

Hitachi IGBT

Status List

Date: Sep. 2021

Compliance status of RoHS directive

C:Compliant S.C:Compliant (Included RoHS exemption substance) N:Non compliant

Production Status

M:Mass production W:Working sample U:Under development D:Discontinued N:Not for new design

HV-IGBT Module

Connection	Type name	Absolute Max. Ratings		Electrical Characteristics					Outline	RoHS Status	Status
		V _{CE(S)} (V)	I _C (A)	V _{CE(sat)} (V)Typ.	V _F (V)Typ.	t _{on} (us)Max.	t _{off} (us)Max.	t _r (us)Max.			
1 in 1	MBN1600F17F	1,700	3,600	2.4	2.25	2.8	6.6	3.2	N-9	N	M
	MBN2400F17F	1,700	2,400	2.4	2.25	-	-	-	N-9	S.C	M
	MBN3600E17F	1,700	3,600	2.4	2.25	2.8	6.6	3.2	N-9	N	M
	MBN800E33E	3,300	800	3.5	2.5	3.3	5.7	3.1	N-10	N	M
	MBN1000E33E2	3,300	1,000	3.1	2.5	3.4	5.0	2.7	N-10	N	M
	MBN1200E33E	3,300	1,200	3.5	2.5	3.3	5.7	3.1	N-9	N	M
	MBN1200F33F	3,300	1,200	2.85	2.6	1.6	5.9	2.6	N-10	S.C	M
	MBN1500E33E2	3,300	1,500	3.1	2.6	3.7	5.5	2.6	N-9	N	M
	MBN1500E33E3	3,300	1,500	3.6	2.6	4.0	5.8	3.3	N-9	N	M
	MBN1800F33F	3,300	1,800	2.85	2.6	-	-	-	N-9	S.C	M
	MBN1800FH33F	3,300	1,800	2.85	2.6	-	-	-	N-12	S.C	M
	MBN800H45E2	4,500	800	3.7	2.9	4.7	8.0	4.5	N-13	N	M
	MBN800H45E2-H	4,500	800	4.2	3.7	5.4	7.2	3.6	N-13	N	M
	MBN1000FH45F	4,500	1,000	3.0	2.8	-	-	-	N-15	S.C	M
	MBN1000FH45F-H	4,500	1,000	4.35	2.8	-	-	-	N-15	S.C	M
	MBN1200H45E2	4,500	1,200	3.7	2.9	4.7	8.0	4.5	N-12	N	M
	MBN1200H45E2-H	4,500	1,200	4.2	3.7	5.4	7.2	3.6	N-12	N	M
	MBN1500FH45F	4,500	1,500	3.0	2.8	-	-	-	N-14	S.C	M
	MBN1500FH45F-H	4,500	1,500	4.35	2.8	-	-	-	N-14	S.C	M
	MBN500H65E2	6,500	500	4.3	3.9	5.9	9.6	4.7	N-13	N	M
MBN750H65E2	6,500	750	4.3	3.9	5.9	9.6	4.7	N-12	N	M	
MBN1000FH65G2	6,500	1,000	4.1	4.1	-	-	-	N-14	S.C	U	

HV-IGBT Module

Connection	Type name	Absolute Max. Ratings		Electrical Characteristics					Outline	RoHS Status	Status
		V _{CES}	I _c	V _{CE(sat)}	V _F	t _{on}	t _{off}	t _r			
		(V)	(A)	(V)Typ.	(V)Typ.	(us)Max.	(us)Max.	(us)Max.			
2 in 1	MBM1000FS17G	1,700	1,000	2.15	1.9	-	-	-	M-15	S.C	M
	MBM1200E17F	1,700	1,200	2.4	2.3	2.5	6.0	3.0	M-10	N	M
	MBM250H33E3	3,300	250	3.6	2.8	3.3	5.2	3.2	M-13	N	M
	MBM450FS33F	3,300	450	3.05	2.45	-	-	-	M-15	S.C	M
	MBM500E33E2-R	3,300	500	3.1	2.5	2.6	4.9	2.6	M-14	N	M
	MBM200H45E2-H	4,500	200	4.2	3.9	5.4	6.7	3.6	M-13	N	M
Chopper	MBL1200E17F	1,700	1,200	2.4	2.3	2.5	6.0	3.0	N-10	N	M
	MBL1600E17F	1,700	1,600	2.4	2.3	2.0	6.4	2.8	N-9	N	M
	MBL400E33D	3,300	400	4.2	2.5	3.3	5.1	2.5	N-10	N	M
	MBL1000E33E2-B	3,300	1,000	2.95	2.5	3.3	5.0	2.7	N-9	N	M

Connection	Type name	Absolute Max. Ratings		Electrical Characteristics					Outline	RoHS Status	Status
		V _{RRM}	I _F	V _F	-	-	-	t _{rr}			
		(V)	(A)	(V)Typ.	-	-	-	(us)Max.			
Diode	MDM900E17D	1,700	900	2.0	-	-	-	1.4	N-10	N	M
	MDM1200E17D	1,700	1,200	2.1	-	-	-	1.0	N-10	N	M
	MDM800E33D	3,300	800	2.5	-	-	-	1.1	N-10	N	M
	MDM1200E33D	3,300	1,200	2.8	-	-	-	1.1	N-10	N	M
	MDM1200FH33F	3,300	1,200	3.3	-	-	-	-	N-13	S.C	M
	MDM400H45E2	4,500	400	3.4	-	-	-	1.6	N-13	N	M
	MDM800H45E2	4,500	800	3.4	-	-	-	1.6	N-13	N	M
	MDM800H45E2-H	4,500	800	4.2	-	-	-	tbd	N-13	N	M
	MDM1200H45E2	4,500	1,200	3.4	-	-	-	1.8	N-13	N	M
	MDM1200H45E2-H	4,500	1,200	4.2	-	-	-	1.8	N-13	N	M
	MDM250H65E2	6,500	250	4.1	-	-	-	-	N-13	N	M
	MDM500H65E2	6,500	500	4.1	-	-	-	tbd	N-13	N	M
	MDM750H65E2	6,500	750	4.15	-	-	-	1.6	N-13	N	M

IGBT Module

Connection	Type name	Absolute Max. Ratings		Electrical Characteristics					Outline	RoHS Status	Status
		V _{CE(s)} (V)	I _C (A)	V _{CE(sat)} (V)Typ.	V _F (V)Typ.	t _{on} (us)Max.	t _{off} (us)Max.	t _r (us)Max.			
6 in 1	MBB600TV6A	650	600	1.9	1.5	0.9	2.0	0.8	B-2	C	M
	MBB800TV7A	700	800	1.8	1.35	1.1	2.2	1.15	B-2	C	M
	MBB400TX12A	1,200	400	1.9	2.2	-	-	-	B-3	C	U

SiC (Full SiC)

Connection	Type name	Absolute Max. Ratings		Electrical Characteristics					Outline	RoHS Status	Status
		V _{DSS} (V)	I _D (A)	V _{DS} (V)Typ.	V _{SD} (V)Typ.	t _{on} (us)Max.	t _{off} (us)Max.	t _r (us)Max.			
2 in 1	MSM600FS33ALT	3,300	600	4.2	3.8	-	-	-	M-15	S.C	U
	MSM800FS33ALT	3,300	800	4.2	3.8	-	-	-	M-15	S.C	U
	MSM900FS17ALT	1,700	900	2.1	1.9	-	-	-	M-15	S.C	U
Chopper	MSL800FS33PLT	3,300	800	3.6	4.9	-	-	-	M-16	S.C	U
	MSL800FS33NLT	3,300	800	3.6	4.9	-	-	-	M-17	S.C	U

SiC (Hybrid SiC)

Connection	Type name	Absolute Max. Ratings		Electrical Characteristics					Outline	RoHS Status	Status
		V _{CE(s)} (V)	I _C (A)	V _{CE(sat)} (V)Typ.	V _F (V)Typ.	t _{on} (us)Max.	t _{off} (us)Max.	t _r (us)Max.			
1 in 1	MBN1200F33F-C3	3,300	1,200	2.85	4.6	-	-	-	N-10	S.C	M
	MBN1800F33F-C3	3,300	1,800	2.85	4.6	-	-	-	N-9	S.C	M

Discontinued or Not for new design

◆HV-IGBT module

Connection	Type name	Absolute Max. Ratings		Electrical Characteristics				Outline	RoHS Status	Status
		V _{CEs} (V)	I _c (A)	V _{CE(sat)} (V)Typ.	t _{on} (us)Max.	t _{off} (us)Max.	t _r (us)Max.			
1 in 1	MBN1200E17D	1,700	1,200	2.7	1.8	3.4	0.7	N-10	N	D
	MBN1200E17E	1,700	1,200	2.2	4.0	4.2	2.0	N-10	N	D
	MBN1600E17D	1,700	1,600	2.7	2.4	3.8	0.4	N-10	N	D
	MBN1600EB17D	1,700	1,600	2.7	2.4	3.8	0.4	N-11	N	D
	MBN1600E17F	1,700	1,600	2.4	2.0	6.4	2.8	N-10	N	D
	MBN1800E17E	1,700	1,800	2.2	4.4	4.4	1.8	N-9	N	D
	MBN1800E17D	1,700	1,800	2.7	2.4	3.0	0.4	N-9	N	D
	MBN1800E17DD	1,700	1,800	2.7	2.6	3.0	0.4	N-9	N	D
	MBN2400E17D	1,700	2,400	2.6	3.4	3.6	0.4	N-9	N	D
	MBN2400ES17D	1,700	2,400	2.7	2.8	3.6	0.6	N-10	N	D
	MBN2400E17F	1,700	2,400	2.4	-	-	-	N-9	N	D
	MBN3600E17E	1,700	3,600	2.2	3.6	5.6	1.6	N-9	N	D
	MBN400C20	2,000	400	4.2	2.6	5.9	2.4	N-4	N	D
	MBN400D20	2,000	400	4.2	2.6	5.9	2.4	N-4	N	D
	MBN600C20	2,000	600	4.4	2.5	5.9	2.7	N-3	N	D
	MBN600D20	2,000	600	4.4	2.5	5.9	2.7	N-3	N	D
	MBN1200E25C	2,500	1,200	3.0	5.2	5.6	3.4	N-9	N	D
	MBN1200D33C	3,300	1,200	4.8	3.8	5.6	3.2	N-1	N	D
	MBN400C33A	3,300	400	4.5	3.2	5.3	2.8	N-3	N	D
	MBN400D33A	3,300	400	4.5	3.2	5.3	2.8	N-3	N	D
	MBN600C33A	3,300	600	4.5	4.0	6.0	3.2	N-2	N	D
	MBN800E33D	3,300	800	4.2	3.3	5.1	2.5	N-10	N	D
	MBN800E33D-AX	3,300	800	4.2	3.5	5.3	2.5	N-10	N	D
	MBN1200D33A	3,300	1,200	4.1	3.2	5.6	3.2	N-1	N	D
	MBN1200D33C	3,300	1,200	4.8	3.8	5.6	3.2	N-1	N	D
	MBN1200E33C	3,300	1,200	4.8	3.8	5.6	3.2	N-9	N	D
MBN1200E33D	3,300	1,200	4.2	3.3	5.1	2.5	N-9	N	D	
MBN1200H33D	3,300	1,200	4.2	3.3	5.1	2.5	N-12	N	D	
MBN600E45A	4,500	600	5.5	3.0	5.5	3.0	N-10	N	D	
MBN900D45A	4,500	900	5.5	3.0	5.5	3.0	N-1	N	D	
2 in 1	MBM600E17D	1,700	600	2.6	1.6	3.0	1.0	M-10	N	N
	MBM600F17D	1,700	600	3.0	2.0	3.6	1.2	M-12	C	N
	MBM800E17D	1,700	800	2.7	2.4	3.2	0.5	M-10	N	D
	MBM800E17F	1,700	800	2.4	2.8	4.6	2.8	M-10	N	N
	MBM1200E17D	1,700	1,200	2.7	1.8	3.2	0.6	M-10	N	N
	MBM400E25E	2,500	400	2.3	3.2	4.8	2.0	M-11	N	D
	MBM400E33D-MFR	3,300	400	5.0	-	-	-	M-14	N	D
	MBM500E33E2	3,300	500	3.1	2.6	4.9	2.6	M-11	N	D

Discontinued or Not for new design

◆HV-IGBT module

Connection	Type name	Absolute Max. Ratings		Electrical Characteristics				Outline	RoHS Status	Status
		V _{CES} (V)	I _C (A)	V _{CE(sat)} (V)Typ.	t _{on} (μ s)Max.	t _{off} (μ s)Max.	t _f (μ s)Max.			
Chopper	MBL1200E17D	1,700	1,200	2.7	2.4	3.4	0.4	N-10	N	D
	MBL800D33B	3,300	800	4.1	3.3	5.0	2.7	N-1	N	D
	MBL800D33C	3,300	800	4.1	3.8	5.6	1.4	N-1	N	D
	MBL800E33C	3,300	800	4.8	3.8	5.6	3.2	N-9	N	D
	MBL800E33D	3,300	800	4.2	3.3	5.1	2.5	N-9	N	D
	MBL800E33D-R	3,300	800	4.2	3.3	5.1	2.5	N-9	N	D
	MBL800E33E	3,300	800	3.5	3.3	5.7	3.1	N-9	N	D

Connection	Type name	Absolute Max. Ratings		Electrical Characteristics				Outline	RoHS Status	Status
		V _{RRM} (V)	I _F (A)	V _F (V)Typ.	-	-	t _{rr} (μ s)Max.			
Diode	MDM400E33D	3,300	400	2.5	-	-	0.7	N-10	N	D
	MDN1200D33	3,300	1200	3.2	-	-	1.4	N-3	N	D
	MDM300E45A	4,500	300	4.5	-	-	1.0	N-10	N	D
	MDM600E45A	4,500	600	4.5	-	-	1.0	N-10	N	D
	MDM900E45A	4,500	900	4.5	-	-	tbd	N-10	N	D

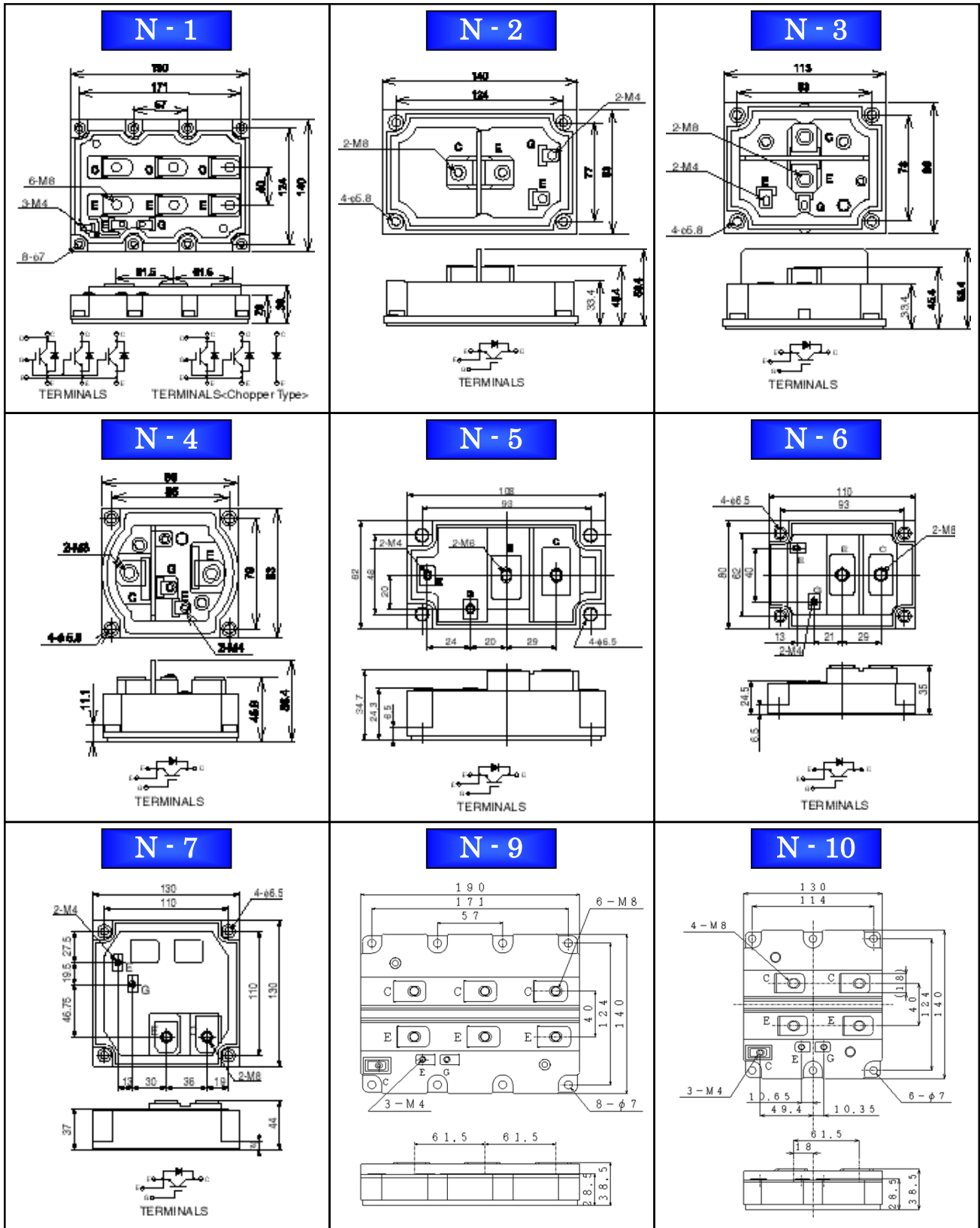
Discontinued or Not for new design

◆ IGBT module

Connection	Type name	Absolute Max. Ratings		Electrical Characteristics				Outline	RoHS Status	Status
		V _{CE(s)} (V)	I _c (A)	V _{CE(sat)} (V)Typ.	t _{on} (μ s)Max.	t _{off} (μ s)Max.	t _f (μ s)Max.			
1 in 1	MBN600GR12	1,200	600	2.2	1.0	1.2	0.4	N-6	N	D
	MBN400GR12	1,200	400	2.2	0.9	1.1	0.35	N-5	N	D
	MBN1200GS12AW	1,200	1,200	2.9	2.2	1.6	0.55	N-7	N	D
	MBN600GS12AW	1,200	600	2.7	0.8	1.2	0.4	N-6	N	D
	MBN400GS12AW	1,200	400	2.7	0.7	1.1	0.35	N-5	N	D
	MBN400GS12BW	1,200	400	2.7	0.7	1.1	0.35	N-5	N	D
	MBN300GS12AW	1,200	300	2.7	0.7	1.1	0.35	N-5	N	D
	MBN1200GR12A	1,200	1,200	2.4	2.1	1.8	0.4	N-7	N	D
	MBN600GR12A	1,200	600	2.2	0.8	1.2	0.35	N-6	N	D
	MBN400GR12A	1,200	400	2.2	0.7	1.1	0.3	N-5	N	D
2 in 1	MBM300GR12	1,200	300	2.2	0.9	1.1	0.35	M-9	N	D
	MBM200GR12	1,200	200	2.2	0.8	1.0	0.35	M-8	N	D
	MBM150GR12	1,200	150	2.2	0.8	1.0	0.35	M-8	N	D
	MBM100GR12	1,200	100	2.2	0.8	0.9	0.35	M-8	N	D
	MBM400GR6	600	400	2.1	0.7	1.1	0.32	M-3	N	D
	MBM300GR6	600	300	2.1	0.7	1.0	0.32	M-8	N	D
	MBM200GR6	600	200	2.1	0.7	0.8	0.3	M-8	N	D
	MBM150GR6	600	150	2.1	0.7	0.8	0.3	M-8	N	D
	MBM300GS12AW	1,200	300	2.7	0.7	1.1	0.35	M-4	N	D
	MBM200GS12AW	1,200	200	2.7	0.55	1.0	0.35	M-1	N	D
	MBM200JS12AW	1,200	200	2.7	0.55	1.0	0.35	M-3	N	D
	MBM200JS12EW	1,200	200	2.7	0.55	1.0	0.35	M-2	N	D
	MBM150GS12AW	1,200	150	2.7	0.55	1.0	0.35	M-1	N	D
	MBM100GS12AW	1,200	100	2.7	0.55	0.9	0.35	M-6	N	D
	MBM75GS12AW	1,200	75	2.7	0.55	0.9	0.35	M-6	N	D
	MBM600GS6CW	600	600	1.9	0.8	1.1	0.4	M-7	N	D
	MBM400GS6AW	600	400	1.9	0.7	1.1	0.35	M-1	N	D
	MBM400JS6AW	600	400	1.9	0.7	1.1	0.35	M-3	N	D
	MBM300GS6AW	600	300	1.9	0.7	1.1	0.35	M-1	N	D
	MBM200GS6AW	600	200	1.9	0.6	0.9	0.35	M-6	N	D
MBM150GS6AW	600	150	1.9	0.6	0.9	0.35	M-6	N	D	
MBM300GR12A	1,200	300	2.2	0.7	1.1	0.3	M-9	N	D	
MBM200GR12A	1,200	200	2.2	0.6	1.0	0.3	M-8	N	D	
MBM150GR12A	1,200	150	2.2	0.6	1.0	0.3	M-8	N	D	
MBM100GR12A	1,200	100	2.2	0.6	1.0	0.3	M-8	N	D	
6 in 1	MBB200GS6AW	600	200	1.9	0.6	0.9	0.35	B-1	N	D
	MBB100GS12AW	1,200	100	2.7	0.55	0.9	0.35	B-1	N	D
	MBB75GS12AW	1,200	75	2.7	0.55	0.9	0.35	B-1	N	D

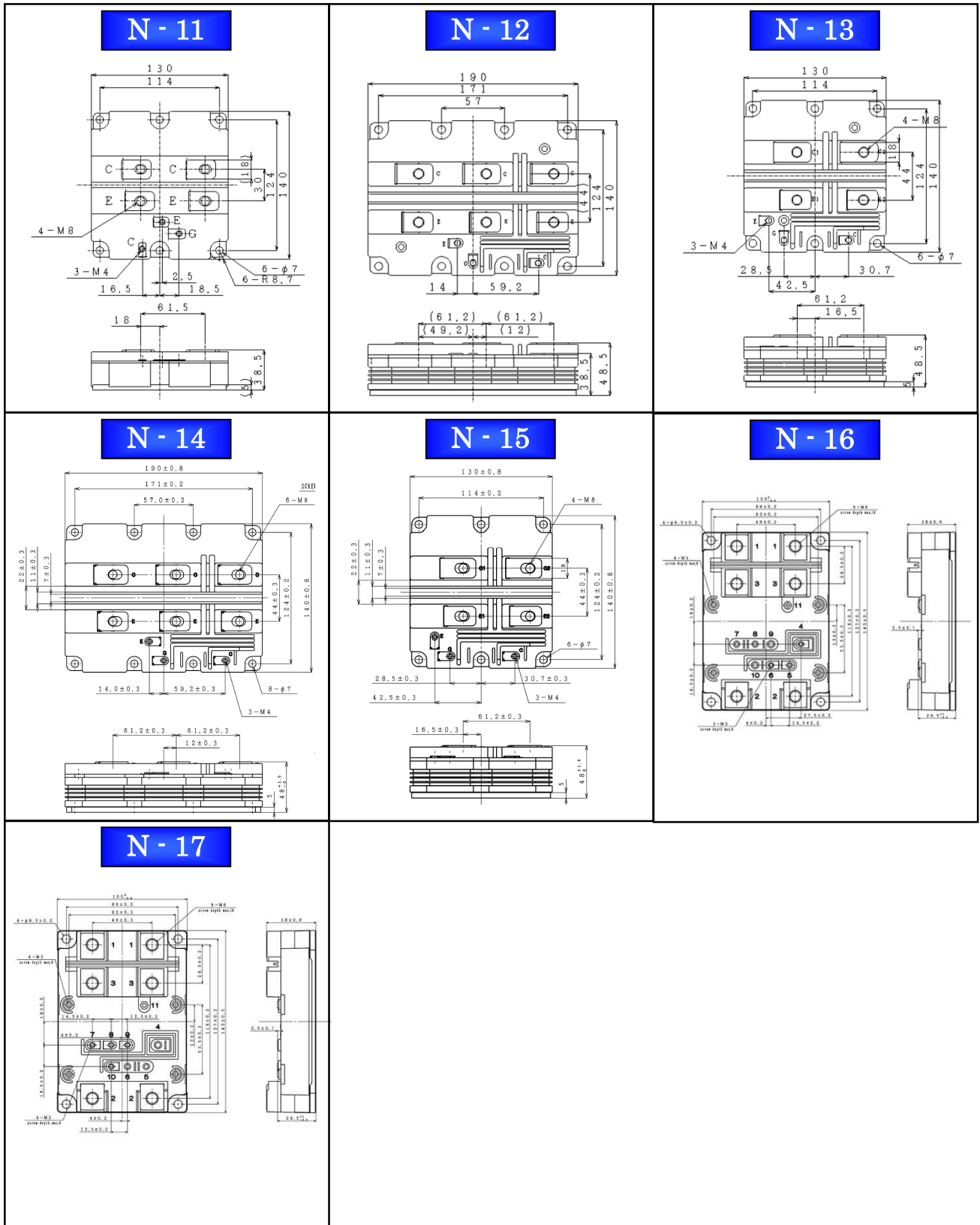
Outline

[Dimensions in mm]



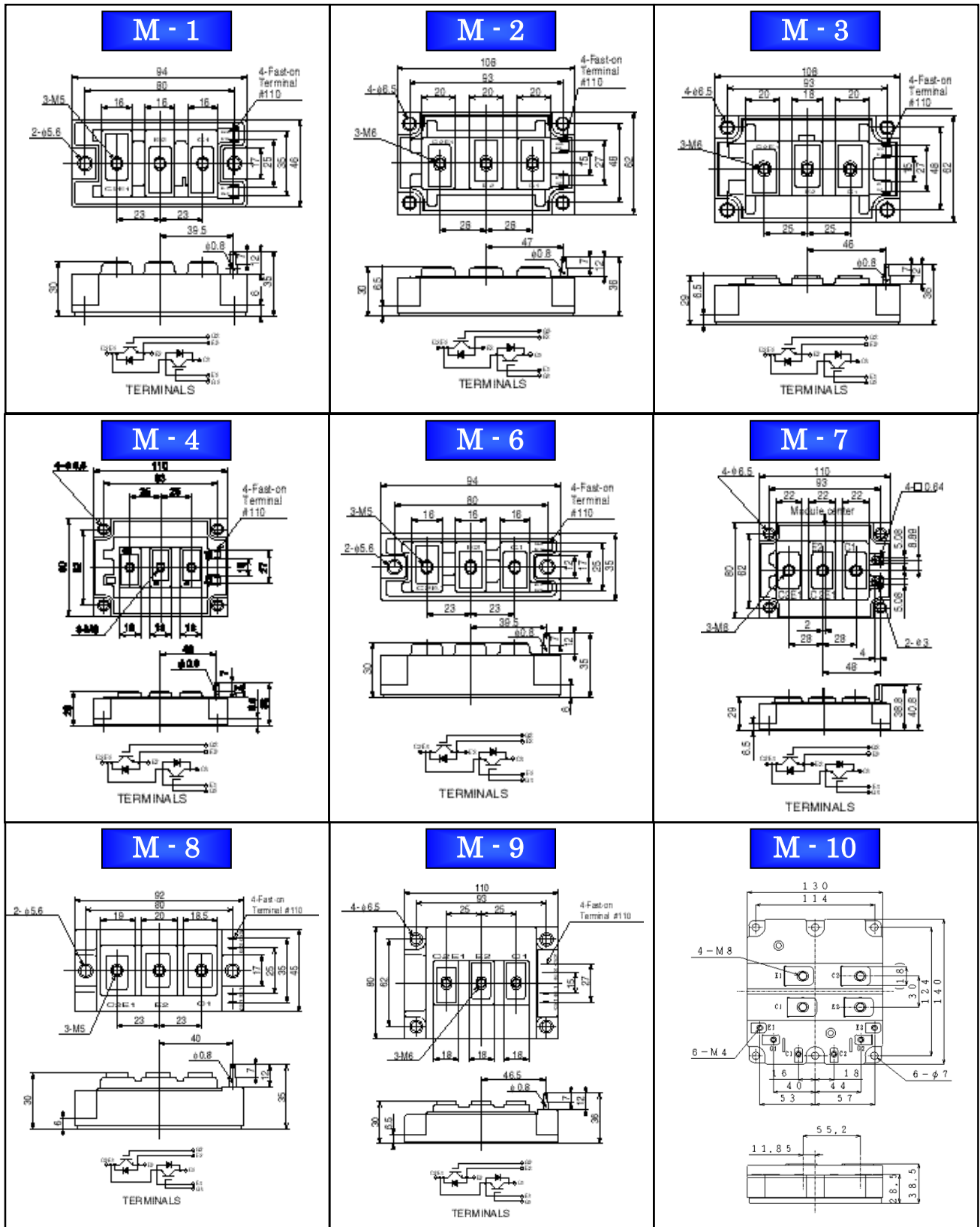
Outline

[Dimensions in mm]



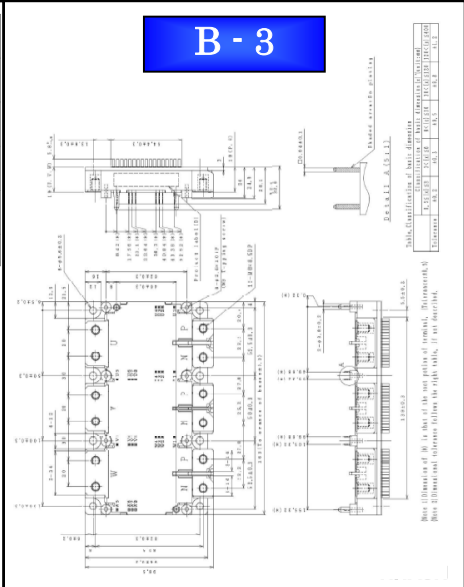
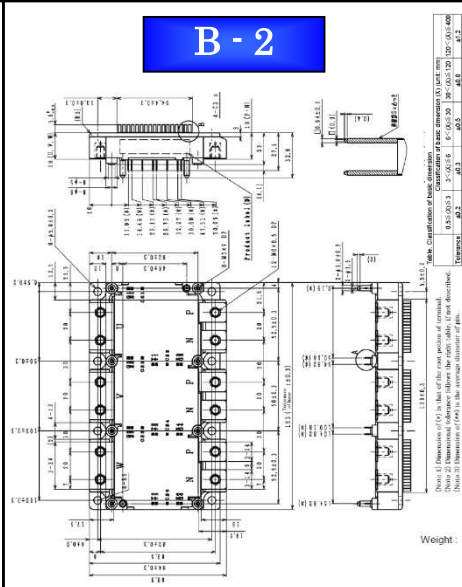
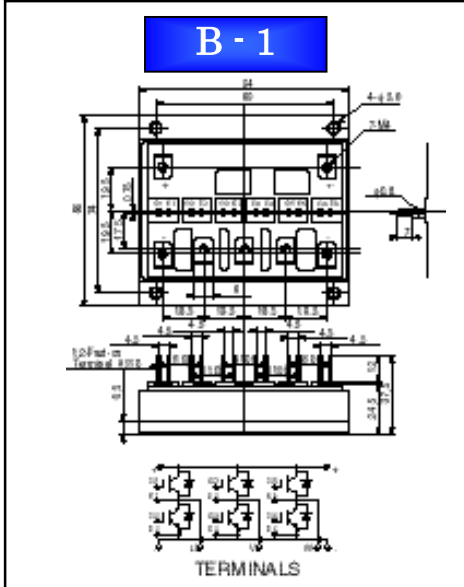
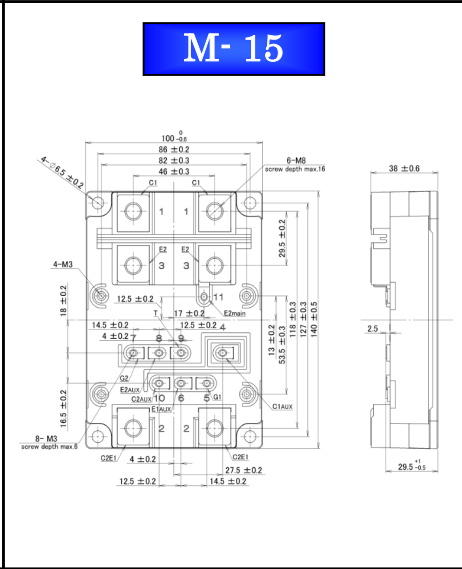
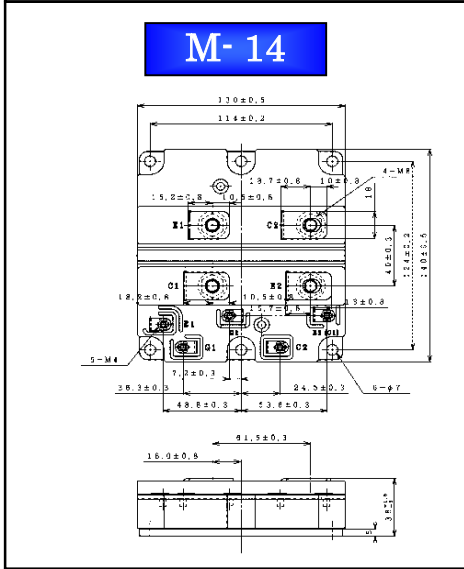
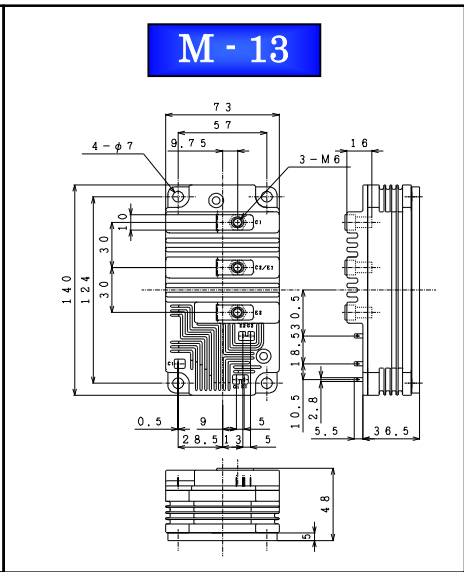
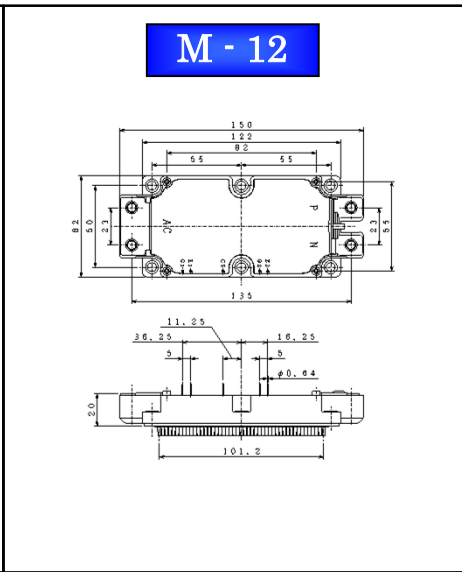
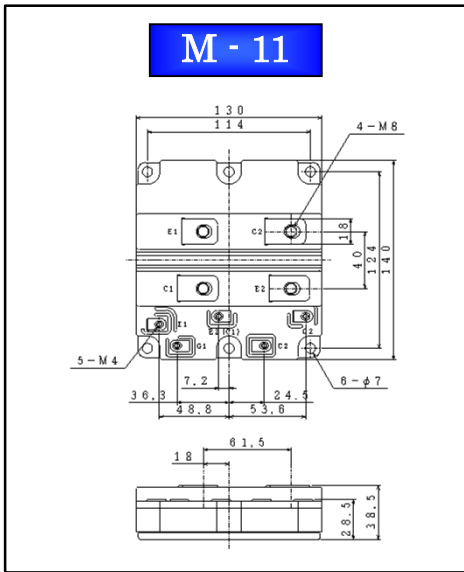
Outline

[Dimensions in mm]



Outline

[Dimensions in mm]



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