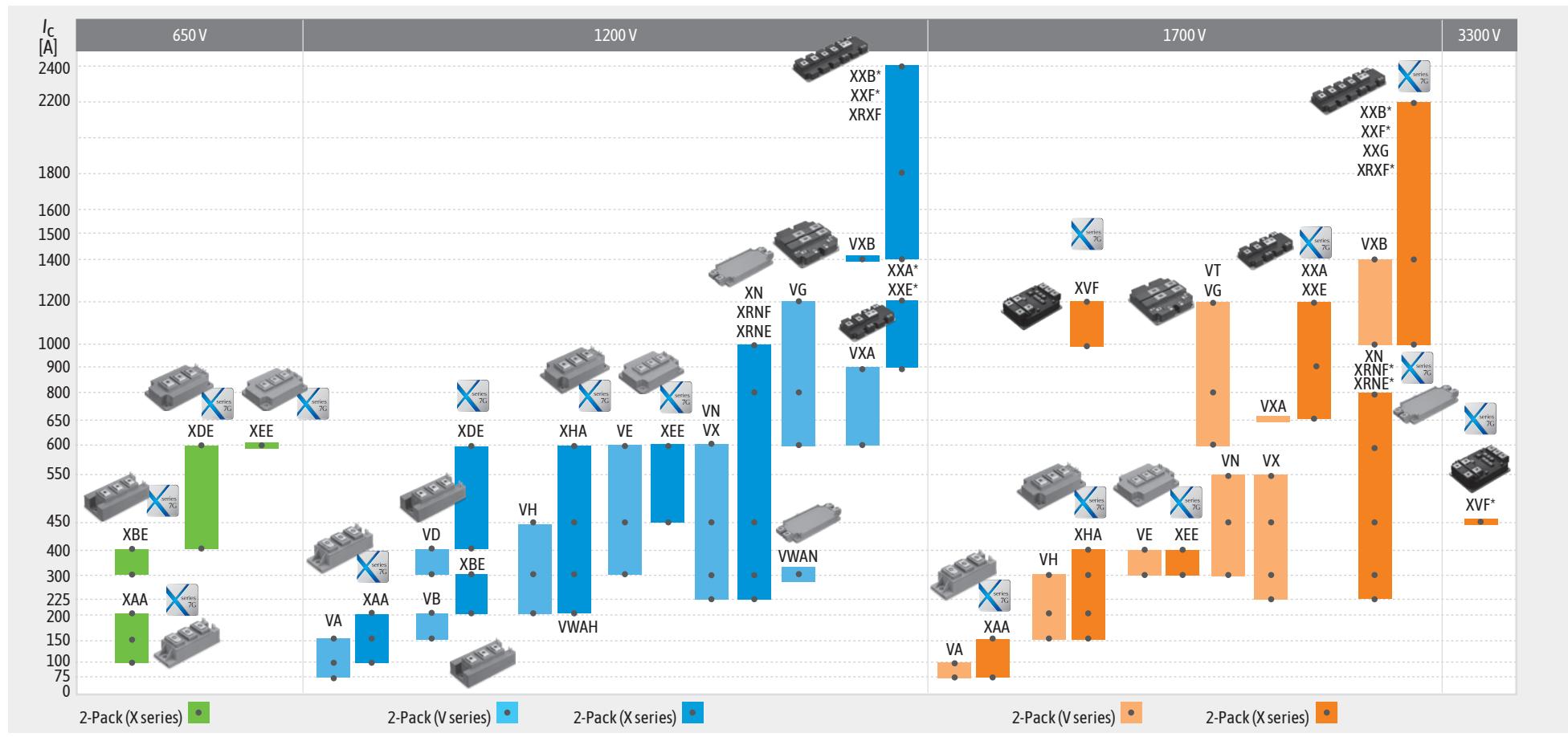
Note: EconoPACK™ is registered trademark of Infineon Technologies AG, Germany.



2-Pack Product Map

2MBI	I_c	IGBT series & Package type		Size		Page
		V series	X series			
	VA		XAA	34x94 mm	Standard Pack	20
	VB		XBE	45x92 mm		20
	VD		XDE	62x108 mm		20
	VE		XEE	80x110 mm		20
	VH, VWAH		XHA	62x108 mm		20
	VN, VX, VWAN	XN, XRNE, XRNF		62x150 mm	Dual XT	21
	VG, VT	-		140x130 mm	High Power Module	24
		XVF		100x144 mm	HPnC	23
	VXA	XXA*, XXE*		89x172 mm	PrimePACK™	22/23
	VXB	XXB*, XXF*, XXG, XRXF		89x250 mm		22/23

Note:
PrimePACK™ is registered trademark
of Infineon Technologies AG, Germany
*Under development



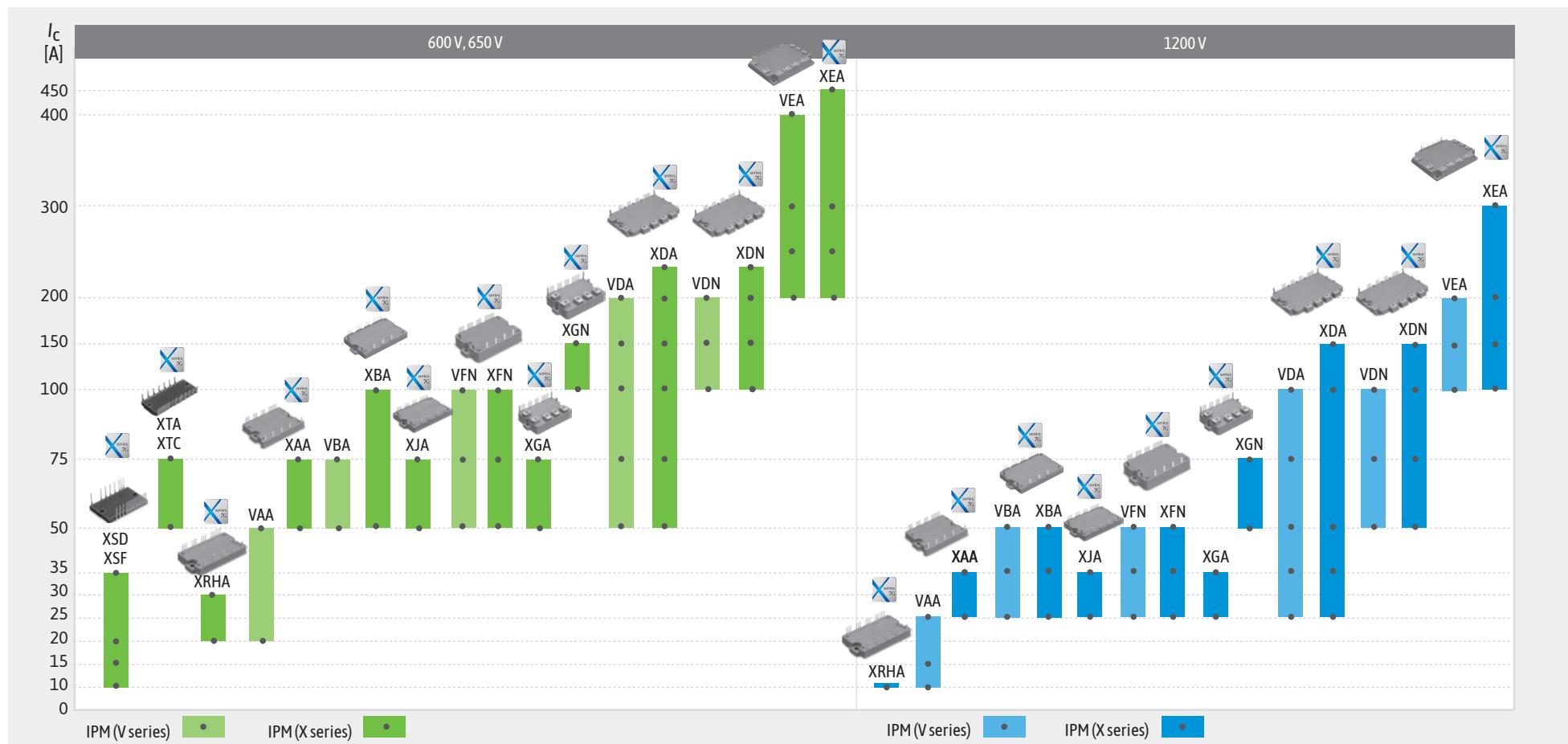
1-Pack Product Map

1MBI	I_c	IGBT series & Package type		Page
		V/Useries	Size	
	V	62 x 108 mm	Standard Pack	19
	VC, VR, UG	140 x 130 mm	High Power Module	31
	VD, VS, UE	140 x 190 mm		31



IPM (Intelligent Power Modules) Product Map

6/7MBI	I_C [A]	IGBT series & Package type								Size	Page
		Vseries		Xseries		Vseries		Xseries			
		7 in 1	6 in 1	7 in 1	6 in 1						
	XSD, XSF								•	26 x 43 mm	26
	XTA, XTC								•	79 x 31 mm	26
	XRHA								•	36 x 70 mm	27
	VAA	XAA					•		•	49.5 x 70 mm	27
	VBA	XBA				•			•	50.2 x 87 mm	27
	VJA							•		50.2 x 87 mm	27
	VFN	XFN	•		•			•		55 x 90 mm	28
	VGA, VGN								•	55 x 90 mm	28
	VDA, VDN	XDA, XDN	•		•			•		84 x 128.5 mm	29
	VEA	XEN	•		•			•		110 x 142 mm	30



Small PIM (Power Integrated Modules)



I_C	650 V	1200 V	
	X series	V/X series	X series
10 A	7MBR10XKA065-50	7MBR10VKA120-50	7MBR10XKA120-50
15 A	7MBR15XKA065-50	7MBR15VKA120-50	7MBR15XKA120-50
20 A	7MBR20XKA065-50		
25 A			7MBR25XKA120-50
30 A	7MBR30XKA065-50		
15 A		7MBR15VKB120-50	7MBR15XKB120-50
25 A		7MBR25VKB120-50	7MBR25XKB120-50
35 A		7MBR35VKB120-50	7MBR35XKB120-50
50 A	7MBR50XKB065-50		7MBR50XRKB120-50*
10 A	7MBR10XKC065-50	7MBR10VKC120-50	7MBR10XKC120-50
15 A	7MBR15XKC065-50	7MBR15VKC120-50	7MBR15XKC120-50
20 A	7MBR20XKC065-50		
25 A			7MBR25XKC120-50
30 A	7MBR30XKC065-50		
15 A		7MBR15VKD120-50	7MBR15XKD120-50
25 A		7MBR25VKD120-50	7MBR25XKD120-50
35 A		7MBR35VKD120-50	7MBR35XKD120-50
50 A	7MBR50XKD065-50		7MBR50XRKD120-50*

*RC-IGBT

PIM (Power Integrated Modules) EconoPIM™

With NTC, solder pins. PIM	I_C	650V Xseries		1200V V/Xseries	
		7MBR25VA120-50	7MBR35VA120-50	7MBR35VB120-50	7MBR50VB120-50
M711	25 A				
M711	35 A				
M712	35 A			7MBR35VB120-50	
M712	50 A			7MBR50VB120-50	
M712	75 A			7MBR75VB120-50	
M719	25 A			7MBR25VM120-50	
M719	35 A			7MBR35VM120-50	7MBR35XMA120-50
M719	50 A	7MBR50XMA065-50		7MBR50VM120-50	7MBR50XMA120-50
M719	75 A	7MBR75XMA065-50			7MBR75XME120-50
M720	50 A			7MBR50VN120-50	
M720	75 A	7MBR75XNA065-50		7MBR75VN120-50	7MBR75XNA120-50
M720	100 A	7MBR100XNA065-50		7MBR100VN120-50	7MBR100XNA120-50
M720	150 A	7MBR150XNA065-50		7MBR150VN120-50	7MBR150XNE120-50
M719	25 A			7MBR25VP120-50	
M719	35 A			7MBR35VP120-50	7MBR35XPA120-50
M719	50 A	7MBR50XPA065-50		7MBR50VP120-50	7MBR50XPA120-50
M719	75 A	7MBR75XPA065-50			7MBR50XPE120-50
M719	100 A	7MBR100XPE065-50			7MBR75XPE120-50
M720	50 A			7MBR50VR120-50	
M720	75 A			7MBR75VR120-50	7MBR75XRA120-50
M720	100 A	7MBR100XRA065-50		7MBR100VR120-50	7MBR100XRA120-50
M720	150 A	7MBR150XRA065-50	7MBR150VR120-50		7MBR150XRE120-50
M720		7MBR150XRE065-50			7MBR150XRE120-50

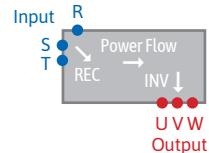
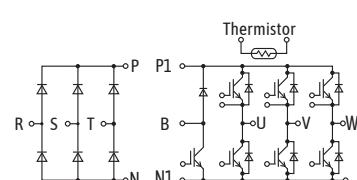
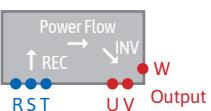
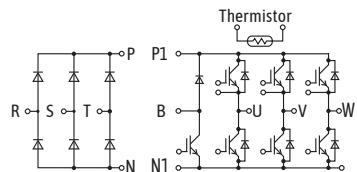
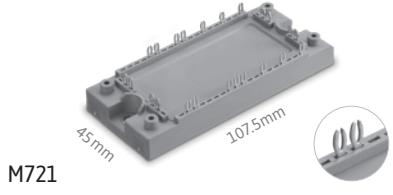
Note 1: Pin assignment of output terminals changes within the range of colored position depending on output current.

Note 2: EconoPIM™ is registered trademark of Infineon Technologies AG, Germany.

PIM (Power Integrated Modules) EconoPIM™

<i>I_C</i>	650 V	1200 V
	Xseries X series 7G	V/Xseries V/X series 7G
25 A	7MBR25VW120-50	
35 A	7MBR35VW120-50	7MBR35XWA120-50
50 A	7MBR50XWA065-50	7MBR50VW120-50
75 A	7MBR75XWA065-50	7MBR75XWE120-50
50 A	7MBR50VX120-50	
75 A	7MBR75XXA065-50	7MBR75VXA120-50
100 A	7MBR100XXA065-50	7MBR100VX120-50
150 A	7MBR150XXA065-50	7MBR150VX120-50
25 A	7MBR25VY120-50	
35 A	7MBR35VY120-50	7MBR35XYA120-50
50 A	7MBR50XYA065-50	7MBR50VY120-50
75 A	7MBR75XYA065-50	7MBR75XYE120-50
100 A	7MBR100XYE065-50	
50 A	7MBR50VZ120-50	
75 A	77MBR75VZ120-50	7MBR75XZA120-50
100 A	7MBR100XZA065-50	7MBR100VZ120-50
150 A	7MBR150XZA065-50	7MBR150VZ120-50

With NTC, press fit pins



Note 1: Pin assignment of output terminals changes within the range of colored position depending on output current.

Note 2: EconoPIM™ is registered trademark of Infineon Technologies AG, Germany.

6-Pack EconoPACK™

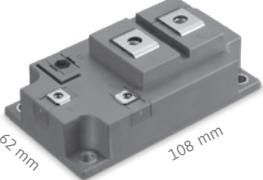
	I_C	600 V Vseries	1200 V V/Xseries	X series TG	1700 V Vseries
With NTC, solder pins	50 A	6MBI50VA-060-50	6MBI50VA-120-50		
	75 A	6MBI75VA-060-50	6MBI75VA-120-50		
V: M636, X: M669 Solder Pins	100 A	6MBI100VA-060-50	6MBI100VA-120-50	6MBI100XAE120-50	
	100 A				
	100 A		6MBI100VB-120-50	6MBI100XBA120-50	
V: M633, X: M668 Solder Pins	100 A		6MBI100VB-120-50	6MBI100XBA120-50	
	100 A		6MBI150VB-060-50	6MBI150XBA120-50	
	100 A		6MBI180VB-120-50		
	100 A		6MBI180VB-120-55 *1		
	100 A			6MBI200XBA120-50	
	100 A			6MBI200XBE120-50	
	100 A			6MBI250XRBE120-50*2	
With NTC, press fit pins	50 A	6MBI50VW-060-50	6MBI50VW-120-50		
M647 Press fit Pins	50 A				
	50 A		6MBI75VW-060-50	6MBI75VW-120-50	
	50 A				
	50 A		6MBI100VW-060-50	6MBI100VW-120-50	
	50 A				
	100 A		6MBI100VX-120-50	6MBI100XXA120-50	6MBI100VX-170-50
M648 Press fit Pins	100 A				
	100 A		6MBI150VX-060-50	6MBI150XXA120-50	
	100 A				
	100 A		6MBI180VX-120-50		
	100 A		6MBI180VX-120-55		
	100 A			6MBI200XXA120-50	
	100 A			6MBI200XXE120-50	
	100 A			6MBI250XRXE120-50*2	

Note: EconoPACK™ is registered trademark of Infineon Technologies AG, Germany.

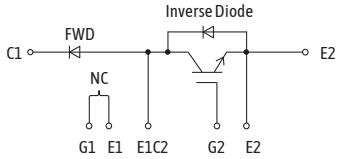
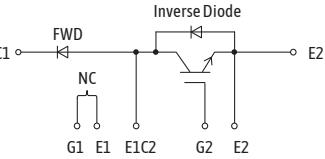
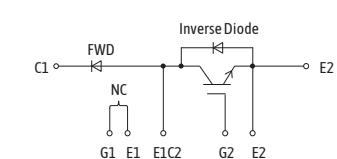
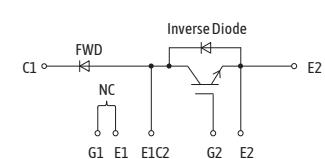
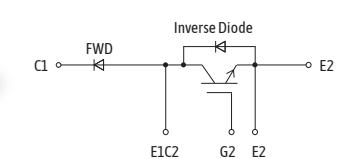
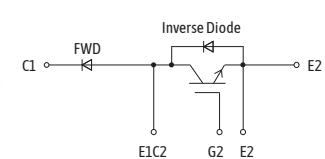
*1) 6MBI180VB-120-55, 6MBI180VX-120-55; Premium type (Low Thermal Impedance Version)

*2) RC-IGBT

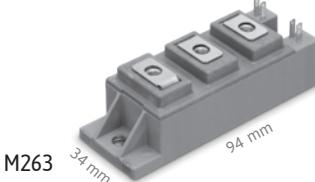
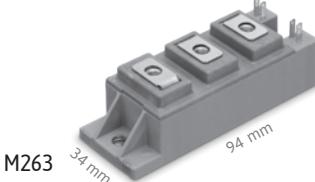
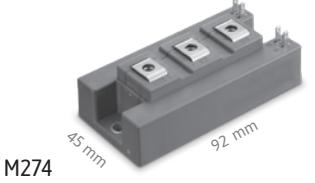
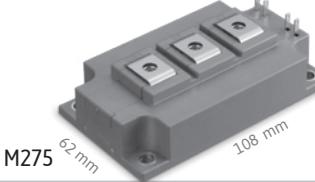
Standard 1-Pack

1-Pack	M153	 62 mm 108 mm	 	1200 V			1700 V
				V series		V series	
				I_C	Aluminium oxide DCB	Aluminium nitride DCB	Aluminium oxide DCB
				300 A			1MBI300V-170-50
				400 A	1MBI400V-120-50	1MBI400VF-120-50	1MBI400V-170-50
				600 A	1MBI600V-120-50	1MBI600VF-120-50	1MBI600V-170-50
				900 A	1MBI900V-120-50		

Standard Chopper

Chopper	M262	 34 mm 94 mm	 	600 V		1200 V	
				U/V series		U/V series	
				I_C			
				50 A			1MBI50U4F-120L-50
				75 A			1MBI75U4F-120L-50
				100 A			1MBI100U4F-120L-50
				150 A			1MBI150VA-120L-50
				200 A			1MBI200VA-120L-50
Chopper	M259	 62 mm 108 mm	 	600 V		1200 V	
				U/V series		U/V series	
				I_C			
				200 A			1MBI200U4H-120L-50
				300 A	1MBI300U2H-060L-50		
Chopper	M283	 62 mm 108 mm	 	600 V		1200 V	
				U/V series		U/V series	
				I_C			
				400 A			1MBI400VH-060L-50

Standard 2-Pack

2-Pack		I _C	650 V	Xseries	1200 V	V/Xseries	Vseries	1700 V	Xseries
			75 A		100 A	 <th>150 A</th> <td><th>200 A</th><td></td></td>	150 A	 <th>200 A</th> <td></td>	200 A
M263					2MBI75VA-120-50			2MBI75VA-170-50	2MBI75XAA170-50
M274			100 A		2MBI100VA-120-50	2MBI100XAA120-50		2MBI100VA-170-50	2MBI100XAA170-50
M275			150 A	2MBI150XAA065-50	2MBI150VA-120-50	2MBI150XAA120-50			2MBI150XAA170-50
M276			200 A	2MBI200XAA065-50		2MBI200XAA120-50			
M277			300 A		2MBI150VB-120-50				
			400 A	2MBI300XBE065-50	2MBI200VB-120-50	2MBI200XBE120-50			
			400 A	2MBI400XBE065-50		2MBI300XBE120-50			
			600 A	2MBI600XDE065-50	2MBI300VD-120-50				
			300 A		2MBI400VD-120-50	2MBI400XDE120-50			
			600 A		2MBI600XDE120-50				
			150 A					2MBI150VH-170-50	2MBI150XHA170-50
			200 A		2MBI200VH-120-50			2MBI200VH-170-50	2MBI200XHA170-50
			300 A		2MBI300VH-120-50	2MBI300XHA120-50		2MBI300VH-170-50	2MBI300XHA170-50
			400 A						2MBI400XHA170-50
			450 A		2MBI450VH-120-50	2MBI450XHA120-50			
			450 A		2MBI450VH-120F-50*				
			600 A			2MBI600XHA120-50			
			300 A		2MBI300VE-120-50			2MBI300VE-170-50	2MBI300XEE170-50
			400 A					2MBI400VE-170-50	2MBI400XEE170-50
			450 A		2MBI450VE-120-50	2MBI450XEE120-50			
			600 A	2MBI600XEE065-50	2MBI600VE-120-50	2MBI600XEE120-50			

*1) AC-Switch

Standard 2-Pack

	I _C	1200 V			1700 V		
		Vseries	Vseries with SiN-substrate ^{*1}	Xseries 	Vseries	Vseries with SiN-substrate ^{*1}	Xseries 
With NTC, solder pins	225 A	2MBI225VN-120-50	2MBI225VN-120S-50	2MBI225XNA120-50			2MBI225XNA170-50
	300 A	2MBI300VN-120-50	2MBI300VN-120S-50	2MBI300XNA120-50	2MBI300VN-170-50		2MBI300XNA170-50
	450 A	2MBI450VN-120-50	2MBI450VN-120S-50	2MBI450XNA120-50	2MBI450VN-170-50		2MBI450XNA170-50
	550 A					2MBI550VN-170-50 ^{*3}	
	600 A			2MBI600XNG120-50 ^{*1}			2MBI600XNG170-50 ^{*1}
	600 A		2MBI600VN-120-50	2MBI600XNE120-50 ^{*2}			2MBI600XNE170-50 ^{*2}
	800 A			2MBI800XNE120-50 ^{*2}			2MBI800XRNE170-50 ^{*2,3}
	1000 A			2MBI1000XRNE120-50 ^{*2,3}			
With NTC, press fit pins	225 A	2MBI225VX-120-50		2MBI225XNB120-50	2MBI225VX-170-50		2MBI225XNB170-50
	300 A	2MBI300VX-120-50		2MBI300XNB120-50	2MBI300VX-170-50		2MBI300XNB170-50
	450 A	2MBI450VX-120-50		2MBI450XNB120-50	2MBI450VX-170-50		2MBI450XNB170-50
	550 A					2MBI550VX-170-50	
	600 A		2MBI600VX-120-50	2MBI600XNH120-50 ^{*1}			2MBI600XNH170-50 ^{*1}
	600 A			2MBI600XNF120-50 ^{*2}			2MBI600XNF170-50 ^{*2}
	800 A			2MBI800XNF120-50 ^{*2}			2MBI800XRNF170-50 ^{*2,3}
	1000 A			2MBI1000XRNF120-50 ^{*2,3}			

^{*1)} Low thermal impedance version

^{*2)} Low thermal impedance and high tracking capability type

^{*3)} RC-IGBT

I _C	1200 V				1700 V	
	Vseries		Xseries		Vseries	
	Low switching loss	Soft turn off	Low switching loss	Soft turn off	Low switching loss	Soft turn off
M271	600 A	2MBI600VXA-120E-50				
		2MBI600VXA-120E-54				
	650 A				2MBI650VXA-170E-50	2MBI650XXA170-50 ^{*1}
					2MBI650VXA-170E-54	
					2MBI650VXA-170EA-50	
					2MBI650VXA-170EA-54	
	900 A	2MBI900VXA-120E-50	2MBI900VXA-120P-50	2MBI900XXA120E-50	2MBI900XXA120P-50	
		2MBI900VXA-120E-54	2MBI900VXA-120P-54			
	1200 A			2MBI1200XXE120E-50	2MBI1200XXE120P-50	2MBI1200XXE170-50
M272	1000 A				2MBI1000VXB-170E-50	2MBI1000XXB170-50 ^{*1}
					2MBI1000VXB-170E-54	
					2MBI1000VXB-170EA-50	
					2MBI1000VXB-170EA-54	
	1400 A	2MBI1400VXB-120E-50	2MBI1400VXB-120P-50		2MBI1400XXB120P-50	2MBI1400VXB-170E-50
		2MBI1400VXB-120E-54	2MBI1400VXB-120P-54		2MBI1400VXB-170E-54	2MBI1400VXB-170P-54
	1800 A				2MBI1800XXF120P-50	2MBI1800XXF170-50
M291	1800 A					2MBI1800XXG170-50
						2MBI2200XRXF170-50 ^{*1,2}
	2200 A					
	2400 A				2MBI2400XRXF120-50 ^{*1,2}	

Note 1: The products with 'EA' on this page have large FWD.

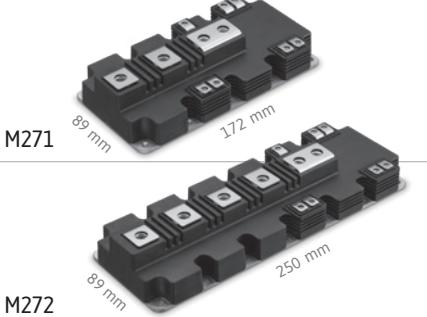
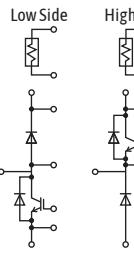
^{*1)} Under development

Note 2: PrimePACK™ is registered trademark of Infineon Technologies AG, Germany.

^{*2)} RC-IGBT

Note 3: The products with suffix '-54' on this page are labeled to specify the rank of V_{sat} and V_f .

PrimePACK™

Chopper	 M271 89 mm 172 mm M272 89 mm 250 mm	 Low Side High Side	I_C	1200 V		1700 V	
				V series		V series	
				Low side configuration	High side configuration	Low side configuration	High side configuration
				650 A		1MBI650VXA-170EL-50	1MBI650VXA-170EH-50
900 A						1MBI650VXA-170EL-54* ²	1MBI650VXA-170EH-54* ²
				1MBI900VXA-120PD-50* ¹	1MBI900VXA-120PC-50* ¹		
1000 A				1MBI900VXA-120PD-54* ²	1MBI900VXA-120PC-54* ²		
						1MBI1000VXB-170EL-50	1MBI1000VXB-170EH-50
1400 A						1MBI1000VXB-170EL-54* ²	1MBI1000VXB-170EH-54* ²
				1MBI1400VXB-120PL-54* ²	1MBI1400VXB-120PH-54* ²	1MBI1400VXB-170PL-50	1MBI1400VXB-170PH-50
						1MBI1400VXB-170PL-54* ²	1MBI1400VXB-170PH-54* ²

*¹) Antiparallel diode current rating is 120 A. Application circuit is Boost/Buck chopper only.

*²) The products with suffix '-54' on this page are labeled to specify the rank of V_{sat} and V_F .

Note: PrimePACK™ is registered trademark of Infineon Technologies AG, Germany.

High Power next Core (HPnC)

I_C	1700 V		3300 V	
	X series		7G	
	7th generation			
450 A			2MBI450XVF330-50*	
1000 A	2MBI1000XVF170-50			
1200 A	2MBI1200XVF170-50*			

*Under development

High Power Modules

		I_C	1200 V V series Trench-FS	1700 V V series Trench-FS		3300 V U series Trench-FS	
			Cu-baseplate	Cu-baseplate	AISiC-baseplate	AISiC-baseplate	AISiC-baseplate Low switching loss
1-Pack	M151, M155	800 A				1MBI800UG-330	
	M151, M155	1000 A				1MBI1000UG-330	1MBI1000UG-330B
	M152, M156	1200 A	1MBI1200VC-120P	1MBI1200VC-170E	1MBI1200VR-170E		
	M152, M156	1600 A	1MBI1600VC-120P	1MBI1600VC-170E	1MBI1600VR-170E		
	M152, M156	2400 A	1MBI2400VC-120P	1MBI2400VC-170E	1MBI2400VR-170E		
	M152, M156	1200 A				1MBI1200UE-330	
	M152, M156	1500 A				1MBI1500UE-330	1MBI1500UE-330B
	M152, M156	2400 A	1MBI2400VD-120P	1MBI2400VD-170E	1MBI2400VS-170E		
	M152, M156	3600 A	1MBI3600VD-120P	1MBI3600VD-170E	1MBI3600VS-170E		
	M256, M278	600 A	2MBI600VG-120P	2MBI600VG-170E	2MBI600VT-170E		
2-Pack	M256, M278	800 A	2MBI800VG-120P	2MBI800VG-170E	2MBI800VT-170E		
	M256, M278	1200 A	2MBI1200VG-120P	2MBI1200VG-170E	2MBI1200VT-170E		

Note:

M151, M152, M256: Cu-baseplate
M155, M156, M278: AISiC-baseplate

Advanced T-type NPC 3-Level Modules

	I _C	600 V		1200 V		1700 V	
		Vseries	RB-IGBT	Vseries	RB-IGBT	Vseries	RB-IGBT
3 Phase With NTC, solder pins	50 A			12MBI50VN-120-50	600 V		
M1203	75 A			12MBI75VN-120-50	600 V		
M1202	100 A			12MBI100VN-120-50	600 V		
3 Phase With NTC, press fit pins	50 A			12MBI50VX-120-50	600 V		
M1202	75 A			12MBI75VX-120-50	600 V		
M1202	100 A			12MBI100VX-120-50	600 V		
1 Phase	220 A					4MBI220VG-170R2-50	1200 V
M403	300 A			4MBI300VG-120R-50	600 V		
M403	340 A			4MBI340VG-120R-50	900 V		
M403	400 A	4MBI400VG-060R-50	600 V	4MBI400VF-120R-50 ^{*1}	600 V		
M403	450 A			4MBI450VF-120RD-50 ^{*2*3}	600 V		
1 Phase	450 A			4MBI450VB-120R1-50	900 V	4MBI450VB-170R2-50	1200 V
M404	600 A			4MBI450VB-120R1-60 ^{*4}	900 V	4MBI450VB-170R2-60 ^{*4}	1200 V
M404	650 A					4MBI600VB-170R2-50	1200 V
M404	900 A			4MBI650VB-120R1-50	900 V	4MBI600VB-170R2-60 ^{*4}	1200 V
M404				4MBI650VB-120R1-60 ^{*4}	900 V		
M404				4MBI900VB-120R1-50	900 V		
M404				4MBI900VB-120R1-60 ^{*4}	900 V		
M404				4MBI900VB-120RA-50	900 V		
M404				4MBI900VB-120RA-60 ^{*4}	900 V		

Note: AT-NPC (Advanced T-type Neutral-Point-Clamped) 3-level Module integrates RB-IGBT (Reverse Blocking-IGBT) in addition to ordinary IGBT and FWD in single package.

^{*1)} Particular for Inverter of UPS or PCS ^{*2)} Particular for Converter of UPS ^{*3)} Under development

^{*4)} -60 is module with characteristics indication

I-type NPC 3-Level Module

		600 V	1200 V	1700 V
	I_C	Vseries	Vseries	Vseries
1 Phase				
M404	89 mm 250 mm		600 A	4MBI600VC-120-50

Small IPM (Intelligent Power Modules)



- P-side fault status output (Alarm)
- N-side fault status output (Alarm)
- Under voltage protection (self shutdown)
- Over current protection (self shutdown)
- Overheating protection (self shutdown)
- Temperature sensor output (V_{temp} , out)

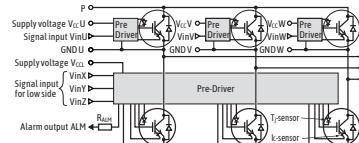
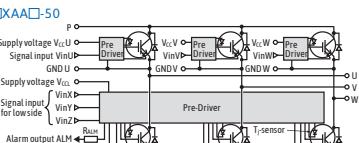
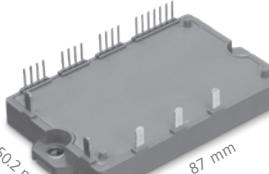
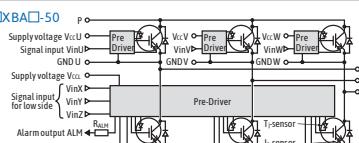
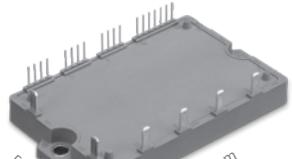
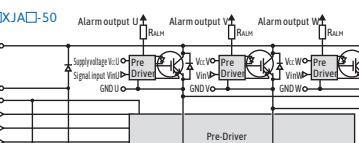


I_C	600 V Xseries
15 A	6MBP15XSD060-50
20 A	6MBP20XSD060-50
30 A	6MBP30XSD060-50
35 A	6MBP35XSD060-50
15 A	6MBP15XSF060-50
20 A	6MBP20XSF060-50
30 A	6MBP30XSF060-50
35 A	6MBP35XSF060-50
50 A	6MBP50XTA065-50
75 A	6MBP75XTA065-50
50 A	6MBP50XTC065-50
75 A	6MBP75XTC065-50

IPM (Intelligent Power Modules)

Built-in protection functions

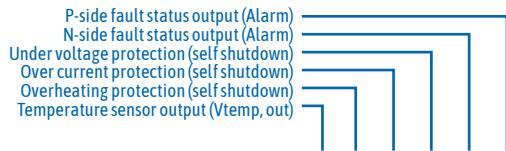
- P-side fault status output (Alarm)
- N-side fault status output (Alarm)
- Under voltage protection (self shutdown)
- Over current protection (self shutdown)
- Overheating protection (self shutdown)
- Temperature sensor output (Vtemp, out)

	P-side fault status output (Alarm)	N-side fault status output (Alarm)	Under voltage protection (self shutdown)	Over current protection (self shutdown)	Overheating protection (self shutdown)	Temperature sensor output (Vtemp, out)	I_C	600 V	650 V	1200 V
								Vseries	Xseries	Vseries
Without Brake-Chopper	P639	 36 mm x 70 mm	 Supply voltage $V_{U,U}$, $V_{U,V}$, $V_{U,W}$ Pre-Drivers GND U	10 A						6MBP10XRHA120-50*
				20 A				6MBP20XRHA065-50*		
				30 A				6MBP30XRHA065-50*		
	P629	 49.5 mm x 70 mm	 Supply voltage $V_{U,U}$, $V_{U,V}$, $V_{U,W}$ Pre-Drivers GND U	10 A				6MBP10VAA120-50		
				15 A				6MBP15VAA120-50		
				20 A	6MBP20VAA060-50				6MBP25VAA120-50	6MBP25XAA120-50*
	P626	 50.2 mm x 87 mm	 Supply voltage $V_{U,U}$, $V_{U,V}$, $V_{U,W}$ Pre-Drivers GND U	25 A				6MBP25VBA120-50	6MBP25XBA120-50*	
				35 A				6MBP35VBA120-50	6MBP35XBA120-50*	
				50 A	6MBP50VBA060-50	6MBP50XBA065-50*	6MBP50VBA120-50	6MBP50XBA120-50*		
With Brake-Chopper	P644	 50.2 mm x 87 mm	 Supply voltage $V_{U,U}$, $V_{U,V}$, $V_{U,W}$ Pre-Drivers GND U	25 A					7MBP25XJA120-50*	
				35 A					7MBP35XJA120-50*	
				50 A		7MBP50XJA065-50*				
				50 A		7MBP75XJA065-50*				

* Under development

IPM (Intelligent Power Modules)

Built-in protection functions



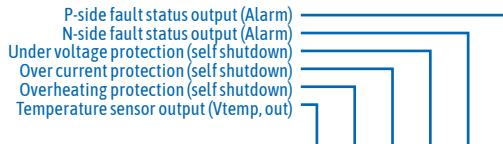
			600V	650V	1200V	
		I _c	Vseries	Xseries	Vseries	Xseries
Without Brake-Chopper	6MBP□XFN□-50	25A			6MBP25VFN120-50	6MBP25XFN120-50*
		35A			6MBP35VFN120-50	6MBP35XFN120-50*
		50A	6MBP50VFN060-50	6MBP50XFN065-50*	6MBP50VFN120-50	6MBP50XFN120-50*
		75A	6MBP75VFN060-50	6MBP75XFN065-50*		
		100A	6MBP100VFN060-50	6MBP100XFN065-50*		
	6MBP□VFN□-50	25A			7MBP25VFN120-50	7MBP25XFN120-50*
		35A			7MBP35VFN120-50	7MBP35XFN120-50*
		50A	7MBP50VFN060-50	7MBP50XFN065-50*	7MBP50VFN120-50	7MBP50XFN120-50*
		75A	7MBP75VFN060-50	7MBP75XFN065-50*		
		100A	7MBP100VFN060-50	7MBP100XFN065-50*		
With Brake- Chopper	7MBP□XFN□-50	25A			7MBP25VFN120-50	7MBP25XFN120-50*
		35A			7MBP35VFN120-50	7MBP35XFN120-50*
		50A	7MBP50VFN060-50	7MBP50XFN065-50*	7MBP50VFN120-50	7MBP50XFN120-50*
		75A	7MBP75VFN060-50	7MBP75XFN065-50*		
		100A	7MBP100VFN060-50	7MBP100XFN065-50*		
	7MBP□VFN□-50	25A			7MBP25VFN120-50	7MBP25XFN120-50*
		35A			7MBP35VFN120-50	7MBP35XFN120-50*
		50A	7MBP50VFN060-50	7MBP50XFN065-50*	7MBP50VFN120-50	7MBP50XFN120-50*
		75A	7MBP75VFN060-50	7MBP75XFN065-50*		
		100A	7MBP100VFN060-50	7MBP100XFN065-50*		
P636	6MBP□XGA□-50	25A			6MBP25XGA120-50*	
		35A			6MBP35XGA120-50*	
		50A	6MBP50XGA065-50*		6MBP50XGN120-50*	
		75A	6MBP75XGA065-50*		6MBP75XGN120-50*	
		100A	6MBP100XGN065-50*			
	6MBP□VGA□-50	150A	6MBP150XGN065-50*			
		25A				
		35A				
		50A				
		75A				

Note 1: The products with 'VDN' on this page have high heat dissipation characteristics.

* Under development

IPM (Intelligent Power Modules)

Built-in protection functions



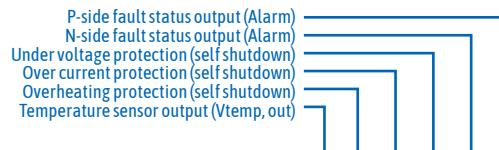
	I_C	600 V V series	650 V X series	1200 V V series	1200 V X series
Without Brake-Chopper	25 A			6MBP25VDA120-50	6MBP25XDA120-50*
	35 A			6MBP35VDA120-50	6MBP35XDA120-50*
	50 A	6MBP50VDA060-50	6MBP50XDA065-50*	6MBP50VDA120-50	6MBP50XDA120-50*
				6MBP50VDN120-50	6MBP50XDN120-50*
	75 A	6MBP75VDA060-50	6MBP75XDA065-50*	6MBP75VDA120-50	6MBP75XDA120-50*
				6MBP75VDN120-50	6MBP75XDN120-50*
	100 A	6MBP100VDA060-50	6MBP100XDA065-50*	6MBP100VDA120-50	6MBP100XDA120-50*
		6MBP100VDN060-50	6MBP100XDN065-50*	6MBP100VDN120-50	6MBP100XDN120-50*
	150 A	6MBP150VDA060-50	6MBP150XDA065-50*		6MBP150XDA120-50*
		6MBP150VDN060-50	6MBP150XDN065-50*		6MBP150XDN120-50*
	200 A	6MBP200VDA060-50	6MBP200XDA065-50*		
		6MBP200VDN060-50	6MBP200XDN065-50*		
	250 A		6MBP250XDA065-50*		
			6MBP250XDN065-50*		
With Brake-Chopper	25 A			7MBP25VDA120-50	7MBP25XDA120-50*
	35 A			7MBP35VDA120-50	7MBP35XDA120-50*
	50 A	7MBP50VDA060-50	7MBP50XDA065-50*	7MBP50VDA120-50	7MBP50XDA120-50*
				7MBP50VDN120-50	7MBP50XDN120-50*
	75 A	7MBP75VDA060-50	7MBP75XDA065-50*	7MBP75VDA120-50	7MBP75XDA120-50*
				7MBP75VDN120-50	7MBP75XDN120-50*
	100 A	7MBP100VDA060-50	7MBP100XDA065-50*	7MBP100VDA120-50	7MBP100XDA120-50*
		7MBP100VDN060-50	7MBP100XDN065-50*	7MBP100VDN120-50	7MBP100XDN120-50*
	150 A	7MBP150VDA060-50	7MBP150XDA065-50*		7MBP150XDA120-50*
		7MBP150VDN060-50	7MBP150XDN065-50*		7MBP150XDN120-50*
	200 A	7MBP200VDA060-50	7MBP200XDA065-50*		
		7MBP200VDN060-50	7MBP200XDN065-50*		
P630	250 A		7MBP250XDA065-50*		
			7MBP250XDN065-50*		

Note 1: The products with 'VDN' on this page have high heat dissipation characteristics.

* Under development

IPM (Intelligent Power Modules)

Built-in protection functions



	I_C	600 V V series	650 V X series 7G	1200 V V series	1200 V X series 7G
Without Brake-Chopper					
6MBP□XEN□-50					
6MBP□VEA□-50					
With Brake-Chopper					
7MBP□XEN□-50					
7MBP□VEA□-50					
	100A			6MBP100VEA120-50	6MBP100XEN120-50*
	150A			6MBP150VEA120-50	6MBP150XEN120-50*
	200A	6MBP200VEA060-50	6MBP200XEN065-50*	6MBP200VEA120-50	6MBP200XEN120-50*
	300A	6MBP300VEA060-50	6MBP300XEN065-50*		6MBP300XEN120-50*
	400A	6MBP400VEA060-50	6MBP450XEN065-50*		
	450A				
	100A			7MBP100VEA120-50	7MBP100XEN120-50*
	150A			7MBP150VEA120-50	7MBP150XEN120-50*
	200A	7MBP200VEA060-50	7MBP200XEN065-50*	7MBP200VEA120-50	7MBP200XEN120-50*
	300A	7MBP300VEA060-50	7MBP300XEN065-50*		7MBP300XEN120-50*
	400A	7MBP400VEA060-50			
	450A		7MBP450XEN065-50*		

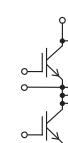
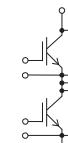
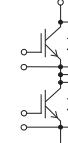
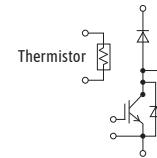
* Under development

High Speed Modules



		1200 V	
		I_C	High Speed IGBT
Chopper	M249	200 A	1MBI200HH-120L-50
		300 A	1MBI300HH-120L-50
		400 A	1MBI400HH-120L-50
2-Pack	M233	100 A	2MBI100HB-120-50
	M249	150 A	2MBI150HH-120-50
	M276	200 A	2MBI200HH-120-50
		100 A	2MBI100HJ-120-50
		150 A	2MBI150HJ-120-50
		200 A	2MBI200HJ-120-50
		300 A	2MBI300HJ-120-50

Thermistor



Hybrid SiC Modules

	I_C	600 V V series 	Vseries 	1200 V VW series 	Vseries 
2-Pack	200 A		2MSI200VAB-120-53		
	300 A		2MSI300VAH-120C-53	2MSI200VWAH-120-53* ² 2MSI300VWAH-120-53* ²	
	400 A				2MSI400VAE-170-53
	300 A		2MSI300VAN-120-53	2MSI300VWAN-120-53* ²	
	450 A		2MSI450VAN-120-53		2MSI550VAN-170-53
PIM	550 A				
	600 A		2MSI600VAN-120-53		
	1200 A				2MSI1200VAT-170EC* ¹
	35 A		7MSR35VAB120-50		
	50 A	7MSR50VAB060-50	7MSR50VAB120-50		
	75 A	7MSR75VAB060-50			
	100 A	7MSR100VAB060-50			

*¹) Low switching losses *²) Under development

Hybrid SiC Modules

		I_C	IGBT Hybrid Modules with SiC-SBD X series	3300 V	SiC-SBD series	
1-Pack	M155	1200 A	1MSI1200XAGF330-03*			
	M156	1800 A	1MSI1800XAEF330-03*			
Diode	M289	900 A			2SI900AGF330-03*	

* Under development



Discrete IGBT

	I_C	600 V			650 V		1200 V		
		Vseries	Highspeed Vseries	RBseries	Highspeed Wseries	XSseries	Vseries	Highspeed Vseries	High speed Wseries
 	15 A							FGW15N120H	
	25 A								FGW25N120W
	30 A				FGW30N65W	FGW30XS65		FGW30N120H	
	35 A	FGW35N60H			FGW40N65W	FGW40XS65		FGW40N120H	FGW40N120W
	40 A				FGW50N65W	FGW50XS65			
	50 A	FGW50N60H			FGW60N65W				
	60 A				FGW75N65W	FGW75XS65			
	75 A	FGW75N60H							
	15 A						FGW15N120VD	FGW15N120HD	
	25 A						FGW25N120VD		FGW25N120WD/WE
	30 A	FGW30N60VD				FGW30XS65		FGW30N120HD	
	35 A		FGW35N60HD/HC						
	40 A				FGW40N65WD/WE	FGW40XS65C	FGW40N120VD	FGW40N120HD	FGW40N120WD/WE
	50 A	FGW50N60VD	FGW50N60HD/HC		FGW50N65WD/WE	FGW50XS65C/D			
	60 A				FGW60N65WD/WE				
	75 A		FGW75N60HD/HC		FGW75N65WE	FGW75XS65C/D			
	85 A			FGW85N60RB					
TO-247-P2	40 A								FGZ40N120WE
	50 A				FGZ50N65WD/WE				
	75 A				FGZ75N65WE	FGZ75XS65C			
TO-247-4-P2									

Recommended operating frequency

-10 kHz	-20 kHz	-40 kHz	-100 kHz
V/RB			
Highspeed V			
XS series		Highspeed W	

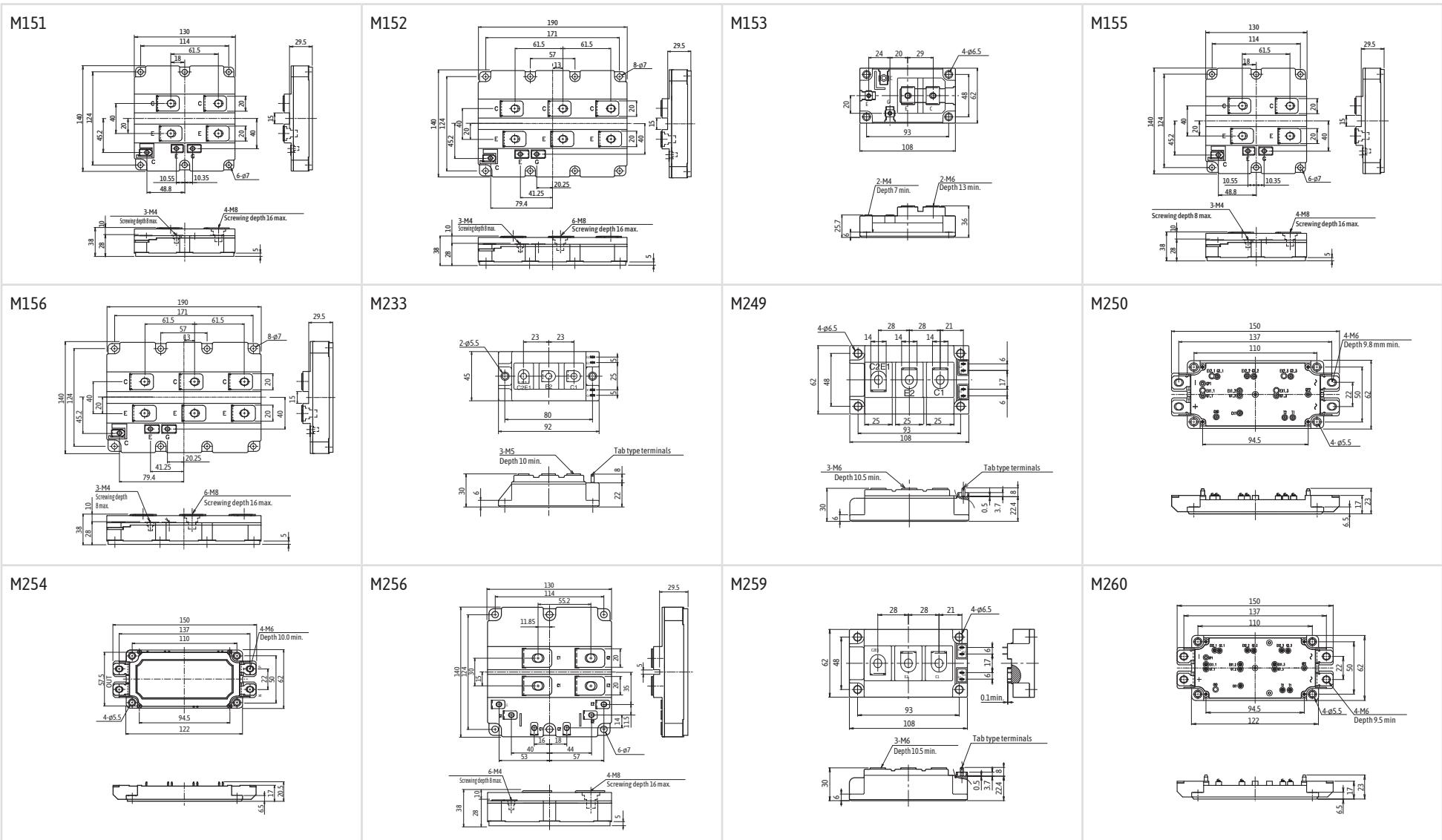
Rectifier Diode

I _C	Ultra Fast Recovery Diodes			Soft Recovery - Fast Recovery Diodes		
	600 V		650 V	1200 V		
	15 A	FDRP15S60L				
TO-220	25 A	FDRP25S60L				
	30 A					
	75 A					
TO-247-P2	12 A				FDRW12S120J	
	15 A	FDRW15S60L				
	20 A				FDRW20S120J	
	25 A	FDRW25S60L				
	30 A				FDRW30S120J	
	35 A	FDRW35S60L				
	40 A				FDRW40C120J	
	50 A		FDRW50C60L			
	60 A					FDRW60C120J
70 A		FDRW70C60L				
TO-247-2-P2	60 A	FDRW60T60L				
	75 A				FDRW75T65L	

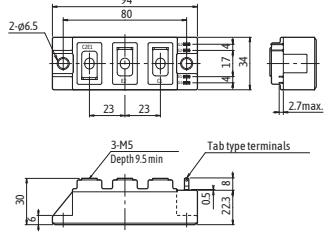
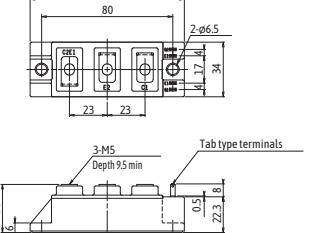
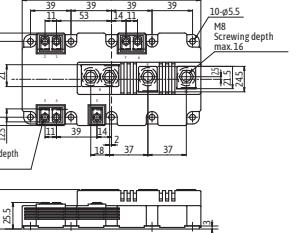
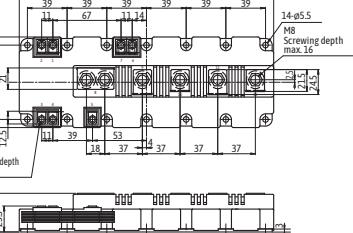
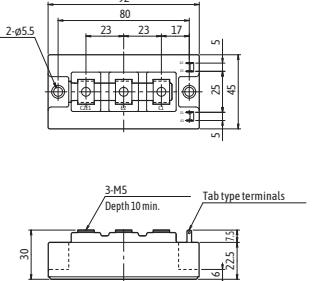
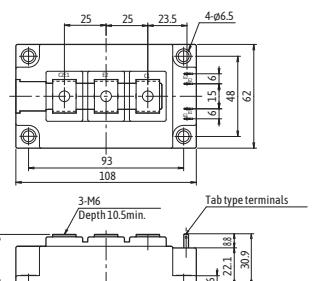
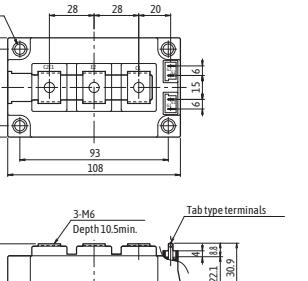
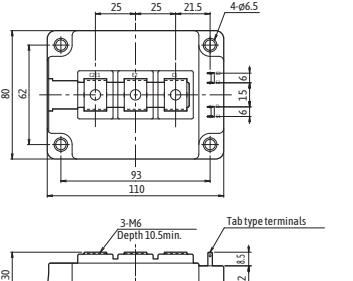
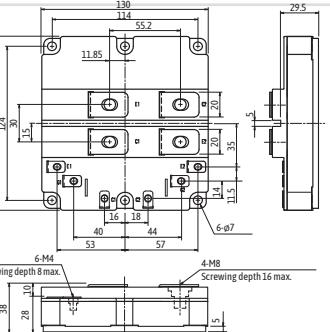
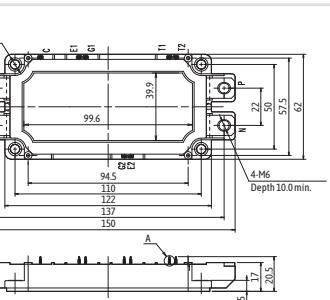
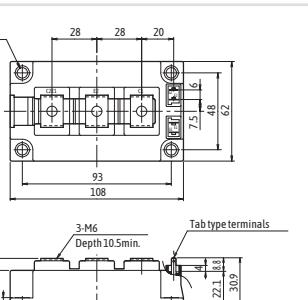
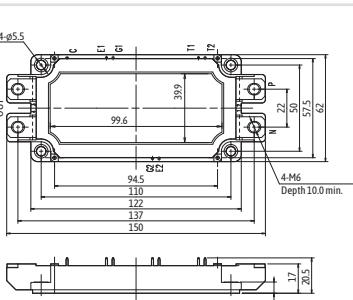
SiC-SBD

I _C	Ultra Fast Recovery Diodes			Soft Recovery - Fast Recovery Diodes	
	650 V		1200 V		
10 A	FDCC10S65				
20 A		FDCC20C65			
25 A	FDCC25S65				
T-Pack(s)					
TO-220-2	10 A	FDCP10S65			
	25 A	FDCP25S65			
TO-220	20 A		FDCP20C65		
			FDCA20C65		
TO-220F	20 A			FDCA18S120	
	10 A	FDCA10S65			
	18 A				FDCA18S120
TO-220F-2	25 A	FDCA25S65			
TO-247	10 A	FDCY10S65			
	18 A			FDCY18S120	
	20 A		FDCY20C65		
	25 A	FDCY25S65			
	36 A				FDCY36C120
TO-247-2-P2	50 A		FDCY50C65		
	18 A			FDCW18T120	

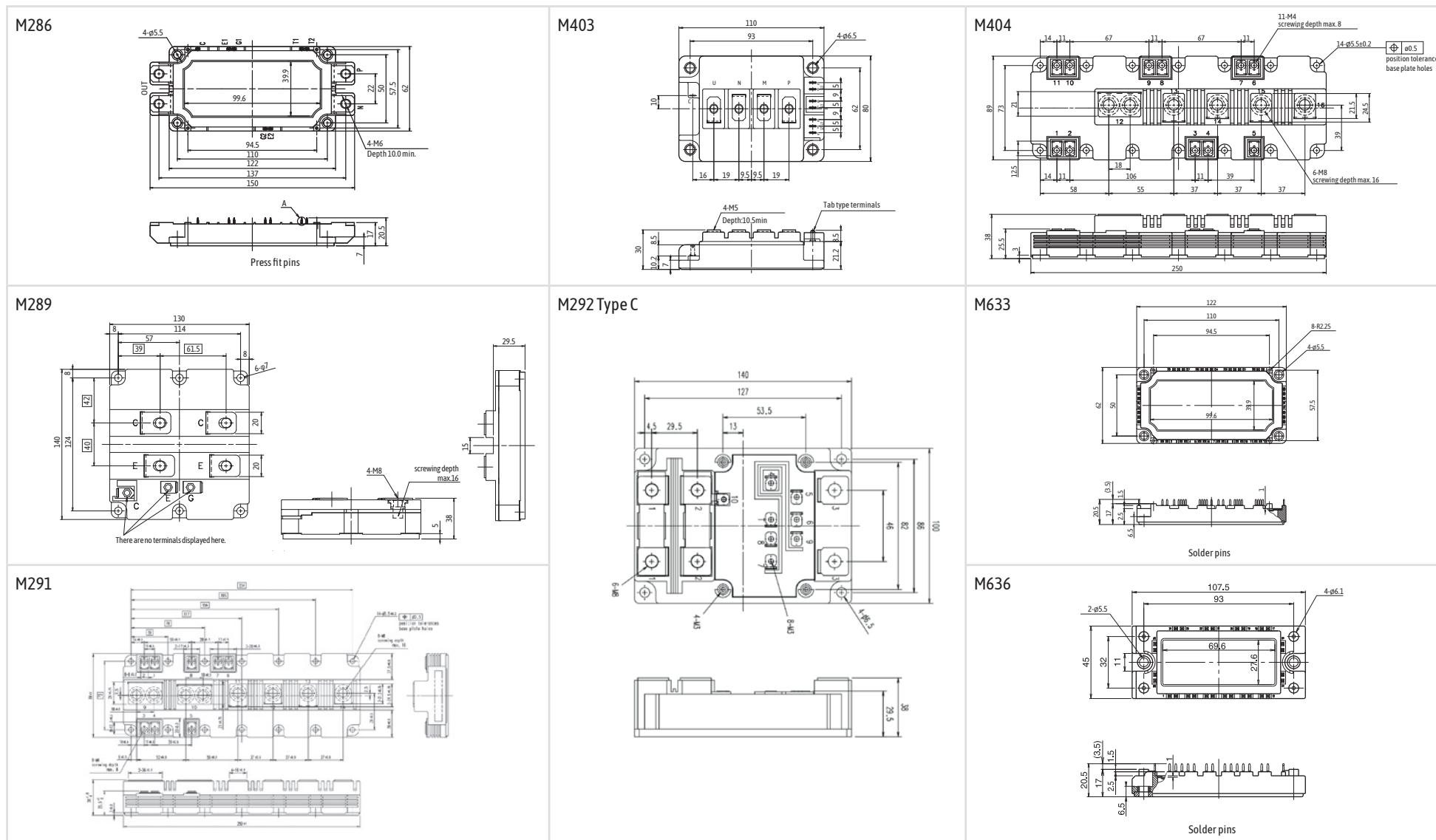
Package Outlines (in mm)



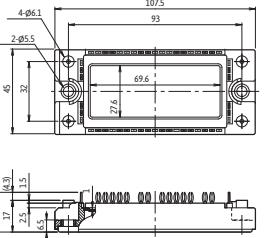
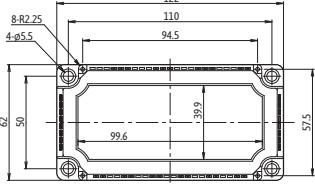
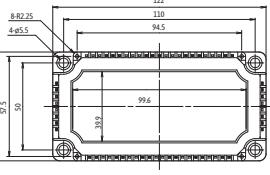
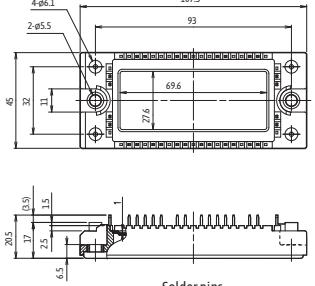
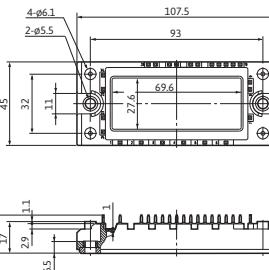
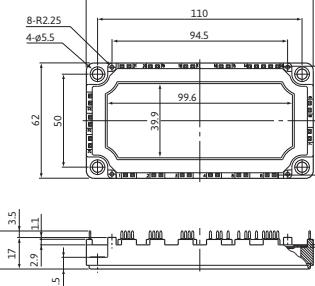
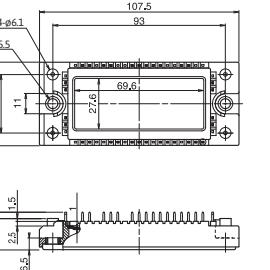
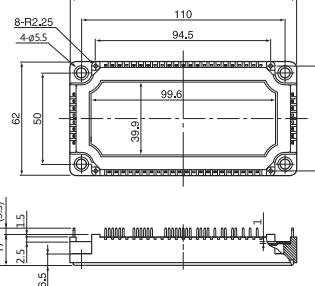
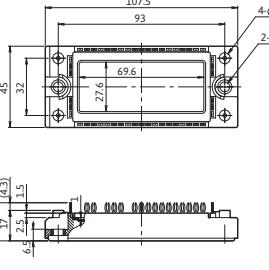
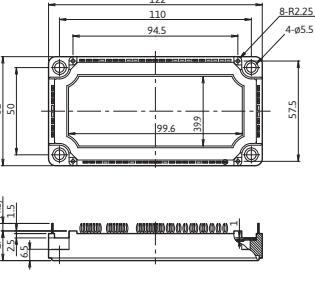
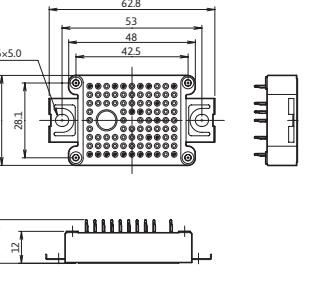
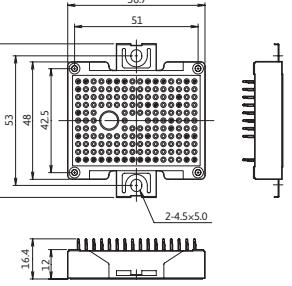
Package Outlines (in mm)

M262 	M263 	M271 	M272 
M274 	M275 	M276 	M277 
M278 	M282 	M283 	M285 

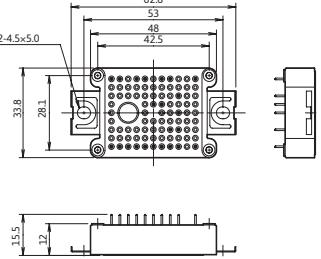
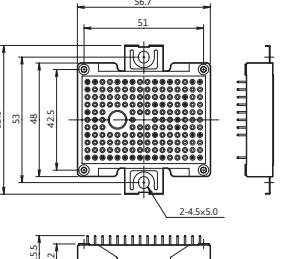
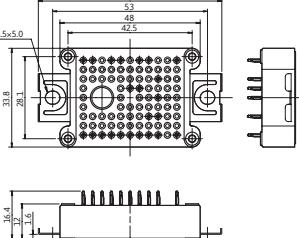
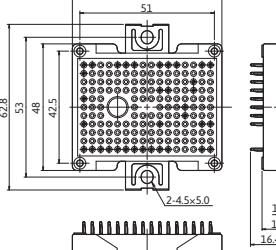
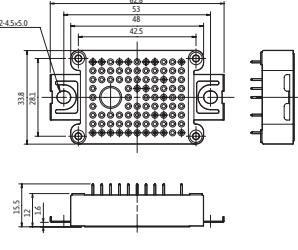
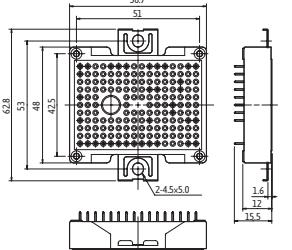
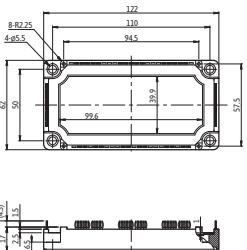
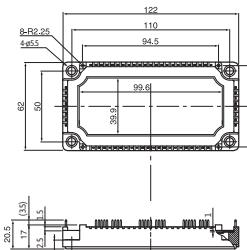
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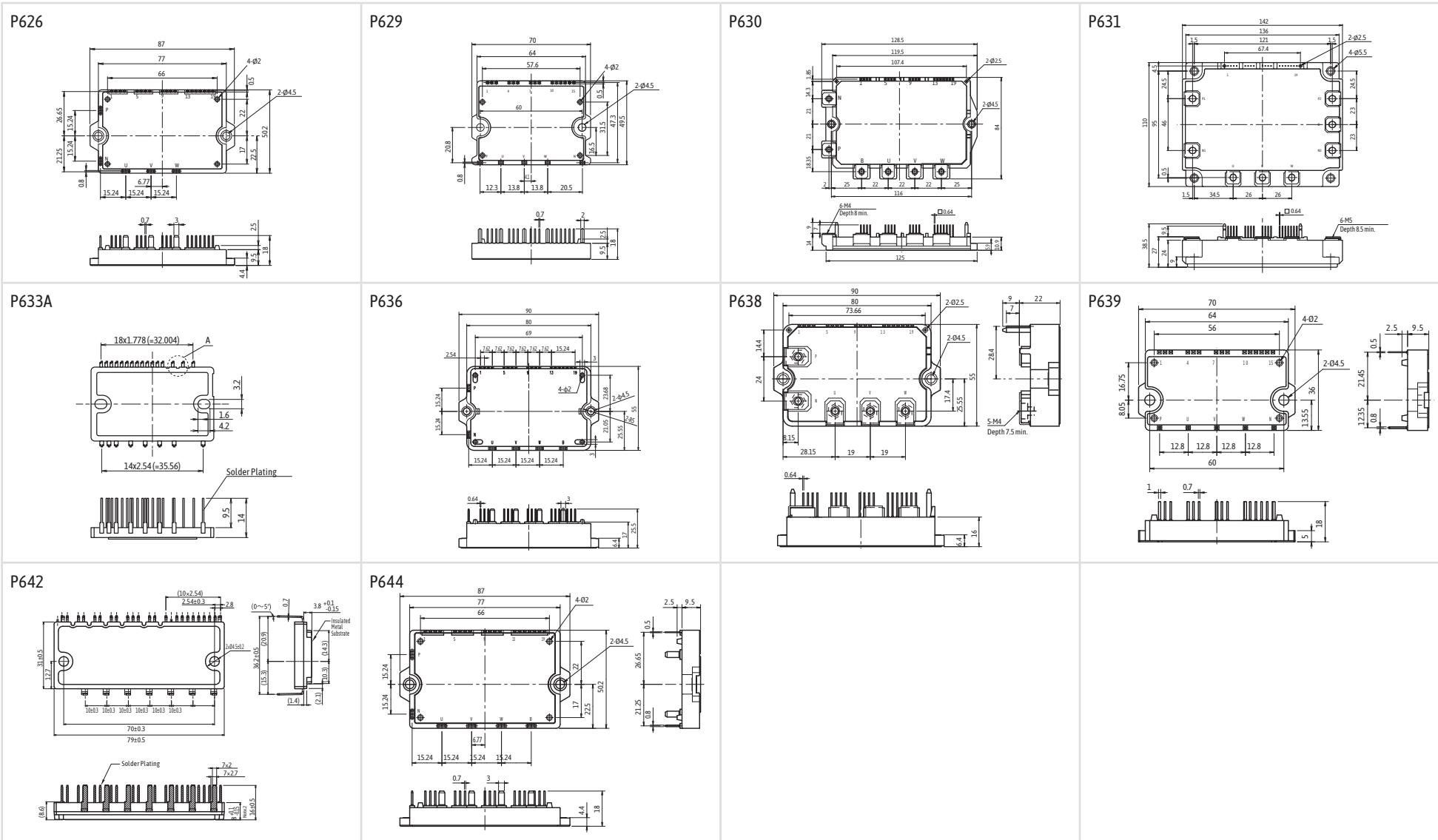
Package Outlines (in mm)

<p>M647</p>  <p>Press fit pins</p>	<p>M648</p>  <p>Press fit pins</p>	<p>M668</p>  <p>Solder pins</p>	<p>M669</p>  <p>Solder pins</p>
<p>M711</p>  <p>Solder pins</p>	<p>M712</p>  <p>Solder pins</p>	<p>M719</p>  <p>Solder pins</p>	<p>M720</p>  <p>Solder pins</p>
<p>M721</p>  <p>Press fit pins</p>	<p>M722</p>  <p>Press fit pins</p>	<p>M726</p>  <p>Press fit pins</p>	<p>M727</p>  <p>Press fit pins</p>

Package Outlines (in mm)

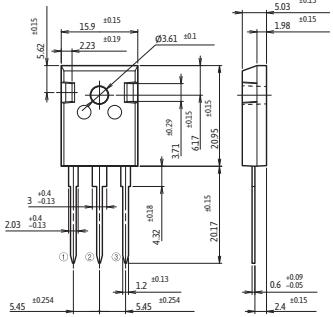
 <p>M728</p> <p>Solder pins</p>	 <p>M729</p> <p>Solder pins</p>	 <p>M730</p> <p>Press fit pins</p>	 <p>M731</p> <p>Press fit pins</p>
 <p>M732</p> <p>Solder pins</p>	 <p>M733</p> <p>Solder pins</p>	 <p>M1202</p> <p>Press fit pins</p>	 <p>M1203</p> <p>Press fit pins</p>

Package Outlines (in mm)

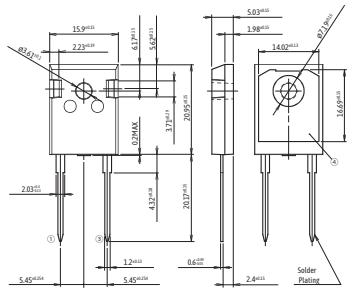


Package Outlines (in mm)

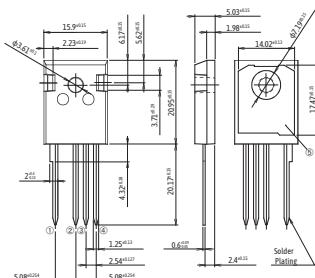
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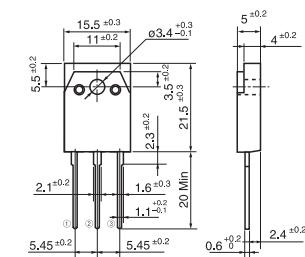
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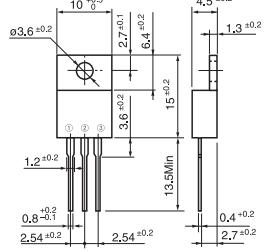
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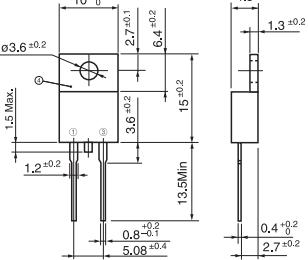
TO-247



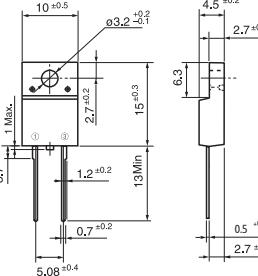
TO-220



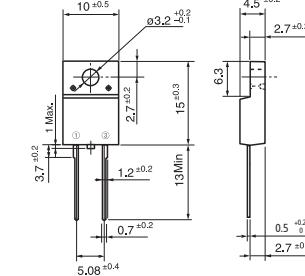
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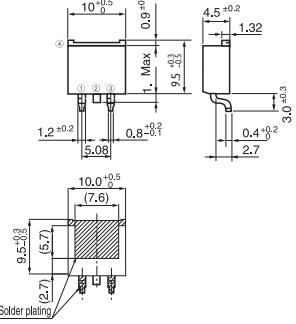
TO-220F



TO-220F-2



T-Packs(s)



Corporate Social Responsibility

Fuji Electric contributes to the resolution of social and environmental issues through its business activities.

Contribution to the Realization of a Sustainable Society

Guided by its corporate philosophy and its management policies, Fuji Electric has continued to contribute to the resolution of social and environmental issues by pursuing innovation in energy and environment technology and creating high-value, eco-friendly products.

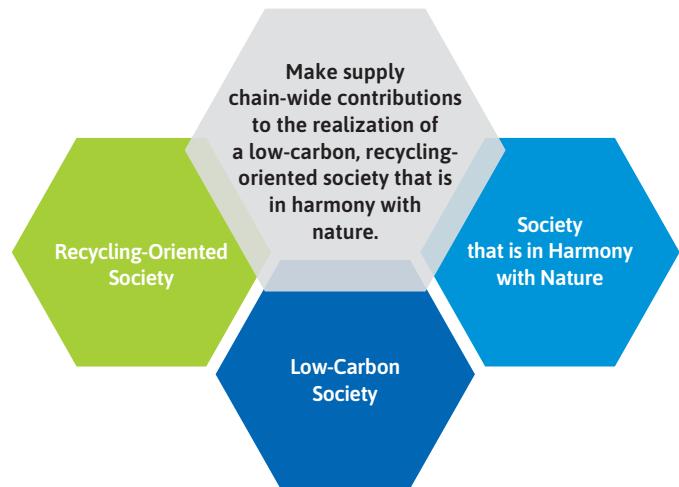


We have established the Fuji Electric Code of Conduct as a policy by which the company and all employees come together as one under shared common values. Acting in accordance with this code, Fuji Electric is contributing to the accomplishment of the United Nations Sustainable Development Goals through its business activities.

Environmental Initiatives

Fuji Electric is making proactive efforts to combat global environment issues based on its Basic Environmental Protection Policy. Moreover we have formulated our Environmental Vision 2050 based on the Paris Agreement as well as on Japan's plan for global warming countermeasures. This vision functions as a roadmap for our efforts to make supply chain-wide contributions to the realization of a low-carbon society through the reduction of greenhouse gases from production activities and the spread of clean energy technologies and energy-saving products, a recycling oriented society through green procurement and 3R (reduce, reuse, recycle) activities and a society that is in harmony with nature by lowering the impact of our business activities on ecosystems by zero.

Environmental Vision by 2050



Brand Statement

Innovating Energy Technology

Brand Promise

Through our pursuit of innovation in electric and thermal energy technology, we develop products that maximize energy efficiency and lead to a responsible and sustainable society.



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