Fuji Electric

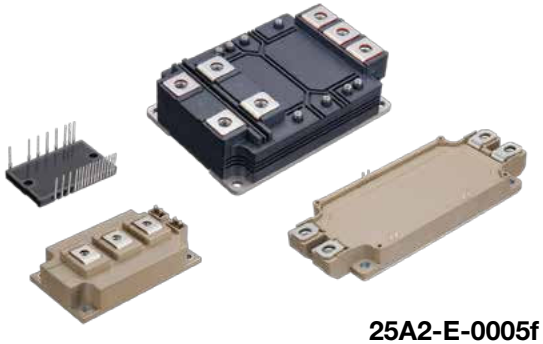
Innovating Energy Technology

FUJI Power Semiconductors

IGBT/SiC Devices Selection Guide

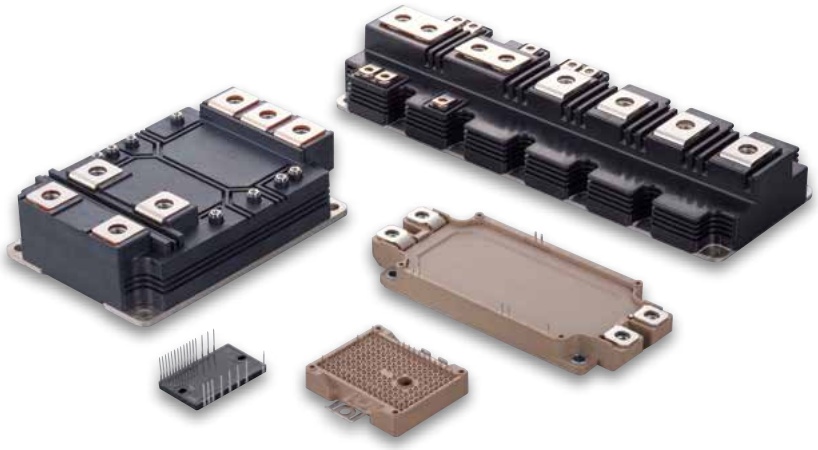
CONTENTS

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



25A2-E-0005f

Features of IGBT Module X Series

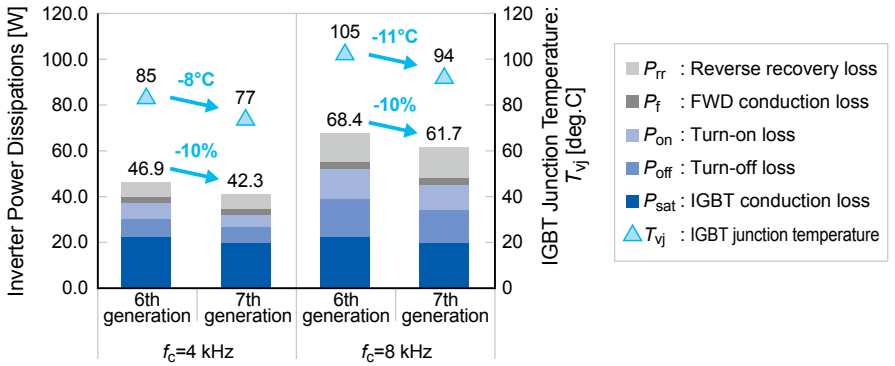


1. Low loss

The surface and vertical structures of the IGBT and diode chips are optimized. This reduces power dissipations during inverter operation compared with previous products (our 6th generation V series).

Reduces inverter power dissipation by 10% and IGBT Junction temperature by 11°C
(Comparison with the 6th Generation V Series (75 A), at f_c = 8 kHz)

Inverter loss comparison (standard usage example)

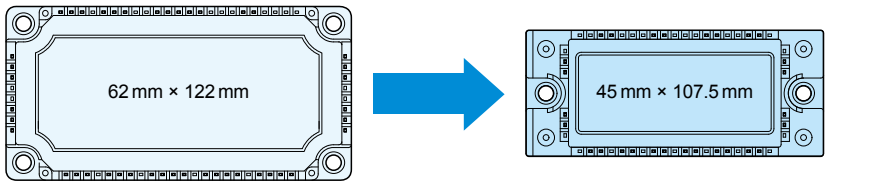


2. Miniaturization

The application of the newly developed insulating substrate has improved the heat dissipation of the module. By suppressing heat generation as well as reducing power loss, some products can be mounted in a package of about 36% smaller.

Application example)

36% reduction



1200V 75A (6th Generation V Series)

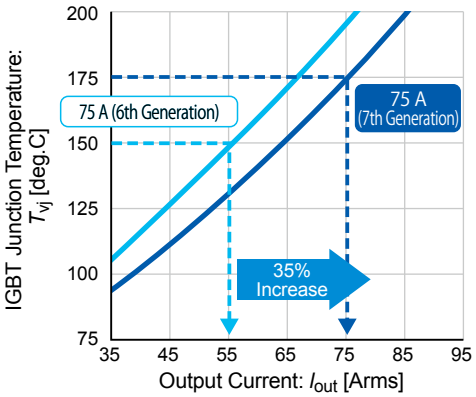
1200V 75A (7th Generation X Series)

3. High-temperature operation

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

- 35% more output current than the previous generation
- ΔT_{vj} power cycle lifetime is doubled compared to the conventional products, thus the same level of lifetime is secured even at 175°C continuous operation.

Increased output current by $T_{vj(op)}$=175°C



Number of Switches	Products Category	Page	Internal Configuration						Max V_{CE} (V_{RRM})						Rated Current					
			Power Module				Discrete IGBT	Discrete SiC-SBD	600V	650V	1200V	1700V	2300V	3300V	≤50A	>50A ≤150A	>150A ≤300A	>300A ≤600A	>600A ≤1200A	>1200A
			Standard Module	Power Integrated Module	Intelligent Power Module	3-level Module														
6	**Small IPM**	9							✓	✓					✓	✓				
6,7	**IPM**	10,11							✓	✓	✓				✓	✓				
		12			✓				✓	✓	✓				✓	✓	✓			
		13							✓	✓	✓					✓	✓	✓		
7	**Small PIM**	14		✓					✓	✓	✓				✓					
	PIM EconoPIM™	15		✓					✓	✓	✓				✓	✓				
		16							✓	✓	✓				✓	✓				
6	**6-Pack EconoPACK™ EconoPACK™+**	17	✓						✓		✓				✓	✓	✓			
		18							✓		✓	✓			✓	✓	✓	✓		
2	**Standard 2-Pack**	19	✓						✓	✓	✓	✓				✓	✓	✓		
		20									✓	✓					✓	✓	✓	
1	**Standard 1-Pack**	21	✓								✓	✓					✓	✓	✓	
	Chopper	21	✓						✓		✓					✓	✓	✓		
1,2	**HPnC**	22	✓									✓	✓	✓				✓	✓	✓
	PrimePACK™	23,24	✓								✓	✓						✓	✓	✓
4,12	**T/I-type NPC 3-level**	25				✓			✓		✓	✓			✓	✓	✓	✓	✓	
2	**Hybrid SiC Modules**	26	✓								✓	✓					✓	✓		
	All-SiC Modules	27	✓								✓	✓					✓	✓		
1	**Discrete IGBT**	28					✓		✓	✓	✓				✓	✓				
–	**SiC-SBD**	29						✓		✓	✓				✓					

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

IGBT Module Production Number

6 MB I 300 X □…□ - 120 - 50

- 6 — Number of IGBT Switches
- MB — IGBT Module Type: MB = Si-IGBT+ Si-Diode
- I — Internal Configuration : I = Standard Module, R = Power Integrated Module, P = Intelligent Power Module
- 300 — Rated Current I_C [A]
- X — IGBT Device Technology : X Series(7th Generation) / XR Series(7th Generation), V Series(6th Generation)
- □…□ — Package Type
- 120 — Max V_{CE} : 060 = 600V, 065 = 650V, 120 = 1200V, 170 = 1700V, 230 = 2300V, 330 = 3300V
- 50 — Suffix 50 to 99 indicates RoHS compliance

IGBT Hybrid Module with SiC-SBD Production Number

2 MS I 300 V A H 120 C - 53

- 2 — Number of IGBT Switches
- MS — SiC-SBD Type: MS = Si-IGBT + SiC-SBD
- I — Internal Configuration : I = Standard Module
- 300 — Rated Current I_C [A]
- V — IGBT Device : V= 6th Generation, VW = 6th Gen High speed
- A — SBD Device : A=1st Generation
- H — Package Type
- 120 — Max V_{CE} : 120 = 1200V, 170 : 1700V
- C — SiC-SBD for converter : C = Large current
- 53 — Suffix 50 to 99 indicates RoHS compliance

All-SiC Module Production Number

2 CS I 300 D A HE 120 - 50

- 2 — Number of MOSFET Switches
- CS — SiC-MOSFET Module Type: CS = SiC-MOSFET + SiC-SBD, C = SiC-MOSFET, S = SiC-SBD
- I — Internal Configuration : I = Standard Module
- 300 — Rated Current I_C [A]
- D — MOSFET Device : D=2nd Generation
- A — SBD Device : A=1st Generation
- HE — Package Type
- 120 — Max V_{CE} : 120 = 1200V, 170 : 1700V
- 50 — Suffix 50 to 99 indicates RoHS compliance

Discrete IGBT Production Number

F G W 50 N 60 V D

- F — Company Code : Fuji
- G — Device Code : G = IGBT
- W — Package Type : W = TO-247 (Type:B)
- 50 — Rated Current I_C [A]
- N — Polarity: N = N-ch
- 60 — Max V_{CE} : 60 = 600V, 120 = 1200V
- V — Series: V = V series, RB = RB series
- D — Diode Type: D = With Diode, Blank = Without Diode

F G W 40 XS 65 C

- F — Company Code : Fuji
- G — Device Code : G = IGBT
- W — Package Type : W = TO-247 (Type:B), Z = TO-247-4
- 40 — Rated Current I_C [A]
- XS — Series: XS = XS series
- 65 — Max V_{CE} : 65 = 650V, 120 = 1200V
- C — Diode Type: C = With Diode(Full rated), D = With Diode, Blank = Without Diode

SiC Schottky-Barrier Diode Production Number

●SiC-SBD 1G

F DC P 10 S 65

- F — Company Code : Fuji
- DC — Device Code : DC = SiC-SBD
- P — Package Type : A = TO-220F/TO-220F-2, C = T-Pack(S), P = TO-220/TO-220-2 (Type: B), Y = TO-247 (Type: A), W = TO-247-2
- 10 — Rated Current I_F [A]
- S — Configuration : C = Dual (Cathode common), S or T = Single
- 65 — Max V_{RRM} : 65 = 650V, 120 = 1200V

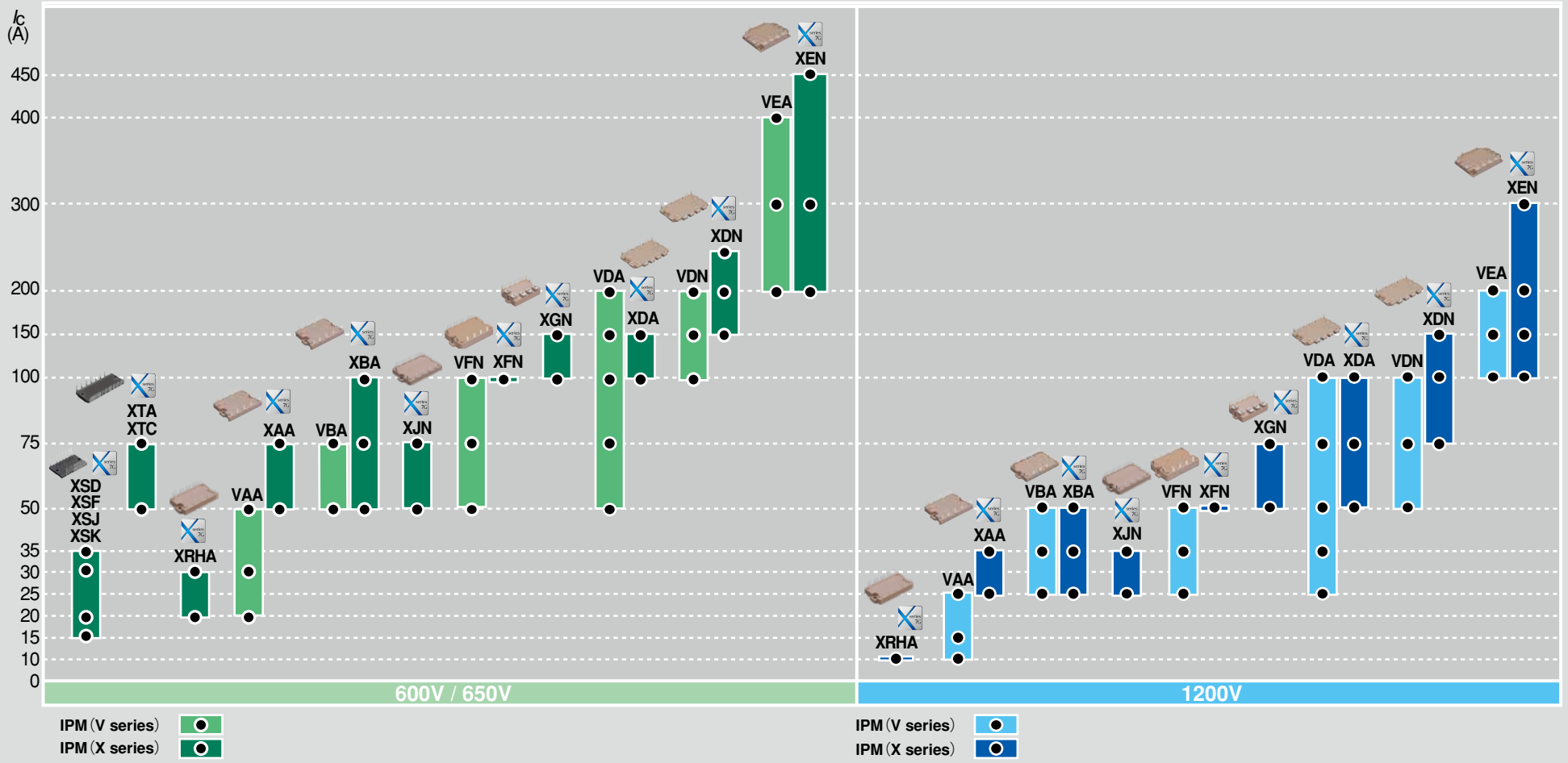
●SiC-SBD 2G

F DC 2 PT 10 S 65

- F — Company Code : Fuji
- DC — Device Code : DC = SiC-SBD
- 2 — Generation
- PT — AT:TO-220F-2, PT : TO-220-2 (Type: A), WT : TO-247-2
- 10 — Rated Current I_F [A]
- S — Configuration : C = Dual (Cathode common), S or T = Single
- 65 — Max V_{RRM} : 65 = 650V, 120 = 1200V

IPM (Intelligent Power Modules) Products Map

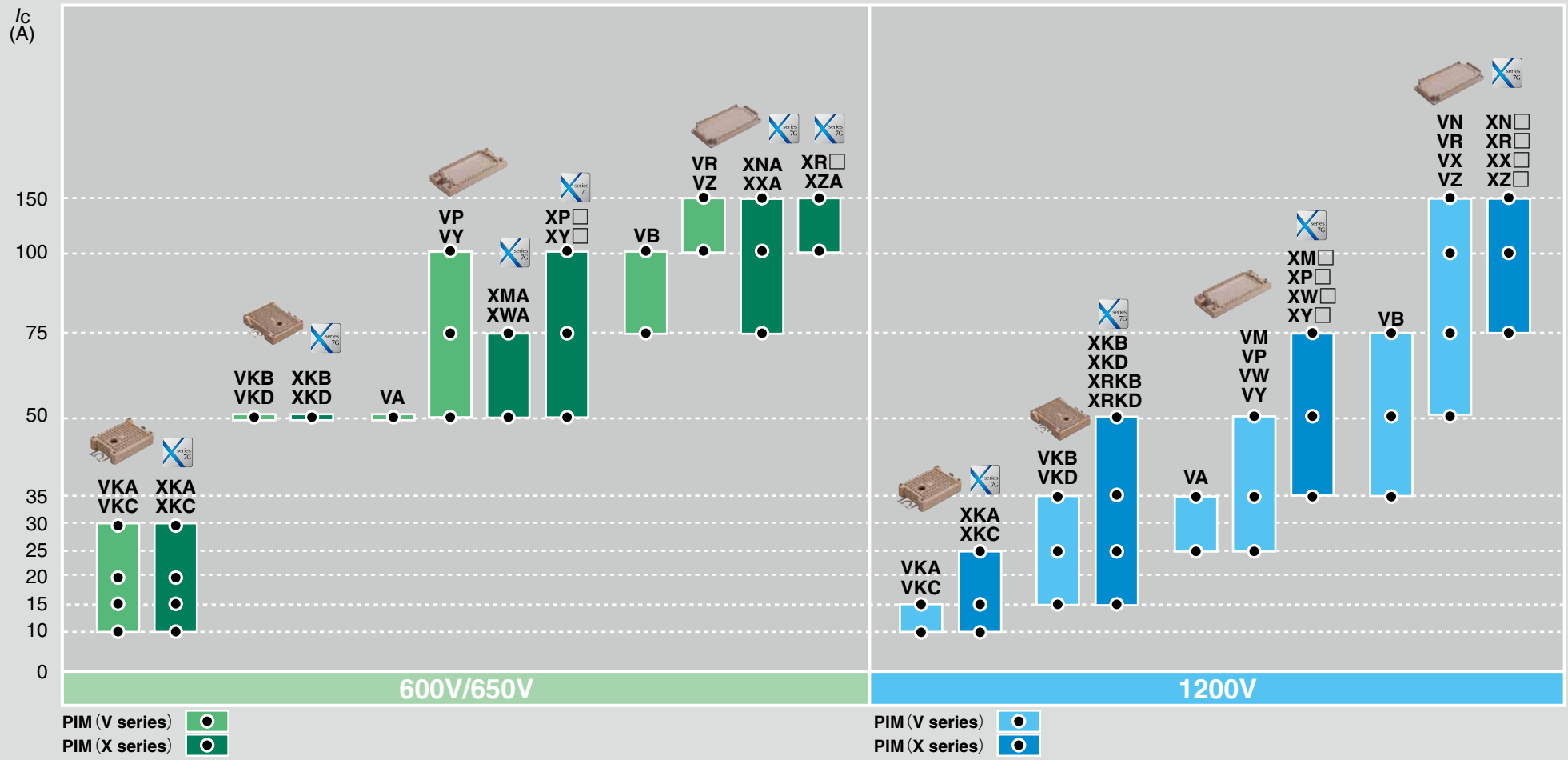
6/7MBP	Ic	IGBT series & Package type			V series		X series		
		V series	X series	Size	7 in 1	6 in 1	7 in 1	6 in 1	Page
		–	XSD, XSF, XSJ, XSK	26×43mm	–	–	–	✓	9
		–	XTA, XTC	31×79mm	–	–	–	✓	9
		–	XRHA	36×70mm	–	–	–	✓	10
		VAA	XAA	49.5×70mm	–	✓	–	✓	10
		VBA	XBA	50.2×87mm	–	✓	–	✓	10
		–	XJN	50.2×87mm	–	–	✓	–	10
		VFN	XFN	55×90mm	✓	✓	✓	✓	11
		–	XGN	55×90mm	–	–	–	✓	11
		VDA, VDN	XDA, XDN	84×128.5mm	✓	✓	✓	✓	12
		VEA	XEN	110×142mm	✓	✓	✓	✓	13



PIM (Power Integrated Modules) Products Map

7MBR	Ic	IGBT series & Package type				Size	Page	
		V series		X series				
		Solder pins	Press fit pins	Solder pins	Press fit pins			
		VKC	VKA	XKC	XKA	33.8×62.8mm	14	
		VKD	VKB	XKD, XRKD	XKB, XRKB	56.7×62.8mm	14	
		VA, VM, VP	VW, VY	XM□, XP□	XW□, XY□	45×107.5mm	15,16	EconoPIM™
		VB, VN, VR	VX, VZ	XN□, XR□	XX□, XZ□	62×122mm	15,16	

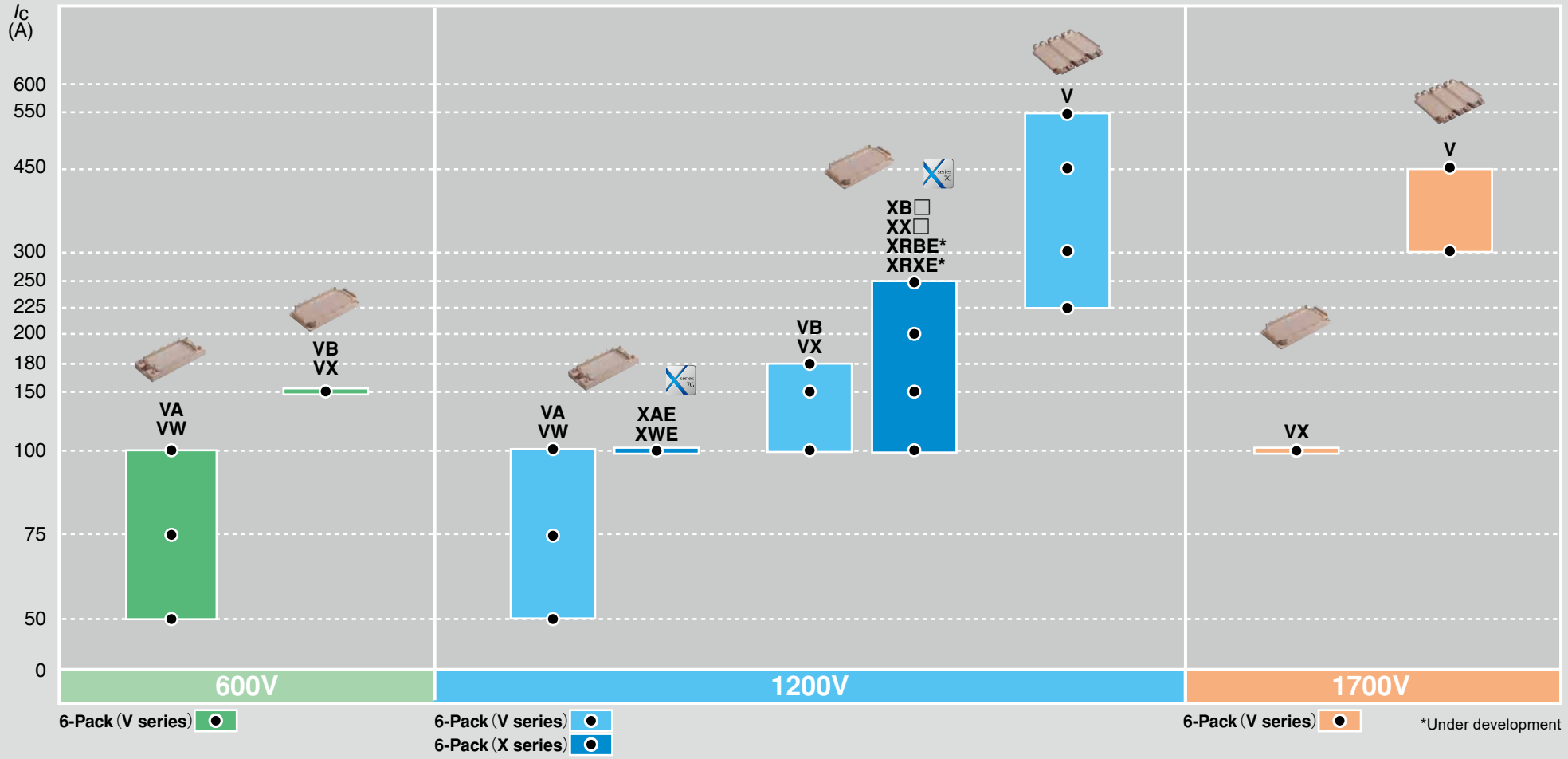
Note: EconoPIM™ is registered trademark of Infineon Technologies AG, Germany.



6-Pack Products Map

6MBI	*Ic*	IGBT series & Package type				Size	Page	
		V series		X series				
		Solder pins	Press fit pins	Solder pins	Press fit pins			
		VA	VW	XAE	XWE	45×107.5mm	17,18	EconoPACK™
		VB	VX	XB□, XRBE	XX□, XRXE	62×122mm	17,18	
		V	-	-	-	150×162mm	18	EconoPACK™+

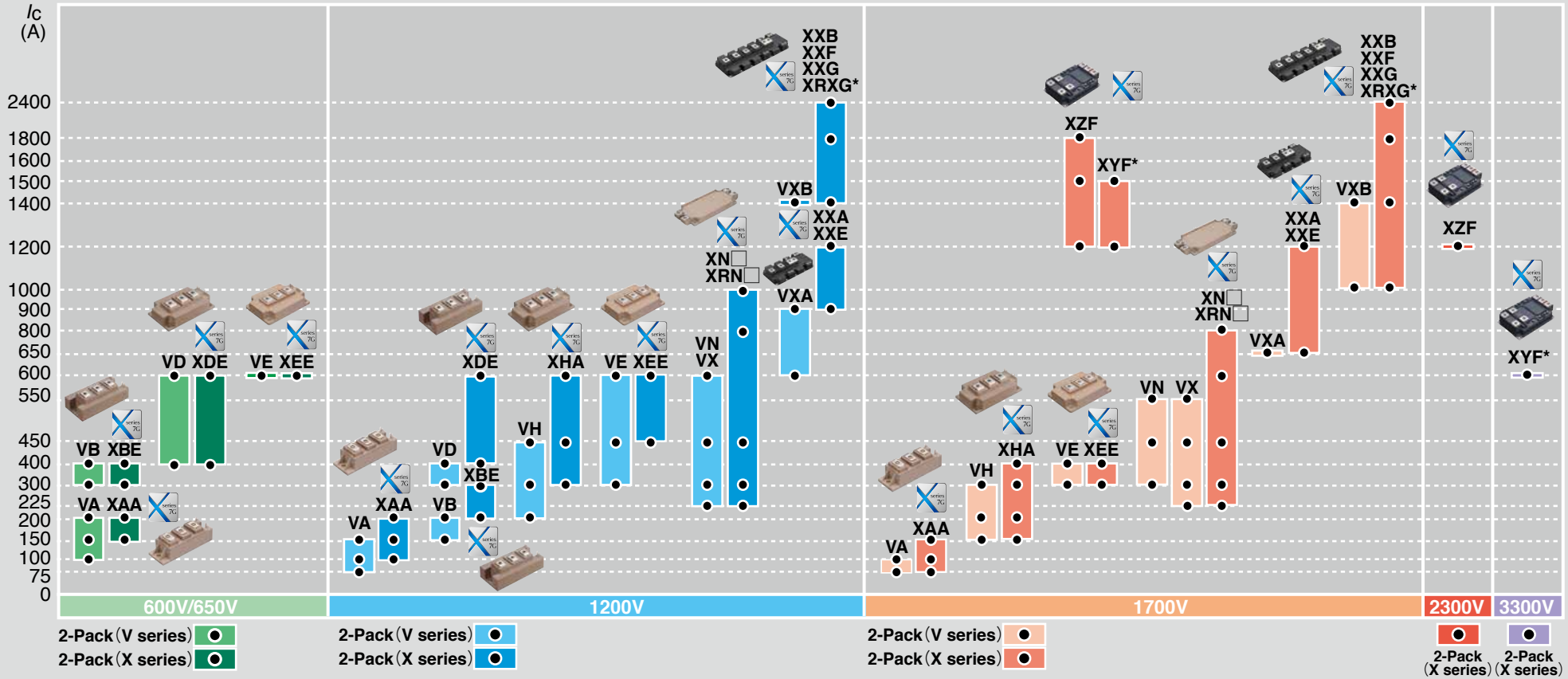
Note: EconoPACK™ and EconoPACK™+ are registered trademark of Infineon Technologies AG, Germany.



2-Pack Products Map

2MBI	Ic	IGBT series & Package type				
		V series	X series	Size	Page	
		VA	XAA	34×94mm	19	Standard Pack
		VB	XBE	45×92mm	19	
		VD, VH	XDE, XHA	62×108mm	19	
		VE	XEE	80×110mm	19	
		VN, VX	XN□, XRN□	62×150mm	20	Dual XT
		-	XYF, XZF	99.5×144mm	22	HPnC
		VXA	XXA, XXE	89×172mm	23	PrimePACK™
		VXB	XXB, XXF, XXG, XRXG	89×250mm	23	

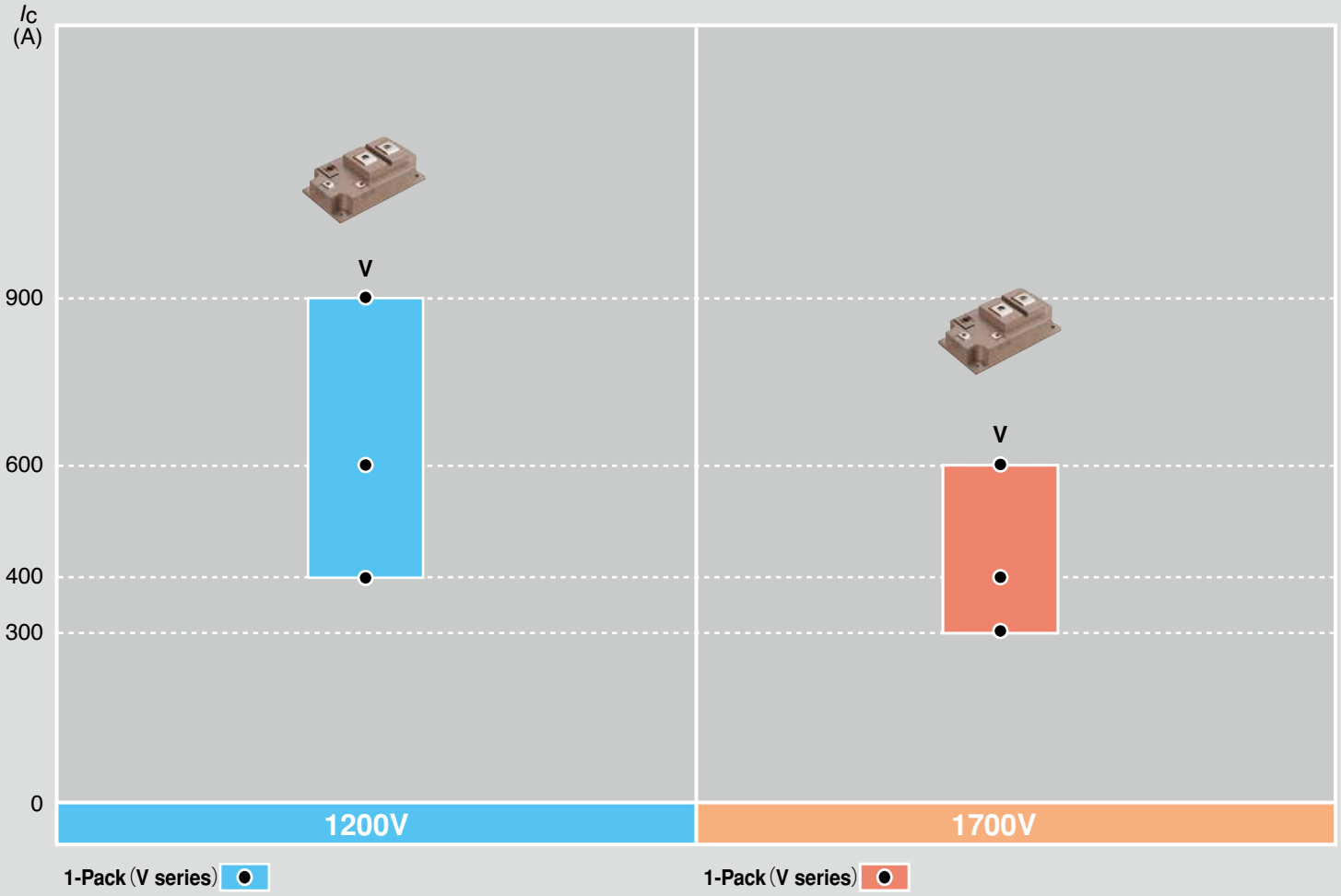
Note: PrimePACK™ is registered trademark of Infineon Technologies AG, Germany



*Under development

1-Pack Products Map

1MBI	Ic	IGBT series & Package type	Size	Page	
		V series			
		V	62×108mm	21	Standard Pack



Small IPM (Intelligent Power Modules)

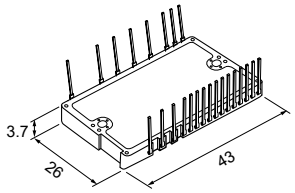
Built-in protection functions

- 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)

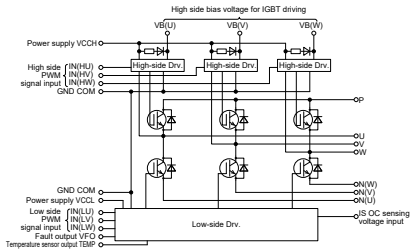
Dimension[mm]

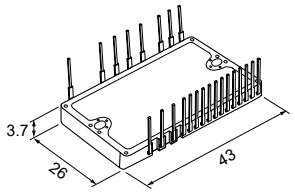
Small IPM with High Voltage Driver-IC without Brake-Chopper

							600 / 650V X series	
						Ic		
✓	–	✓	✓	✓	–	15A	6MBP15XSD060-50	
						20A	6MBP20XSD060-50	
						30A	6MBP30XSD060-50	
						35A	6MBP35XSD060-50	
✓	✓	✓	✓	✓	–	15A	6MBP15XSF060-50	
						20A	6MBP20XSF060-50	
						30A	6MBP30XSF060-50	
						35A	6MBP35XSF060-50	
✓	–	✓	✓	✓	–	15A	6MBP15XSJ065-50	
						20A	6MBP20XSJ065-50	
						30A	6MBP30XSJ065-50	
						35A	6MBP35XSJ065-50	
✓	✓	✓	✓	✓	–	15A	6MBP15XSK065-50	
						20A	6MBP20XSK065-50	
						30A	6MBP30XSK065-50	
						35A	6MBP35XSK065-50	
✓	–	✓	✓	✓	–	50A	6MBP50XTA065-50	
						75A	6MBP75XTA065-50	
✓	✓	✓	✓	✓	–	50A	6MBP50XTC065-50	
						75A	6MBP75XTC065-50	

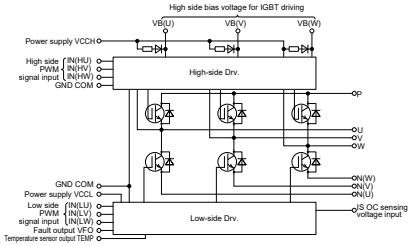


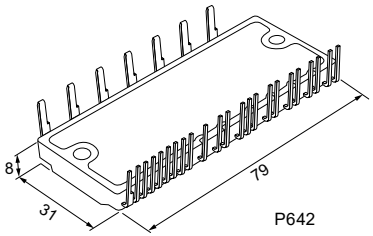
P633A





P633C





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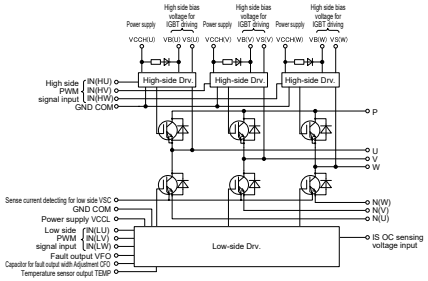
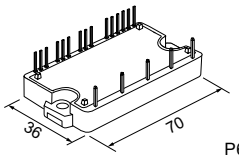
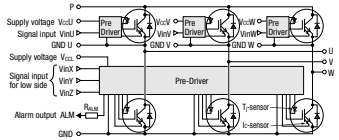
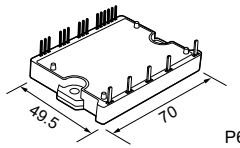
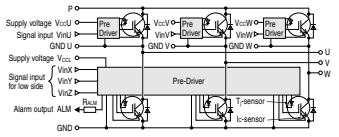
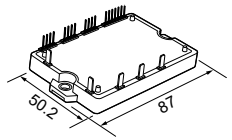
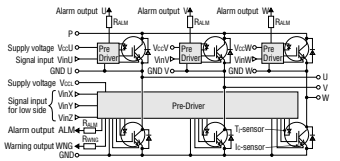
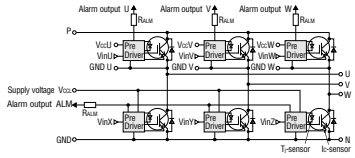
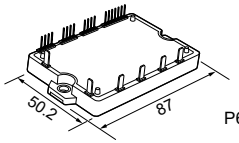
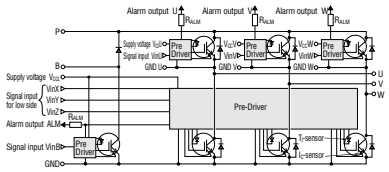


IPM (Intelligent Power Modules)

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)

Dimension[mm]

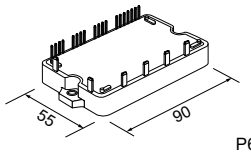
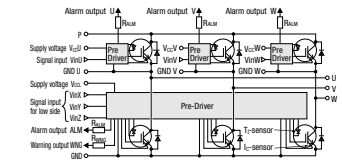
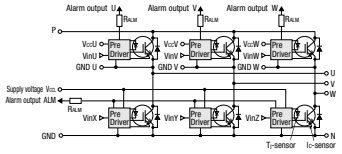
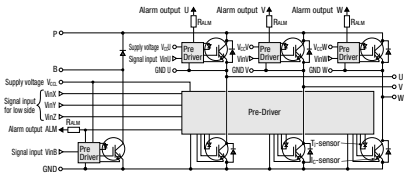
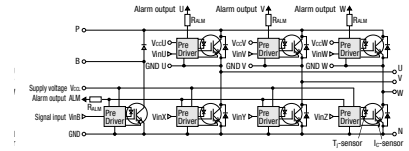
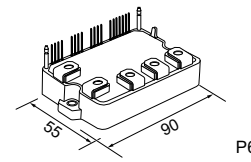
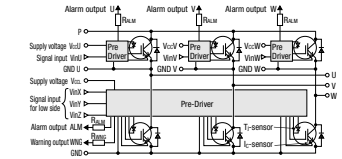
							Ic	650V X series	600V V series	1200V X series	1200V V series
Without Brake-Chopper	 P639		✓	✓	✓	✓	–	10A			6MBP10XRHA120-50	
								20A	6MBP20XRHA065-50			
								30A	6MBP30XRHA065-50			
	 P629		✓	✓	✓	✓	–	10A				6MBP10VAA120-50
								15A				6MBP15VAA120-50
								20A		6MBP20VAA060-50		
								25A			6MBP25XAA120-50	6MBP25VAA120-50
								30A		6MBP30VAA060-50		
								35A			6MBP35XAA120-50	
								50A	6MBP50XAA065-50	6MBP50VAA060-50		
								75A	6MBP75XAA065-50			
	 P626	・6MBP□XBA□-50  ・6MBP□VBA□-50 	✓	✓	✓	✓	✓	25A			6MBP25XBA120-50	6MBP25VBA120-50
								35A			6MBP35XBA120-50	6MBP35VBA120-50
								50A	6MBP50XBA065-50	6MBP50VBA060-50	6MBP50XBA120-50	6MBP50VBA120-50
								75A	6MBP75XBA065-50	6MBP75VBA060-50		
								100A	6MBP100XBA065-50			
With Brake-Chopper	 P644	・7MBP□XJN□-50 	✓	✓	✓	✓	✓	25A			7MBP25XJN120-50	
								35A			7MBP35XJN120-50	
								50A	7MBP50XJN065-50			
								75A	7MBP75XJN065-50			

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)

IPM (Intelligent Power Modules)

Dimension[mm]

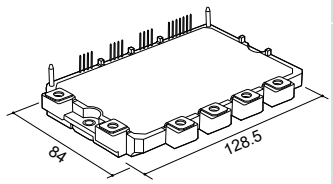
							650V X series	600V V series	1200V X series	1200V V series
Without Brake-Chopper	 P636	· 6MBP□XFN□-50  · 6MBP□VFN□-50 	✓	✓	✓	✓	✓	25A				6MBP25VFN120-50
								35A				6MBP35VFN120-50
								50A		6MBP50VFN060-50	6MBP50XFN120-50	6MBP50VFN120-50
								75A		6MBP75VFN060-50		
								100A	6MBP100XFN065-50	6MBP100VFN060-50		
With Brake-Chopper		· 7MBP□XFN□-50  · 7MBP□VFN□-50 	✓	✓	✓	✓	✓	25A				7MBP25VFN120-50
								35A				7MBP35VFN120-50
								50A		7MBP50VFN060-50	7MBP50XFN120-50	7MBP50VFN120-50
								75A		7MBP75VFN060-50		
								100A	7MBP100XFN065-50	7MBP100VFN060-50		
Without Brake-Chopper	 P638		✓	✓	✓	✓	✓	50A			6MBP50XGN120-50	
								75A			6MBP75XGN120-50	
								100A	6MBP100XGN065-50			
								150A	6MBP150XGN065-50			

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)

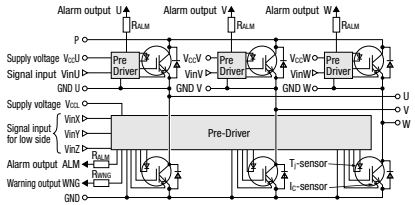
Dimension[mm]



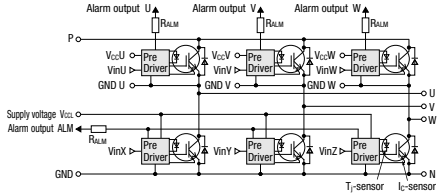
P630

Without Brake-Chopper

・6MBP□XDA□-50
・6MBP□XDN□-50

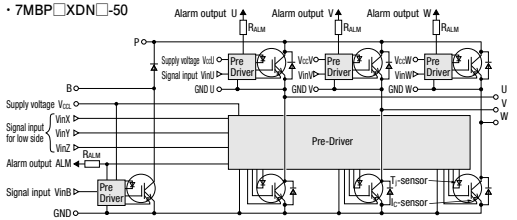


・6MBP□VDA□-50
・6MBP□VDN□-50

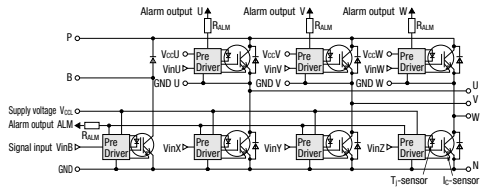


With Brake-Chopper

・7MBP□XDA□-50
・7MBP□XDN□-50



・7MBP□VDA□-50
・7MBP□VDN□-50



Ic	650V X series	600V V series	1200V X series	1200V V series
25A				6MBP25VDA120-50
35A				6MBP35VDA120-50
50A		6MBP50VDA060-50	6MBP50XDA120-50	6MBP50VDA120-50
				6MBP50VDN120-50
75A		6MBP75VDA060-50	6MBP75XDA120-50	6MBP75VDA120-50
			6MBP75XDN120-50	6MBP75VDN120-50
100A	6MBP100XDA065-50	6MBP100VDA060-50	6MBP100XDA120-50	6MBP100VDA120-50
		6MBP100VDN060-50	6MBP100XDN120-50	6MBP100VDN120-50
150A	6MBP150XDA065-50	6MBP150VDA060-50		
	6MBP150XDN065-50	6MBP150VDN060-50	6MBP150XDN120-50	
200A		6MBP200VDA060-50		
	6MBP200XDN065-50	6MBP200VDN060-50		
250A				
	6MBP250XDN065-50			

Ic	650V X series	600V V series	1200V X series	1200V V series
25A				7MBP25VDA120-50
35A				7MBP35VDA120-50
50A		7MBP50VDA060-50	7MBP50XDA120-50	7MBP50VDA120-50
				7MBP50VDN120-50
75A		7MBP75VDA060-50	7MBP75XDA120-50	7MBP75VDA120-50
			7MBP75XDN120-50	7MBP75VDN120-50
100A	7MBP100XDA065-50	7MBP100VDA060-50	7MBP100XDA120-50	7MBP100VDA120-50
		7MBP100VDN060-50	7MBP100XDN120-50	7MBP100VDN120-50
150A	7MBP150XDA065-50	7MBP150VDA060-50		
	7MBP150XDN065-50	7MBP150VDN060-50	7MBP150XDN120-50	
200A		7MBP200VDA060-50		
	7MBP200XDN065-50	7MBP200VDN060-50		
250A				
	7MBP250XDN065-50			

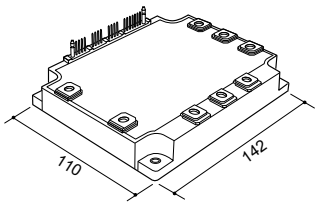
Note: The products with 'VDN,XDN' on this page have Low Thermal Impedance Version.

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)

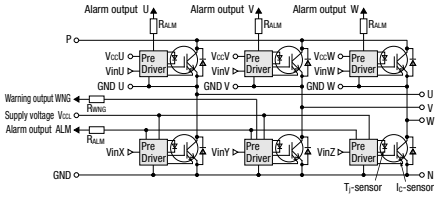
Dimension[mm]



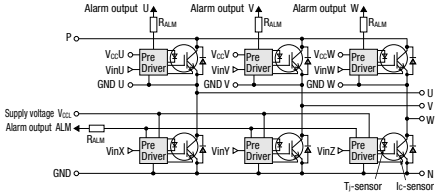
P631

Without Brake-Chopper

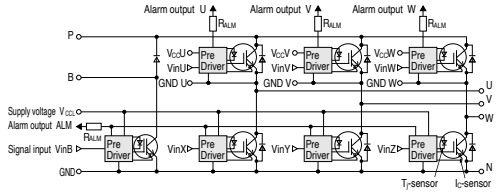
・6MBP□XEN□-50



・6MBP□VEA□-50



With Brake-Chopper

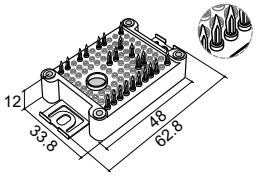


							650V	600V	1200V	
						Ic	X series	V series	X series	V series
Without Brake-Chopper						100A			6MBP100XEN120-50	6MBP100VEA120-50
						150A			6MBP150XEN120-50	6MBP150VEA120-50
						200A	6MBP200XEN065-50	6MBP200VEA060-50	6MBP200XEN120-50	6MBP200VEA120-50
						300A	6MBP300XEN065-50	6MBP300VEA060-50	6MBP300XEN120-50	
						400A		6MBP400VEA060-50		
						450A	6MBP450XEN065-50			
✓	✓	✓	✓	✓						
With Brake-Chopper						100A			7MBP100XEN120-50	7MBP100VEA120-50
						150A			7MBP150XEN120-50	7MBP150VEA120-50
						200A	7MBP200XEN065-50	7MBP200VEA060-50	7MBP200XEN120-50	7MBP200VEA120-50
						300A	7MBP300XEN065-50	7MBP300VEA060-50	7MBP300XEN120-50	
						400A		7MBP400VEA060-50		
						450A	7MBP450XEN065-50			
✓	✓	✓	✓	✓						

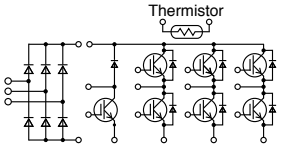
Small PIM (Power Integrated Modules)

Dimension[mm]

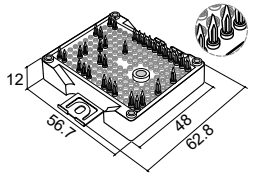
	Ic	650V X series	600V V series	1200V X series	1200V V series
With NTC, Press fit pins	10A	7MBR10XKA065-50	7MBR10VKA060-50	7MBR10XKA120-50	7MBR10VKA120-50
	15A	7MBR15XKA065-50	7MBR15VKA060-50	7MBR15XKA120-50	7MBR15VKA120-50
	20A	7MBR20XKA065-50	7MBR20VKA060-50		
	25A			7MBR25XKA120-50	
	30A	7MBR30XKA065-50	7MBR30VKA060-50		



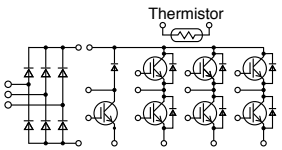
V: M726, X: M730



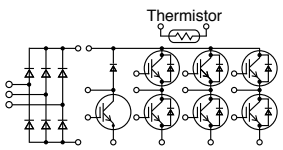
	15A			7MBR15XKB120-50	7MBR15VKB120-50
	25A			7MBR25XKB120-50	7MBR25VKB120-50
	35A			7MBR35XKB120-50	7MBR35VKB120-50
	50A	7MBR50XKB065-50	7MBR50VKB060-50	7MBR50XRKB120-50	



V: M727, X: M731

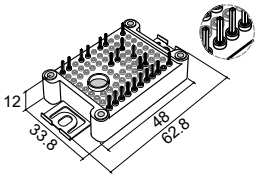


XKB, VKB

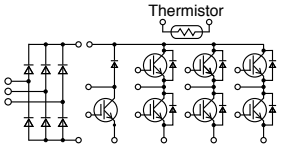


XRKB

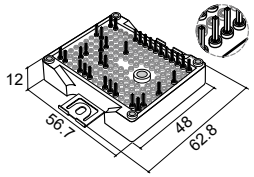
With NTC, Solder pins	10A	7MBR10XKC065-50	7MBR10VKC060-50	7MBR10XKC120-50	7MBR10VKC120-50
	15A	7MBR15XKC065-50	7MBR15VKC060-50	7MBR15XKC120-50	7MBR15VKC120-50
	20A	7MBR20XKC065-50	7MBR20VKC060-50		
	25A			7MBR25XKC120-50	
	30A	7MBR30XKC065-50	7MBR30VKC060-50		



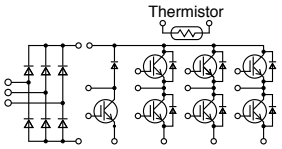
V: M728, X: M732



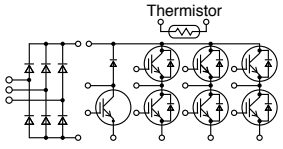
	15A			7MBR15XKD120-50	7MBR15VKD120-50
	25A			7MBR25XKD120-50	7MBR25VKD120-50
	35A			7MBR35XKD120-50	7MBR35VKD120-50
	50A	7MBR50XKD065-50	7MBR50VKD060-50	7MBR50XRKD120-50	



V: M729, X: M733



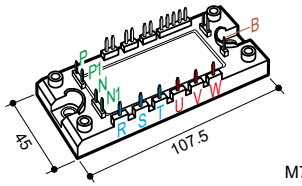
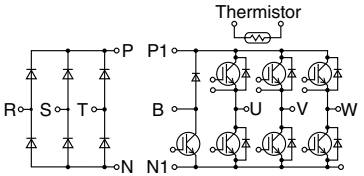
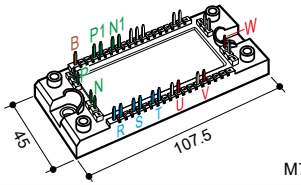
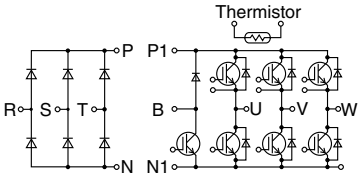
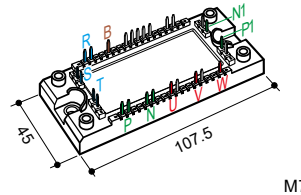
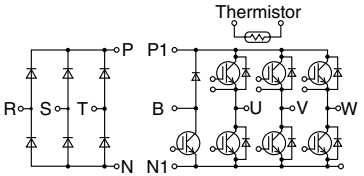
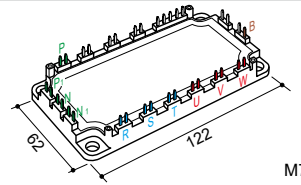
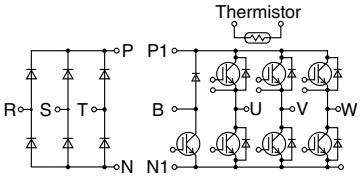
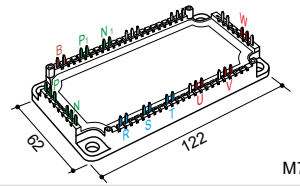
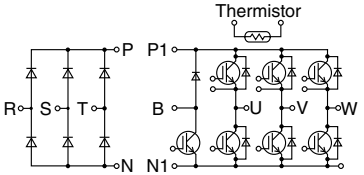
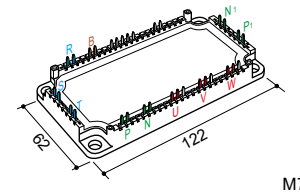
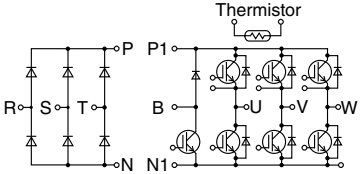
XKD, VKD



XRKD

PIM (Power Integrated Modules) EconoPIM™

With NTC, Solder pins, PIM

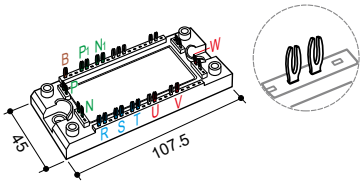
Dimension[mm]	Ic	650V X series	600V V series	1200V X series	1200V V series
 M711 	25A				7MBR25VA120-50
	35A				7MBR35VA120-50
	50A		7MBR50VA060-50		
 M719 	25A				7MBR25VM120-50
	35A			7MBR35XMA120-50	7MBR35VM120-50
	50A	7MBR50XMA065-50		7MBR50XMA120-50	7MBR50VM120-50
	75A	7MBR75XMA065-50		7MBR75XME120-50	
 M719 	25A				7MBR25VP120-50
	35A			7MBR35XPA120-50	7MBR35VP120-50
	50A	7MBR50XPA065-50	7MBR50VP060-50	7MBR50XPA120-50	7MBR50VP120-50
				7MBR50XPE120-50	
	75A	7MBR75XPA065-50	7MBR75VP060-50	7MBR75XPE120-50	
	100A	7MBR100XPE065-50	7MBR100VP060-50		
 M712 	35A				7MBR35VB120-50
	50A				7MBR50VB120-50
	75A		7MBR75VB060-50		7MBR75VB120-50
	100A		7MBR100VB060-50		
 M720 	50A				7MBR50VN120-50
	75A	7MBR75XNA065-50		7MBR75XNA120-50	7MBR75VN120-50
	100A	7MBR100XNA065-50		7MBR100XNA120-50	7MBR100VN120-50
	150A	7MBR150XNA065-50		7MBR150XNE120-50	7MBR150VN120-50
 M720 	50A				7MBR50VR120-50
	75A			7MBR75XRA120-50	7MBR75VR120-50
				7MBR75XRE120-50	
	100A	7MBR100XRA065-50	7MBR100VR060-50	7MBR100XRA120-50	7MBR100VR120-50
				7MBR100XRE120-50	
	150A	7MBR150XRA065-50	7MBR150VR060-50	7MBR150XRE120-50	7MBR150VR120-50
		7MBR150XRE065-50			

Note1: EconoPIM™ is registered trademark of Infineon Technologies AG, Germany.
Note2: The range of modules with pre-applied TIM (Thermal-Interface-Material) is being cotinually expanded.

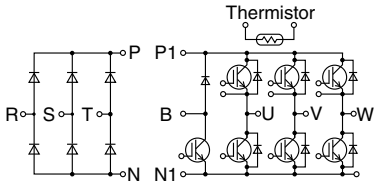
PIM (Power Integrated Modules) EconoPIM™

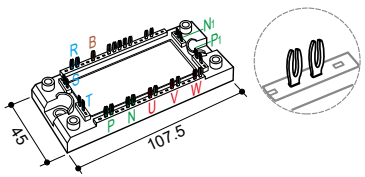
With NTC, Press fit pins, PIM

Dimension[mm]

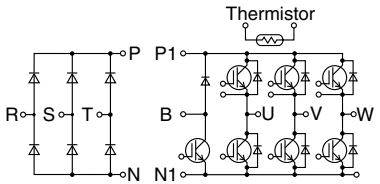


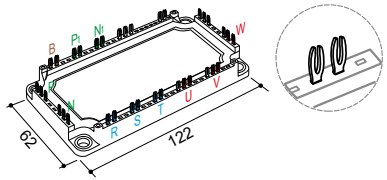
M721



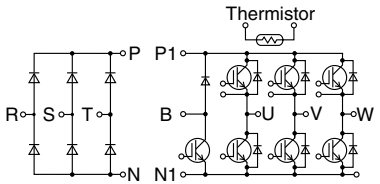


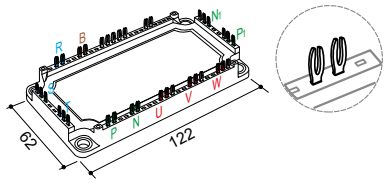
M721



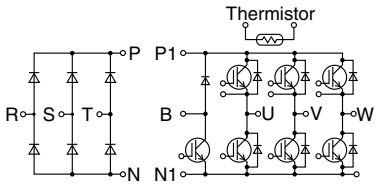


M722





M722



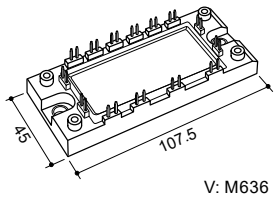
Ic	650V X series	600V V series	1200V X series	1200V V series
25A				7MBR25VW120-50
35A			7MBR35XWA120-50	7MBR35VW120-50
50A	7MBR50XWA065-50		7MBR50XWA120-50	7MBR50VW120-50
75A	7MBR75XWA065-50		7MBR75XWE120-50	
25A				7MBR25VY120-50
35A			7MBR35XYA120-50	7MBR35VY120-50
50A	7MBR50XYA065-50	7MBR50VY060-50	7MBR50XYA120-50	7MBR50VY120-50
75A	7MBR75XYA065-50	7MBR75VY060-50	7MBR75XYE120-50	
100A	7MBR100XYE065-50	7MBR100VY060-50		
50A				7MBR50VX120-50
75A	7MBR75XXA065-50		7MBR75XXA120-50	7MBR75VX120-50
100A	7MBR100XXA065-50		7MBR100XXA120-50	7MBR100VX120-50
150A	7MBR150XXA065-50		7MBR150XXE120-50	7MBR150VX120-50
50A				7MBR50VZ120-50
75A			7MBR75XZA120-50	7MBR75VZ120-50
100A	7MBR100XZA065-50	7MBR100VZ060-50	7MBR100XZA120-50	7MBR100VZ120-50
150A	7MBR150XZA065-50	7MBR150VZ060-50	7MBR150XZE120-50	7MBR150VZ120-50

Note1: EconoPIM™ is registered trademark of Infineon Technologies AG, Germany.
Note2: The range of modules with pre-applied TIM (Thermal-Interface-Material) is being cotinually expanded.

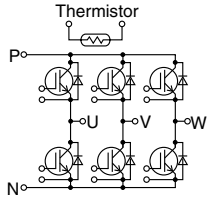
6-Pack EconoPACK™

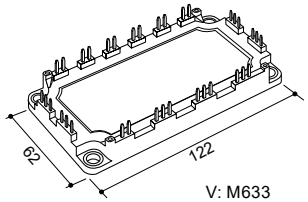
With NTC, Solder pins

Dimension[mm]

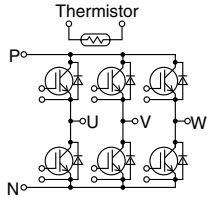


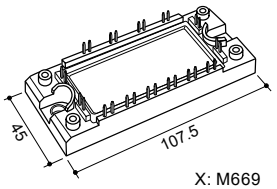
V: M636



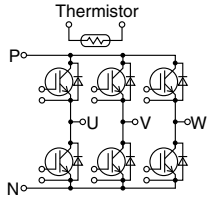


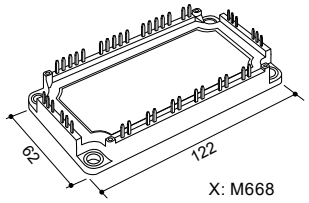
V: M633



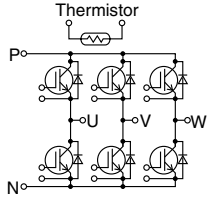


X: M669

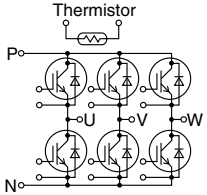




X: M668



XBA, XBE



XRBE

Ic	600V V series	1200V X series	1200V V series
50A	6MBI50VA-060-50		6MBI50VA-120-50
75A	6MBI75VA-060-50		6MBI75VA-120-50
100A	6MBI100VA-060-50		6MBI100VA-120-50
100A			6MBI100VB-120-50
150A	6MBI150VB-060-50		6MBI150VB-120-50
180A			6MBI180VB-120-50
			6MBI180VB-120-55
100A		6MBI100XAE120-50	
100A		6MBI100XBA120-50	
150A		6MBI150XBA120-50	
200A		6MBI200XBA120-50	
		6MBI200XBE120-50	
250A		6MBI250XRBE120-50*	

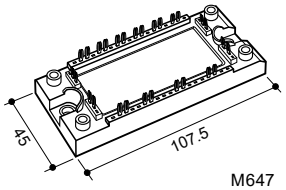
Note1: 6MBI180VB-120-55; Low Thermal Impedance Version
Note2: EconoPACK™ is registered trademark of Infineon Technologies AG, Germany.
Note3: The range of modules with pre-applied TIM (Thermal-Interface-Material) is being cotinually expanded.

*Under development

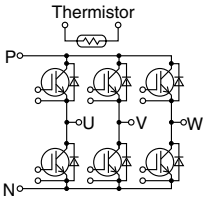
6-Pack EconoPACK™

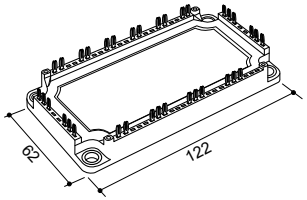
With NTC, Press fit pins

Dimension[mm]

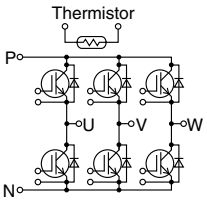


M647

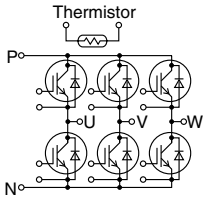




M648



XXA, XXE, VX



XRXE

Ic	600V	1200V		1700V
	V series	X series	V series	V series
50A	6MBI50VW-060-50		6MBI50VW-120-50	
75A	6MBI75VW-060-50		6MBI75VW-120-50	
100A	6MBI100VW-060-50	6MBI100XWE120-50	6MBI100VW-120-50	
100A		6MBI100XXA120-50	6MBI100VX-120-50	6MBI100VX-170-50
150A	6MBI150VX-060-50	6MBI150XXA120-50	6MBI150VX-120-50	
180A			6MBI180VX-120-50	
			6MBI180VX-120-55	
200A		6MBI200XXA120-50		
		6MBI200XXE120-50		
250A		6MBI250XRXE120-50*		

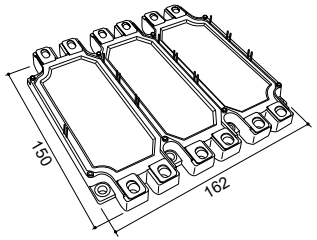
*Under development

Note1: 6MBI180VX-120-55; Premium type (Low Thermal Impedance Version)
Note2: The range of modules with pre-applied TIM (Thermal-Interface-Material) is being cotinually expanded.
Note3: EconoPACK™ is registered trademark of Infineon Technologies AG, Germany.

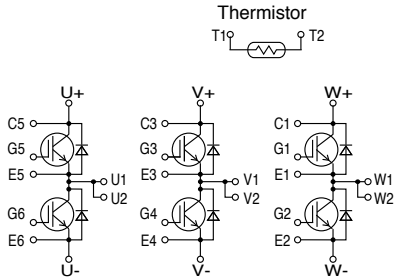
6-Pack EconoPACK™+

With NTC, High power 6-Pack

Dimension[mm]



M629



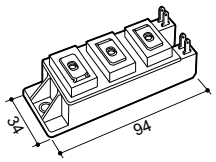
Ic	1200V	1700V
	V series	V series
225A	6MBI225V-120-50	
300A	6MBI300V-120-50	6MBI300V-170-50
450A	6MBI450V-120-50	6MBI450V-170-50
550A	6MBI550V-120-50	

Note1: EconoPACK™+ is registered trademark of Infineon Technologies AG, Germany.
Note2: The range of modules with pre-applied TIM (Thermal-Interface-Material) is being cotinually expanded.

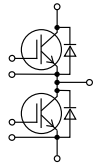
Standard 2-Pack

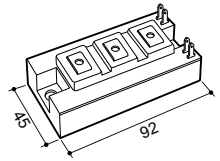
2-Pack

Dimension[mm]

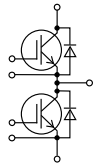


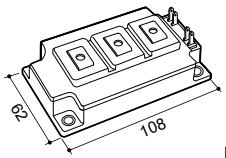
M263



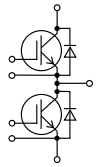


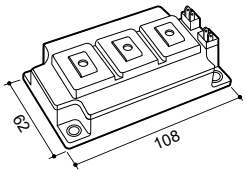
M274



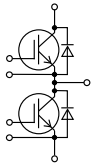


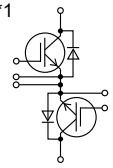
M275



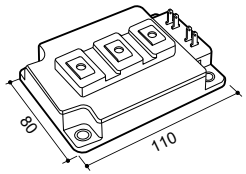


M276

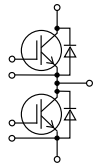




2MBI450VH-120F
Common Emitter



M277

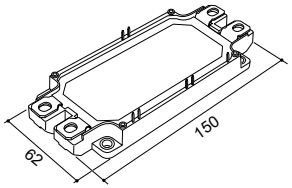
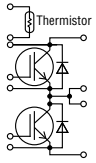
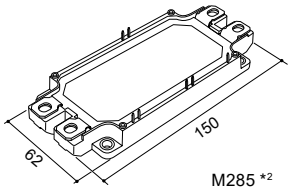
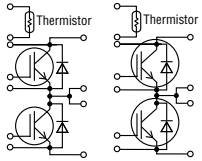
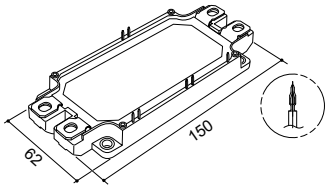
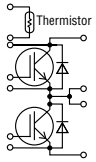
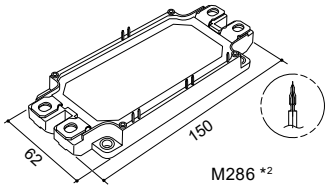
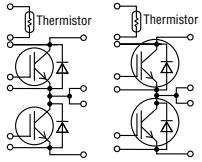


Ic	650V X series	600V V series	1200V X series	1200V V series	1700V X series	1700V V series
75A				2MBI75VA-120-50	2MBI75XAA170-50	2MBI75VA-170-50
100A		2MBI100VA-060-50	2MBI100XAA120-50	2MBI100VA-120-50	2MBI100XAA170-50	2MBI100VA-170-50
150A	2MBI150XAA065-50	2MBI150VA-060-50	2MBI150XAA120-50	2MBI150VA-120-50	2MBI150XAA170-50	
200A	2MBI200XAA065-50	2MBI200VA-060-50	2MBI200XAA120-50			
150A				2MBI150VB-120-50		
200A			2MBI200XBE120-50	2MBI200VB-120-50		
300A	2MBI300XBE065-50	2MBI300VB-060-50	2MBI300XBE120-50			
400A	2MBI400XBE065-50	2MBI400VB-060-50				
300A				2MBI300VD-120-50		
400A	2MBI400XDE065-50	2MBI400VD-060-50	2MBI400XDE120-50	2MBI400VD-120-50		
600A	2MBI600XDE065-50	2MBI600VD-060-50	2MBI600XDE120-50			
150A					2MBI150XHA170-50	2MBI150VH-170-50
200A				2MBI200VH-120-50	2MBI200XHA170-50	2MBI200VH-170-50
300A			2MBI300XHA120-50	2MBI300VH-120-50	2MBI300XHA170-50	2MBI300VH-170-50
400A					2MBI400XHA170-50	
					2MBI400XHA170-81*	
450A			2MBI450XHA120-50	2MBI450VH-120-50		
			2MBI450XHA120-81*	2MBI450VH-120F-50[*1]		
600A			2MBI600XHA120-50			
			2MBI600XHA120-81*			
300A				2MBI300VE-120-50	2MBI300XEE170-50	2MBI300VE-170-50
400A					2MBI400XEE170-50	2MBI400VE-170-50
450A			2MBI450XEE120-50	2MBI450VE-120-50		
600A	2MBI600XEE065-50	2MBI600VE-060-50	2MBI600XEE120-50	2MBI600VE-120-50		

Note1: “-81” : Pre-applied Thermal-Interface-Material for “-50”.
Note2: The range of modules with pre-applied TIM (Thermal-Interface-Material) is being cotinually expanded.

*Under development

Standard 2-Pack

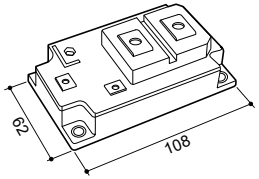
	Dimension[mm]	Ic	1200V X series	1200V V series	1200V V series With SiN substrate *1	1700V X series	1700V V series	1700V V series With SiN substrate *1
With NTC, Solder pins	 M254 	225A	2MBI225XNA120-50	2MBI225VN-120-50	2MBI225VN-120S-50	2MBI225XNA170-50		
			2MBI225XNA120-81					
		300A	2MBI300XNA120-50	2MBI300VN-120-50	2MBI300VN-120S-50	2MBI300XNA170-50	2MBI300VN-170-50	
		450A	2MBI450XNA120-50	2MBI450VN-120-50	2MBI450VN-120S-50	2MBI450XNA170-50	2MBI450VN-170-50	
		550A						2MBI550VN-170-50
		600A	2MBI600XNG120-50		2MBI600VN-120-50	2MBI600XNG170-50		
	 M285 *2  XNE XRNE	600A	2MBI600XNE120-50			2MBI600XNE170-50		
		800A	2MBI800XNE120-50			2MBI800XRNE170-50		
		1000A	2MBI1000XRNE120-50					
With NTC, Press fit pins	 M282 	225A	2MBI225XNB120-50	2MBI225VX-120-50		2MBI225XNB170-50	2MBI225VX-170-50	
		300A	2MBI300XNB120-50	2MBI300VX-120-50		2MBI300XNB170-50	2MBI300VX-170-50	
			2MBI300XNB120-81					
		450A	2MBI450XNB120-50	2MBI450VX-120-50		2MBI450XNB170-50	2MBI450VX-170-50	
			2MBI450XNB120-81					
		550A						2MBI550VX-170-50
		600A	2MBI600XNH120-50		2MBI600VX-120-50	2MBI600XNH170-50		
			2MBI600XNH120-81					
	 M286 *2  XNF XRNF	600A	2MBI600XNF120-50			2MBI600XNF170-50		
		800A	2MBI800XNF120-50			2MBI800XRNF170-50		
			2MBI800XNF120-81					
		1000A	2MBI1000XRNF120-50					
			2MBI1000XRNF120-81					

Note1: “-81” : Pre-applied Thermal-Interface-Material for “-50”.
Note2: The range of modules with pre-applied TIM (Thermal-Interface-Material) is being cotinually expanded.

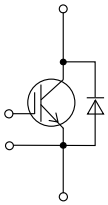
*1 Low thermal impedance version
*2 Low thermal impedance and high tracking capability type

Standard 1-Pack

Dimension[mm]



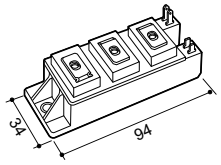
M153



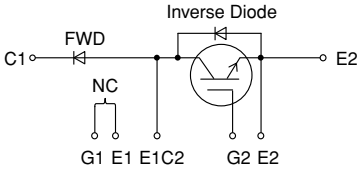
Ic	1200V V series	1200V V series with AlN substrate	1700V V series
300A			1MBI300V-170-50
400A	1MBI400V-120-50	1MBI400VF-120-50	1MBI400V-170-50
600A	1MBI600V-120-50	1MBI600VF-120-50	1MBI600V-170-50
900A	1MBI900V-120-50		

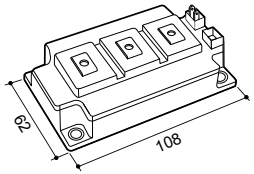
Chopper

Dimension[mm]

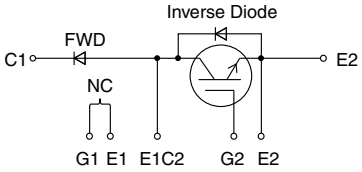


M262



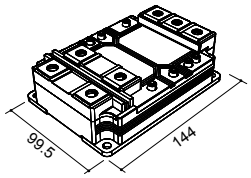
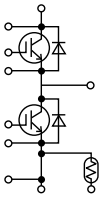
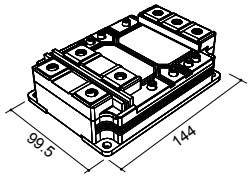
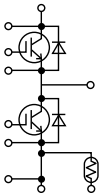


M283



Ic	600V V series	1200V V series
150A		1MBI150VA-120L-50
200A		1MBI200VA-120L-50
400A	1MBI400VH-060L-50	

High Power Modules HPnC

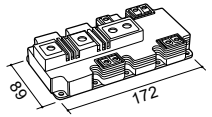
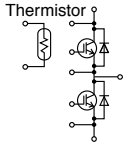
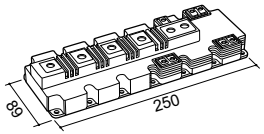
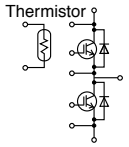
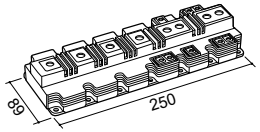
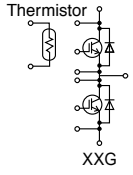
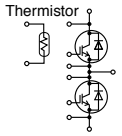
		Dimension[mm]	*Ic*	1700V X series	2300V X series	3300V X series
2-Pack	 M297		**600A**			2MBI600XYF330-50*
			1200A	2MBI1200XYF170-50*		
			1500A	2MBI1500XYF170-50*		
	 M298		**1200A**	2MBI1200XZF170-50	2MBI1200XZF230-50	
			1500A	2MBI1500XZF170-50		
			1800A	2MBI1800XZF170-50		

Note1: M297 : Mgsic-baseplate, M298 : Cu-baseplate.
Note2: The range of modules with pre-applied TIM (Thermal-Interface-Material) is being cotinually expanded.

*Under development

PrimePACK™

2-Pack

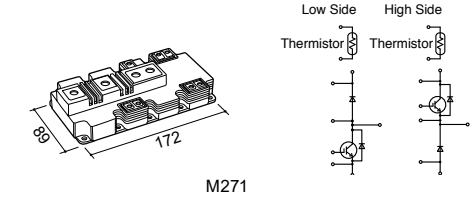
Dimension[mm]	Ic	1200V X series	1200V V series Low switching loss	1200V V series Soft turn off	1700V X series Low switching loss	1700V V series Low switching loss	1700V V series Soft turn off
 M271 	600A		2MBI600VXA-120E-50				
			2MBI600VXA-120E-54				
	650A				2MBI650XXA170-50	2MBI650VXA-170E-50	
						2MBI650VXA-170E-54	
						2MBI650VXA-170EA-50	
						2MBI650VXA-170EA-54	
	900A	2MBI900XXA120P-50	2MBI900VXA-120E-50	2MBI900VXA-120P-50			
		2MBI900XXA120P-81*	2MBI900VXA-120E-54	2MBI900VXA-120P-54			
	1200A	2MBI1200XXE120P-50			2MBI1200XXE170-50		
 M272 	1000A				2MBI1000XXB170-50	2MBI1000VXB-170E-50	
						2MBI1000VXB-170E-54	
						2MBI1000VXB-170EA-50	
						2MBI1000VXB-170EA-54	
	1400A	2MBI1400XXB120P-50	2MBI1400VXB-120E-50	2MBI1400VXB-120P-50	2MBI1400XXB170-50	2MBI1400VXB-170E-50	2MBI1400VXB-170P-50
		2MBI1400XXB120P-81*	2MBI1400VXB-120E-54	2MBI1400VXB-120P-54		2MBI1400VXB-170E-54	2MBI1400VXB-170P-54
	1800A	2MBI1800XXF120P-50			2MBI1800XXF170-50		
 M291  XXG  XRXG	1800A	2MBI1800XXG120P-50			2MBI1800XXG170-50		
		2MBI1800XXG120P-81*			2MBI1800XXG170-81		
	2400A	2MBI2400XRXG120-50*			2MBI2400XRXG170-50*		

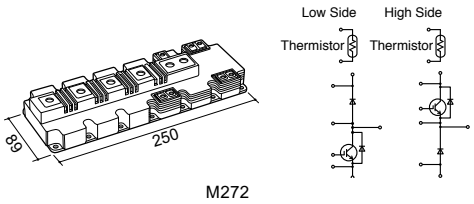
Note1: The products with suffix '-54' on this page are labeled to specify the rank of $V_{CE(sat)}$ and V_F.
Note2: "-81" : Pre-applied Thermal-Interface-Material for "-50".
Note3: EA types reduce V_F and thermal resistance and are suitable for applications with high diode loads.
Note4: PrimePACK™ is registered trademark of Infineon Technologies AG, Germany.
Note5: The products with 'P' on this page are 'soft turn off' type
Note6: The range of modules with pre-applied TIM (Thermal-Interface-Material) is being cotinually expanded.

*Under development

PrimePACK™

Chopper



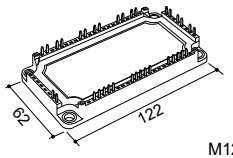
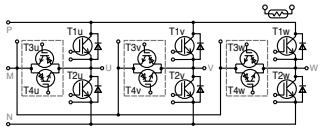
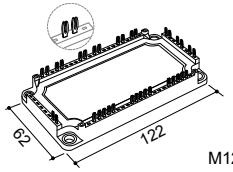
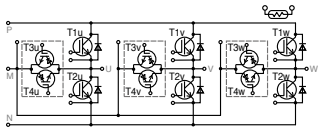
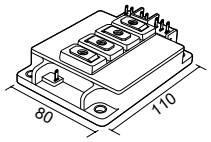
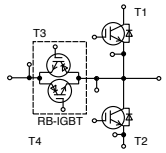
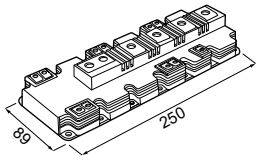
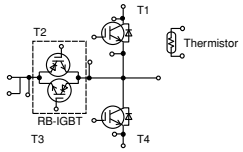


Dimension[mm]	*Ic*	1200V		1700V	
		V series		V series	
		Low side configuration	High side configuration	Low side configuration	High side configuration
	650A			1MBI650VXA-170EL-50	1MBI650VXA-170EH-50
				1MBI650VXA-170EL-54	1MBI650VXA-170EH-54
	900A	1MBI900VXA-120PD-50 *1	1MBI900VXA-120PC-50 *1		
		1MBI900VXA-120PD-54 *1	1MBI900VXA-120PC-54 *1		
	1000A			1MBI1000VXB-170EL-50	1MBI1000VXB-170EH-50
				1MBI1000VXB-170EL-54	1MBI1000VXB-170EH-54
	1400A			1MBI1400VXB-170PL-50	1MBI1400VXB-170PH-50
		1MBI1400VXB-120PL-54	1MBI1400VXB-120PH-54	1MBI1400VXB-170PL-54	1MBI1400VXB-170PH-54

Note1: The products with suffix '-54' on this page are labeled to specify the rank of $V_{CE(sat)}$ and V_F.
Note2: PrimePACK™ is registered trademark of Infineon Technologies AG, Germany.
Note3: The range of modules with pre-applied TIM (Thermal-Interface-Material) is being cotinually expanded.
*1 Antiparallel diode current rating is 120A. Application circuit is Boost/Buck chopper only.

T-type NPC 3-level Modules

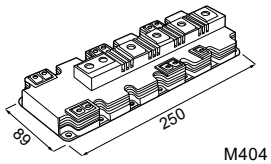
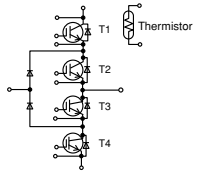
Dimension[mm]

		Ic	600V		1200V		1700V	
			V series	RB-IGBT	V series	RB-IGBT	V series	RB-IGBT
3 Phase With NTC, Solder pins	 M1203 	50A			12MBI50VN-120-50	600V		
		75A			12MBI75VN-120-50	600V		
		100A			12MBI100VN-120-50	600V		
3 Phase With NTC, Press fit pins	 M1202 	50A			12MBI50VX-120-50	600V		
		75A			12MBI75VX-120-50	600V		
		100A			12MBI100VX-120-50	600V		
1 Phase	 M403 	220A					4MBI220VF-170R2-50	1200V
		300A			4MBI300VG-120R-50	600V		
					4MBI300VG-120R1-50	900V		
		340A			4MBI340VF-120R-50	600V		
		400A	4MBI400VG-060R-50	600V	4MBI400VF-120R-50	600V		
1 Phase	 M404 	450A			4MBI450VB-120R1-50	900V	4MBI450VB-170R2-50	1200V
					4MBI450VB-120R1-60	900V	4MBI450VB-170R2-60	1200V
		600A					4MBI600VB-170R2-50	1200V
							4MBI600VB-170R2-60	1200V
		650A			4MBI650VB-120R1-50	900V		
					4MBI650VB-120R1-60	900V		
		900A			4MBI900VB-120R1-50	900V		
					4MBI900VB-120R1-60	900V		
					4MBI900VB-120RA-50	600V		
					4MBI900VB-120RA-60	600V		

Note 1: 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.
Note 2: The products with suffix '-60' on this page are labeled the characteristic data.

I-type NPC 3-level Module

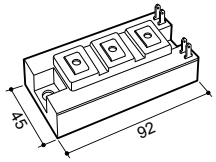
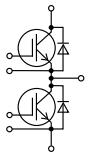
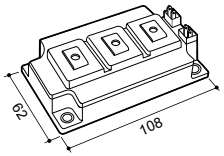
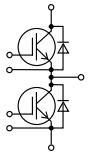
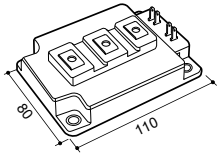
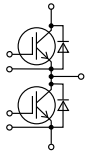
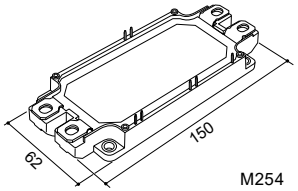
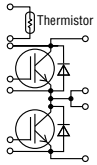
Dimension[mm]

		Ic	600V	1200V	1700V
			V series	V series	V series
1 Phase	 M404 	600A		4MBI600VC-120-50	
				4MBI600VC-120-60	

Note: The products with suffix '-60' on this page are labeled the characteristic data.

Hybrid SiC Modules

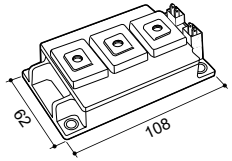
2-Pack

Dimension[mm]	Ic	1200V V series	1200V VW series	1700V V series
 M274 	200A	2MSI200VAB-120-53		
 M276 	200A		2MSI200VWAH-120-53	
	300A	2MSI300VAH-120C-53	2MSI300VWAH-120-53	
 M277 	400A			2MSI400VAE-170-53
 M254 	300A	2MSI300VAN-120-53		
	450A	2MSI450VAN-120-53		
	600A	2MSI600VAN-120-53		

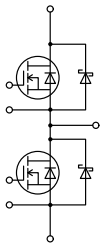
All-SiC Modules

2-Pack

Dimension[mm]

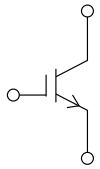
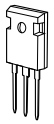
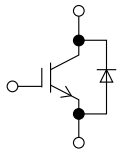
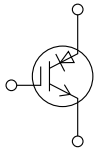
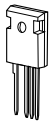
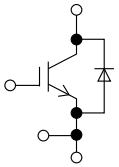


M295

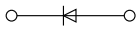
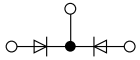
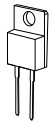
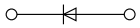
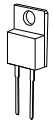
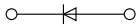
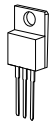
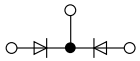
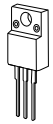
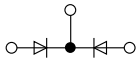
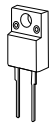
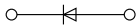
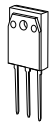
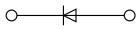
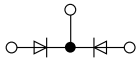
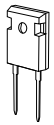
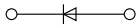


I_D	1200V All SiC 2G SiC-MOSFET Modules with 1G SiC-SBD	1700V All SiC 2G SiC-MOSFET Modules with 1G SiC-SBD
200A		2CSI200DAHE170-50
300A	2CSI300DAHE120-50	2CSI300DAHE170-50
400A		2CSI400DAHE170-50
450A	2CSI450DAHE120-50	
600A	2CSI600DAHE120-50	

Discrete IGBT

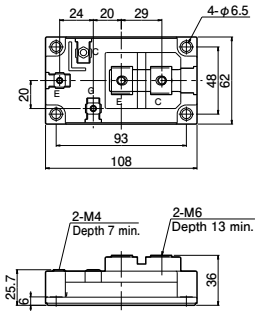
		Ic	600V		650V	1200V	
			V series	RB series	XS series	XS series	V series
TO-247 (Type:B)		30A			FGW30XS65		
		40A			FGW40XS65	FGW40XS120	
		50A			FGW50XS65		
		75A			FGW75XS65	FGW75XS120	
		15A					FGW15N120VD
		25A					FGW25N120VD
		30A	FGW30N60VD		FGW30XS65C		
		40A			FGW40XS65C	FGW40XS120C	FGW40N120VD
		50A	FGW50N60VD		FGW50XS65D		
					FGW50XS65C		
		75A			FGW75XS65D	FGW75XS120C	
					FGW75XS65C		
	 RB-IGBT	85A		FGW85N60RB			
TO-247-4		75A			FGZ75XS65C	FGZ75XS120C	
							

SiC Schottky Barrier Diodes (SiC-SBD)

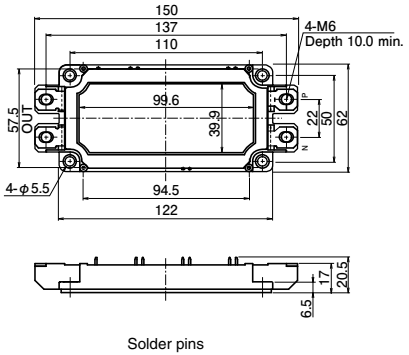
		I_F	650V		1200V	
			SiC-SBD 2G	SiC-SBD 1G	SiC-SBD 2G	SiC-SBD
T-Pack(s)	  	10A		FDCC10S65		
		20A				
		25A		FDCC25S65		
		20A		FDCC20C65		
TO-220-2 (Type:A)	 	6A	FDC2PT06S65			
		8A	FDC2PT08S65			
		10A	FDC2PT10S65			
TO-220-2 (Type:B)	 	10A		FDCP10S65		
		25A		FDCP25S65		
TO-220	 	20A		FDCP20C65		
TO-220F	 	20A		FDCA20C65		
TO-220F-2	 	6A	FDC2AT06S65			
		8A	FDC2AT08S65			
		10A	FDC2AT10S65	FDCA10S65		
		18A				FDCA18S120
		25A		FDCA25S65		
TO-247 (Type:A)	  	10A		FDCY10S65		
		18A				FDCY18S120
		25A		FDCY25S65		
		20A		FDCY20C65		
		36A				FDCY36C120
		50A		FDCY50C65		
TO-247-2	 	18A				FDCW18T120
		20A			FDC2WT20S120	
		40A			FDC2WT40S120	

Package Outlines, mm

M153

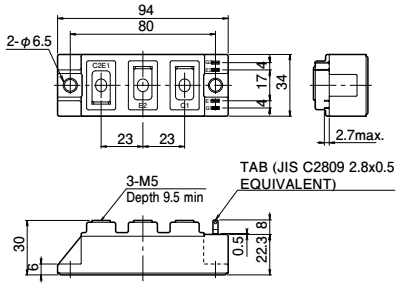


M254

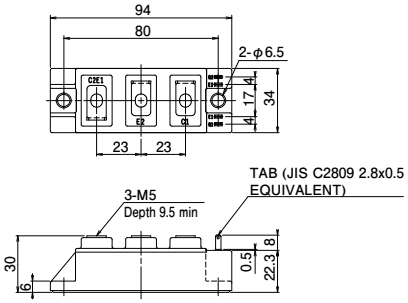


Solder pins

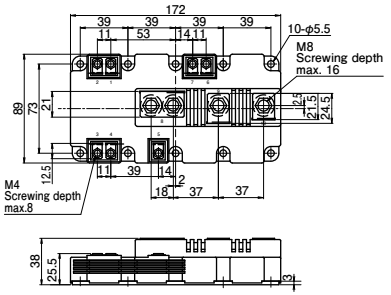
M262



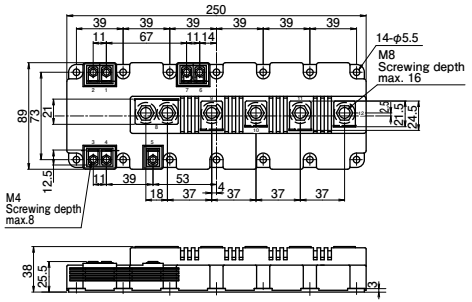
M263



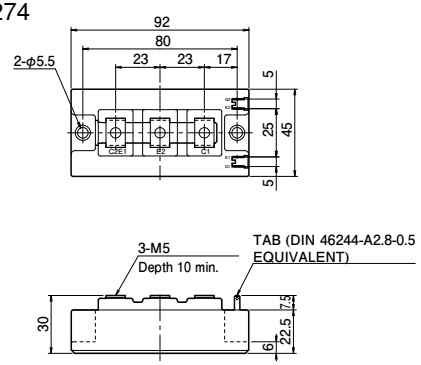
M271



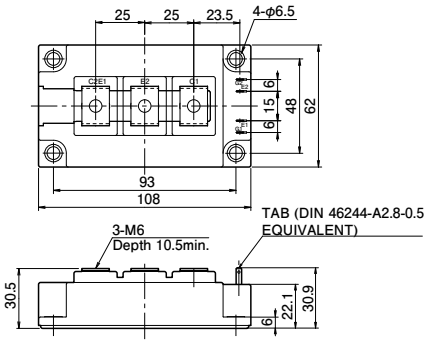
M272



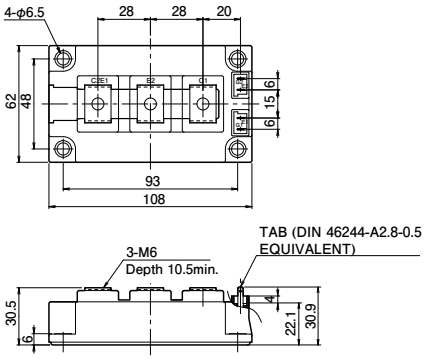
M274



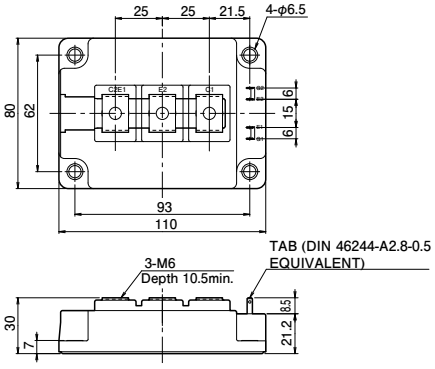
M275



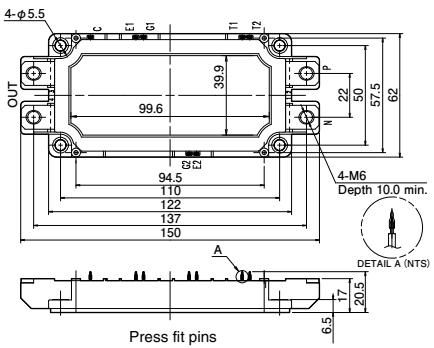
M276



M277

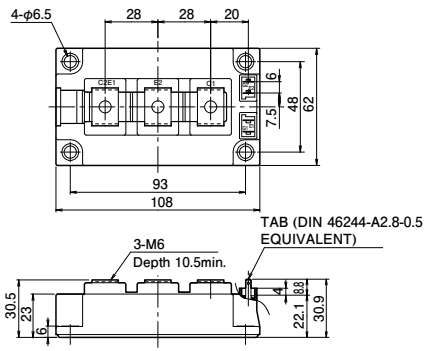


M282



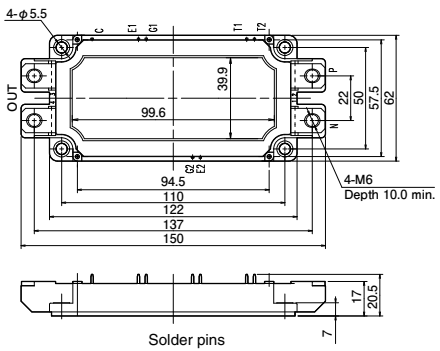
Press fit pins

M283

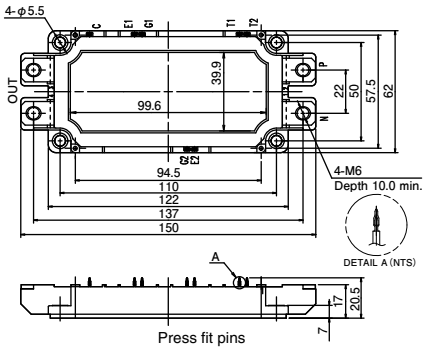


Package Outlines, mm

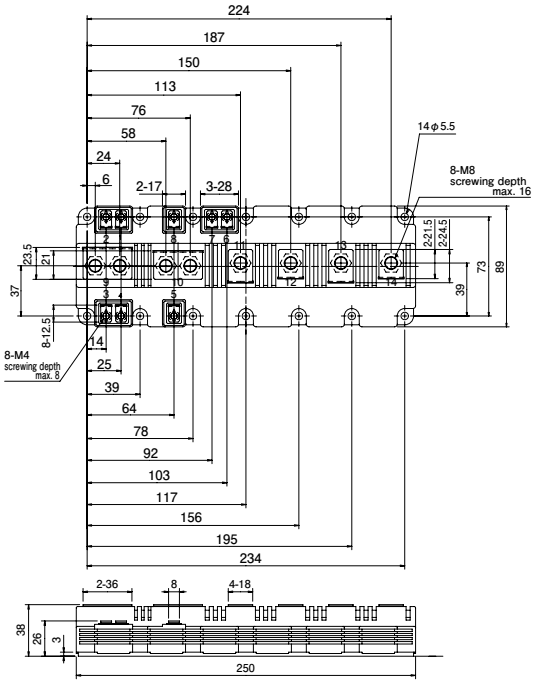
M285



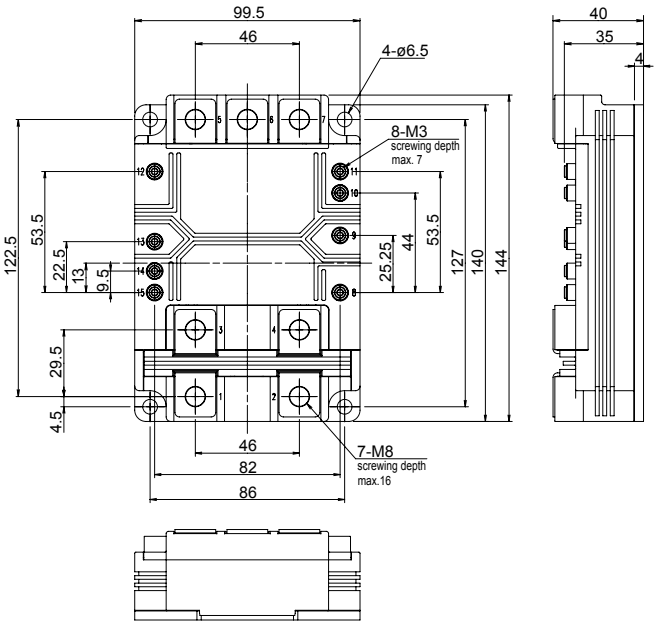
M286



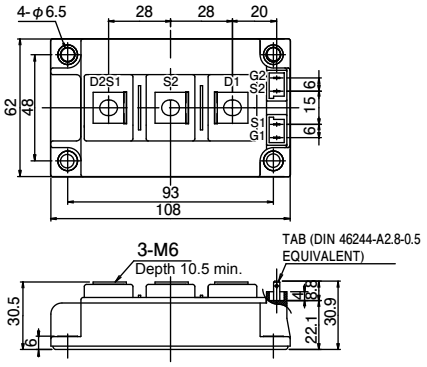
M291



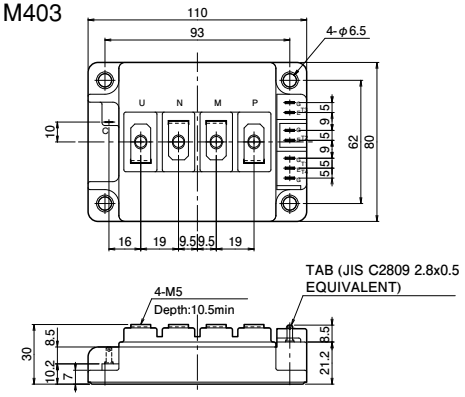
M297, M298



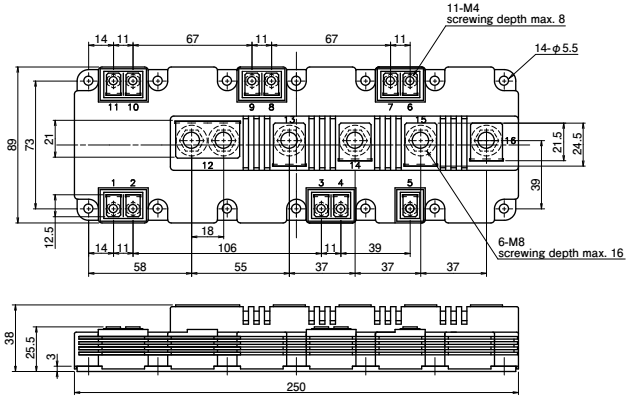
M295



M403

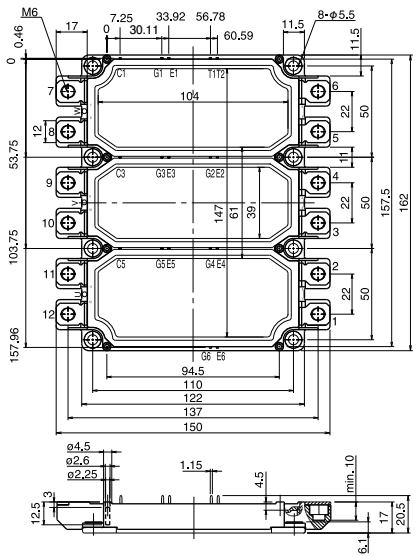


M404

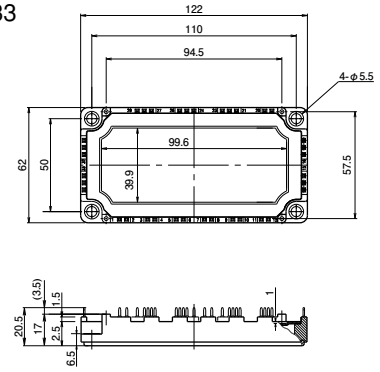


Package Outlines, mm

M629

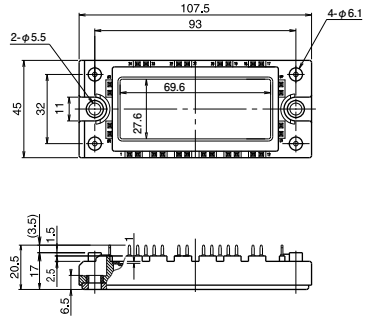


M633



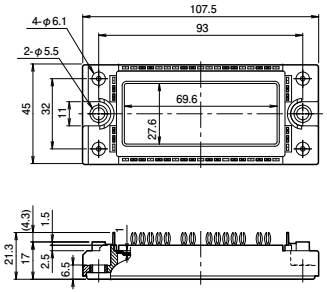
Solder pins

M636



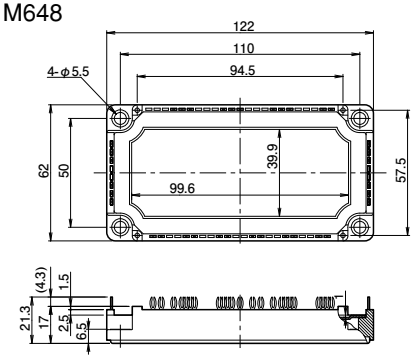
Solder pins

M647



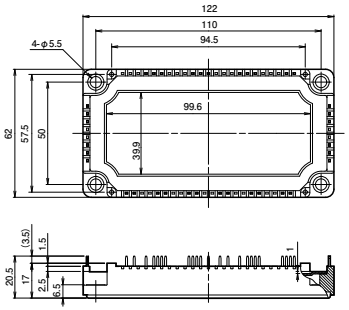
Press fit pins

M648



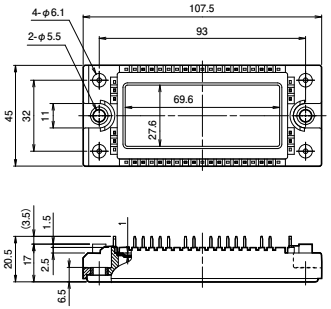
Press fit pins

M668



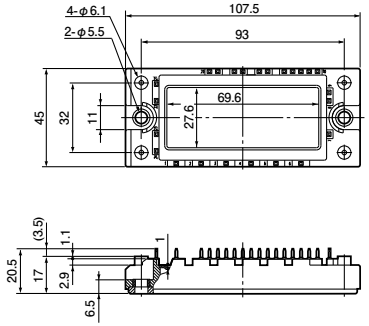
Solder pins

M669



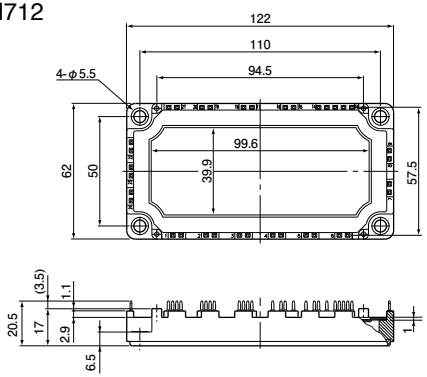
Solder pins

M711



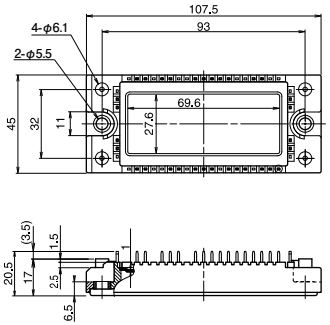
Solder pins

M712



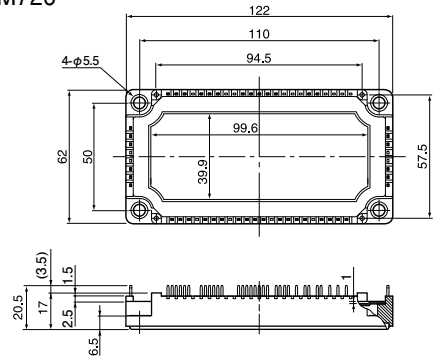
Solder pins

M719



Solder pins

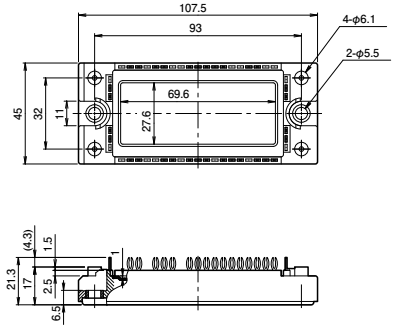
M720



Solder pins

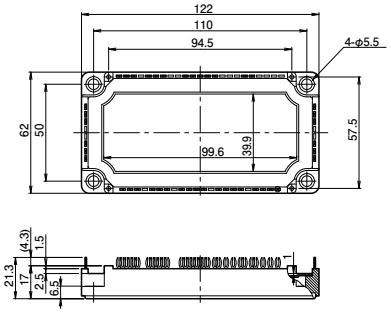
Package Outlines, mm

M721



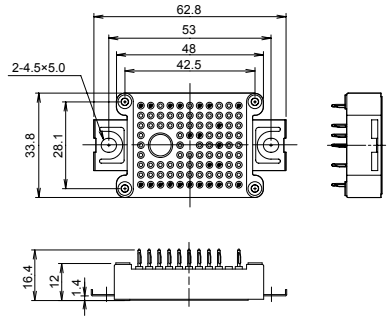
Press fit pins

M722



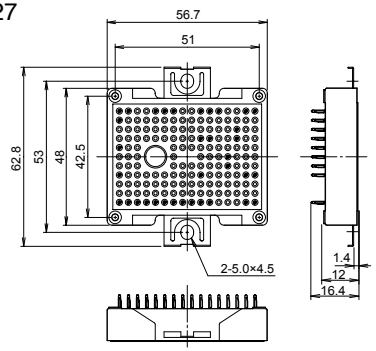
Press fit pins

M726



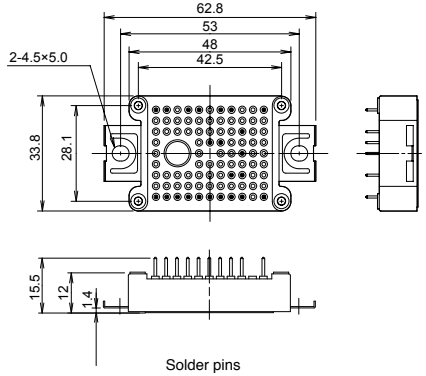
Press fit pins

M727



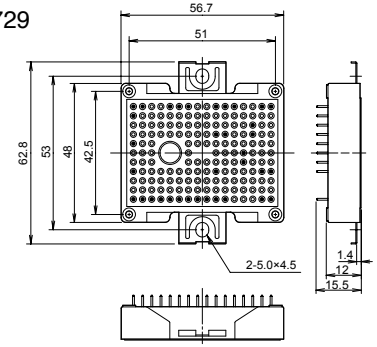
Press fit pins

M728



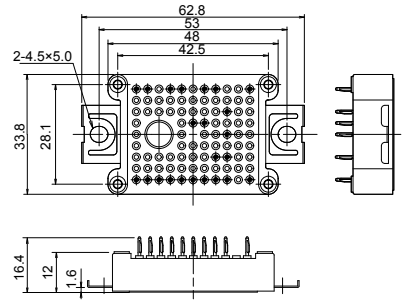
Solder pins

M729



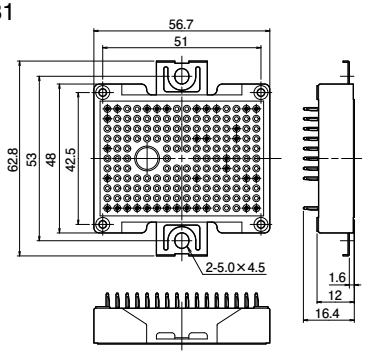
Solder pins

M730



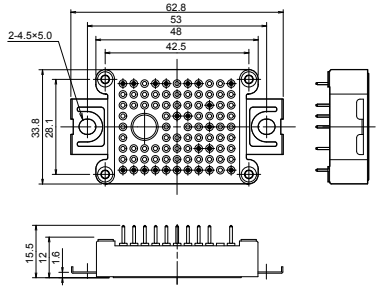
Press fit pins

M731



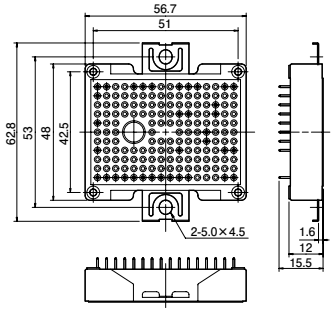
Press fit pins

M732



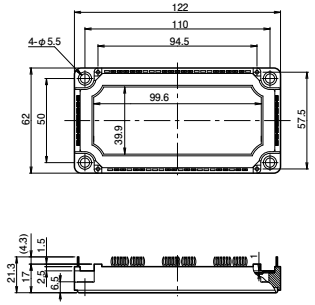
Solder pins

M733



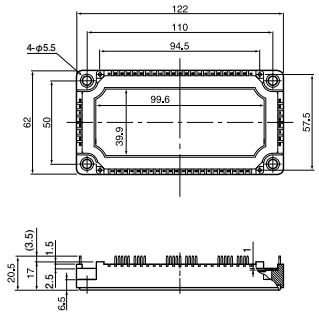
Solder pins

M1202



Press fit pins

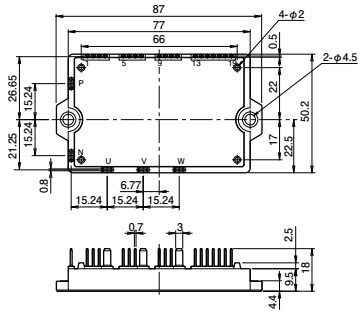
M1203



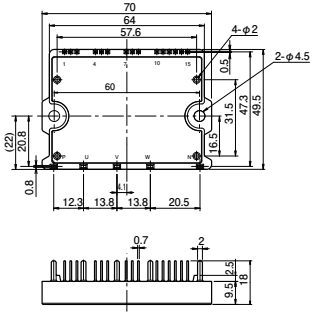
Solder pins

Package Outlines, mm

P626



P629



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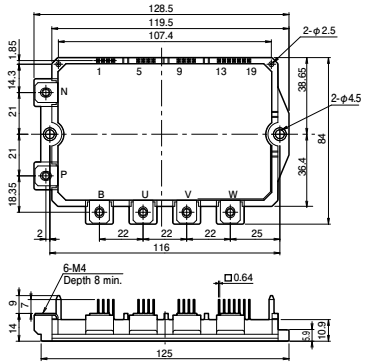
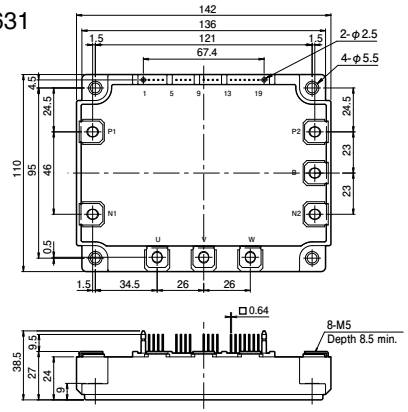
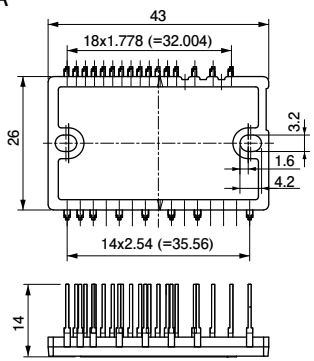


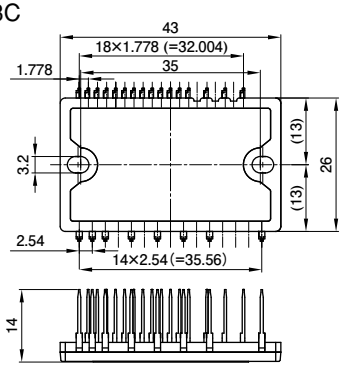
P631



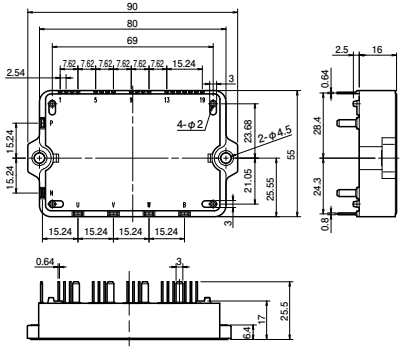
P633A



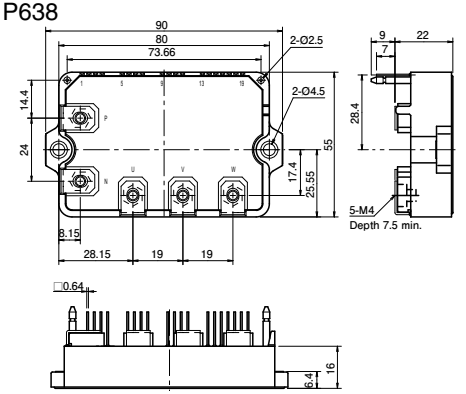
P633C



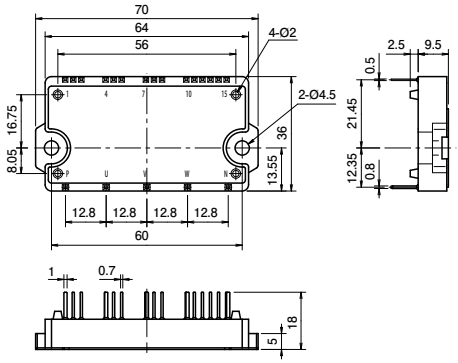
P636



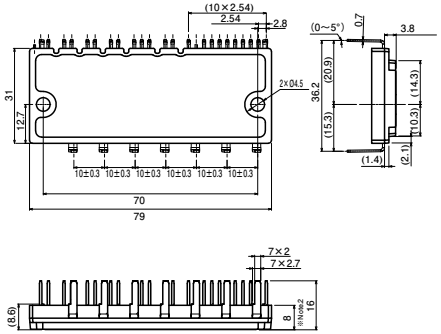
P638



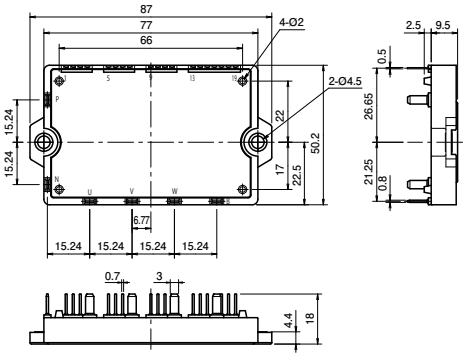
P639



P642

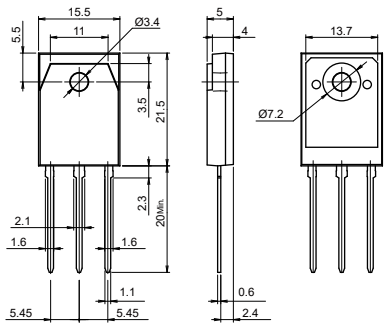


P644

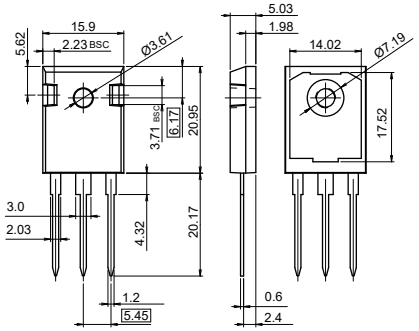


Package Outlines, mm

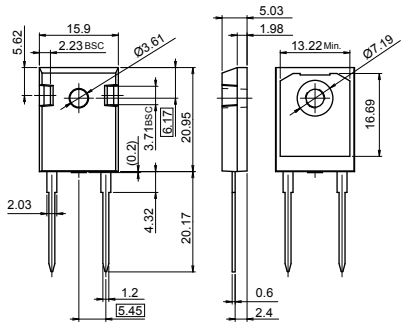
TO-247 (Type:A)



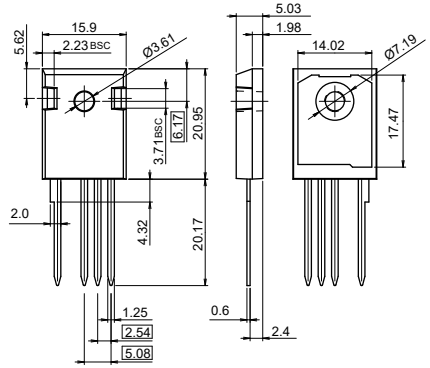
TO-247 (Type:B)



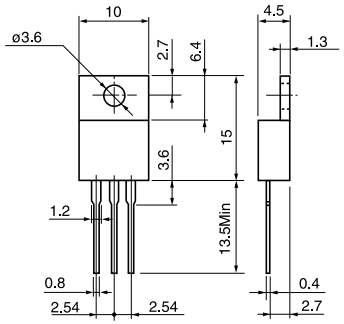
TO-247-2



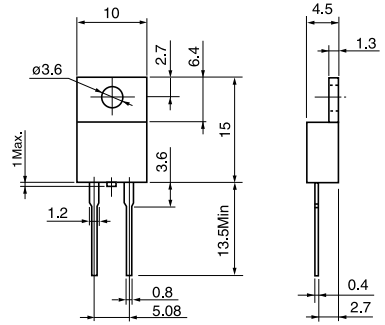
TO-247-4



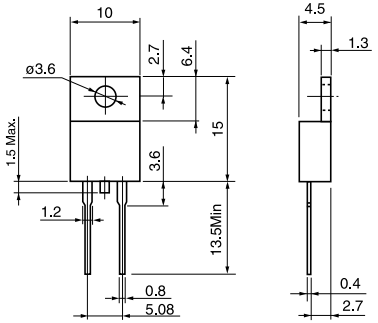
TO-220



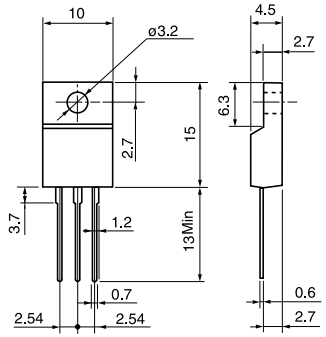
TO-220-2 (Type: A)



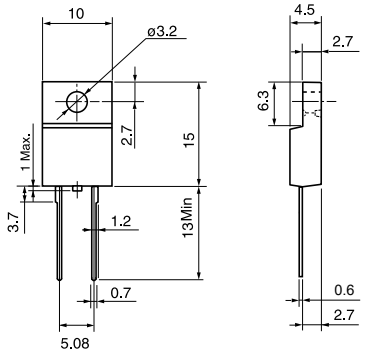
TO-220-2 (Type: B)



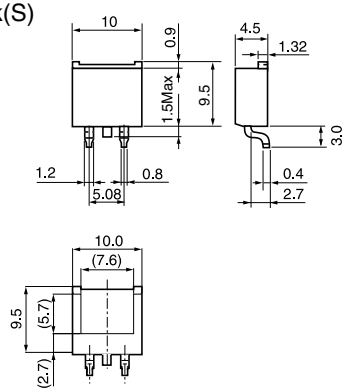
TO-220F



TO-220F-2



T-Pack(S)



Package Outlines, mm

Package Outlines, mm

WARNING

1. This Catalog contains the product specifications, characteristics, data, materials, and structures as of March 2024.
   The contents are subject to change without notice for specification changes or other reasons. When using a product listed in this Catalog, be sure to obtain the latest specifications.

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5. If you need to use a product in this Catalog for equipment requiring higher reliability than normal, such as for the equipment listed below, it is imperative to contact Fuji Electric Co., Ltd. to obtain prior approval. When using these products for such equipment, take adequate measures such as a backup system to prevent the equipment from malfunctioning even if a Fuji's product incorporated in the equipment becomes faulty.
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   • Traffic-signal control equipment • Gas leakage detectors with an auto-shut-off feature
   • Emergency equipment for responding to disasters and anti-burglary devices • Safety devices
   • Medical equipment

6. Do not use products in this Catalog for the equipment requiring strict reliability such as the following and equivalents to strategic equipment (without limitation).
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   • Submarine repeater equipment

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* The photo on the cover shows just one example of the many applications in which our power semiconductors are used, but should not be construed to mean that they are necessarily used in the product in the photo.