

2019-2020 MACMIC

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PRODUCT CATALOGUE



Power for the Better

About MACMIC

Company Profile



MacMic Science & Technology Co., Ltd. is a high-tech company consisting of scientists and engineers with expertise of power electronics and engaged in development and production of power semiconductor products at home and abroad. MacMic designs, manufactures, markets, and sells energy-efficient power semiconductor devices ranging from chips, discretes, and a variety of power modules. We provide customers with the best cost performance products. Our well-equipped manufacture and testing facilities and our skilled workers enable us to supply high quality and reliability products. Our fast and flexible ability to meet customer's demands highlights our business uniqueness as a great value to customer's competitive advantages.





Advanced Production

MacMic strives to provide top quality and performance power modules to customers with long term commitment to using the best materials and implement the strictest quality control by the experienced and well-trained production team. To further fulfill customer's demands, we utilize state-of-the-art automation manufacture facilities that help MacMic products with gaining better customer satisfaction in more consistent quality and faster lead time.





Applications

MacMic products have been widely used in applications from SMPS, Uninterrupted Power Supply, Power Factor Correction, Motor Drive, Welder, Renewable Energy System, Induction Heating, Electric Vehicle and Home appliance, etc.



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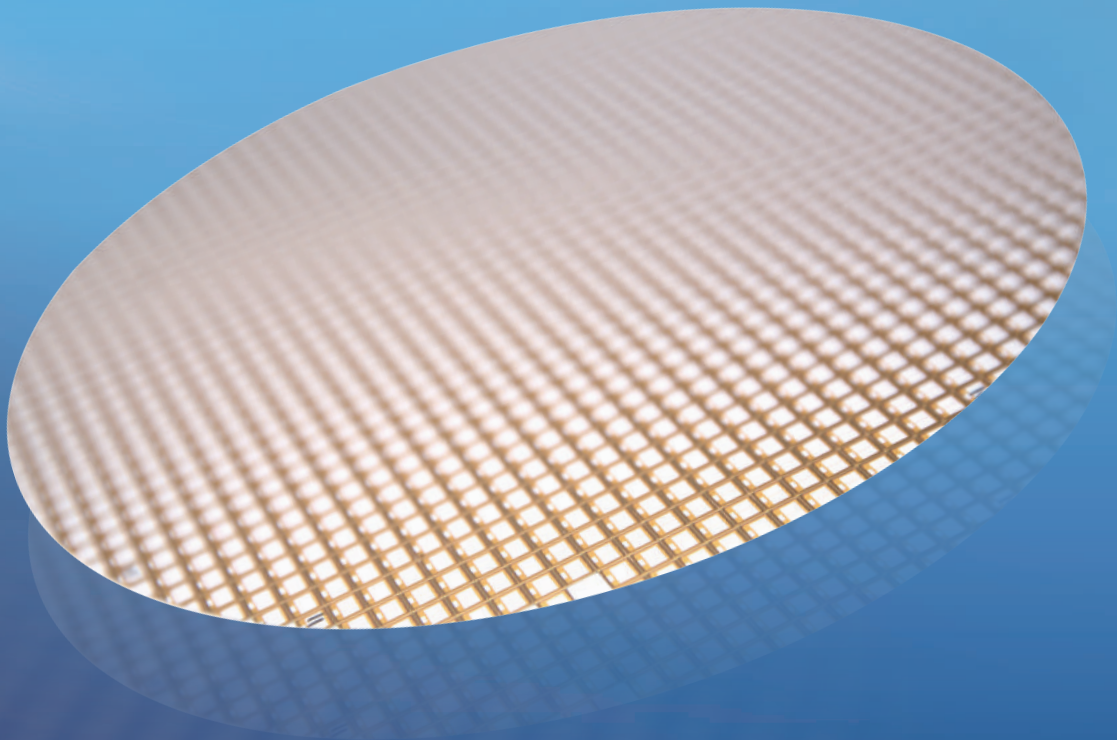
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FRED Chips



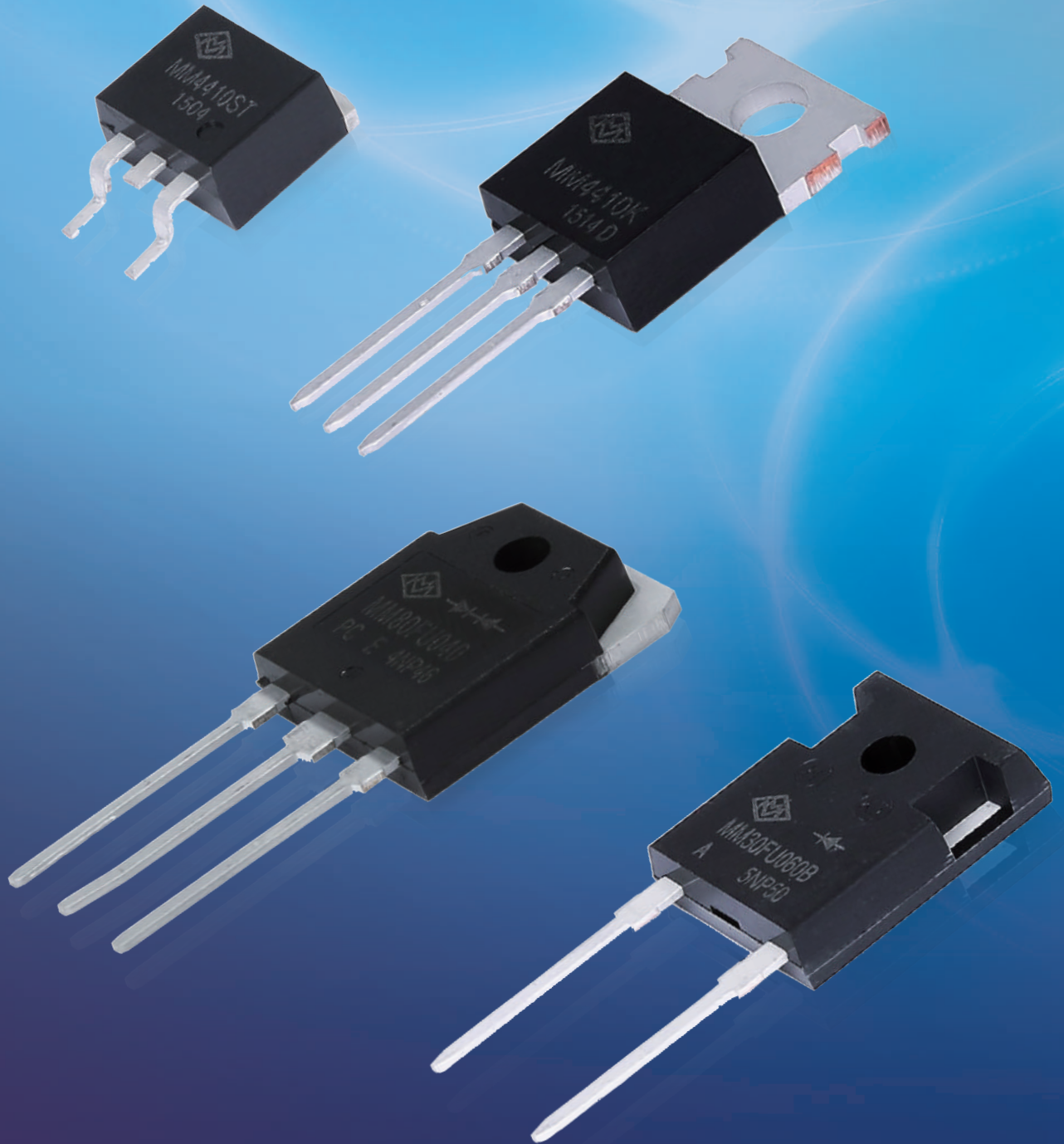
FRED Chips

Power Range : 200 - 1200V/5 - 200A

T_c=25°C unless otherwise noted

Part Number	V _{RRM}	I _{F(AV)} Duty=0.5 T _c = 110°C (A)	V _F I _F = I _{F(AV)} T _J =125°C (V)	t _{rr} I _F =1A T _J =25°C (ns)	Die Size (mm)	Die Size (mil)
	(V)					
MM01A6A2	200	6	0.86	30	1.45 x 1.45	57.1S
MM01A8B2	200	8	0.86	30	1.65 x 1.65	65.0S
MC01A20AC2	200	10	0.86	20	3.616 x 3.616	14.24S
MM01A8A2	200	10	0.86	30	1.80 x 1.80	70.9S
MM01A100B2S	200	100	0.95	35	6.00 x 6.00	23.6S
MC01A30A3	300	30	1.12	22	2.59 x 5.17	101.97 x 203.54
MM01D4A4	400	5	1.00	25	1.36 x 1.36	53.5S
MM01D8B4	400	8	1.00	25	1.80 x 1.80	70.9S
MM01D8A4	400	10	1.00	25	2.15 x 2.15	84.6S
MM01D15A4	400	18	1.20	30	3.00 x 3.00	118.1S
MM01D15A4U	400	18	1.50	25	3.00 x 3.00	118.1S
MC01D30A4	400	35	1.20	30	5.50 x 3.00	216.5 x 118.1
MM01D4A6	600	5	1.15	30	1.36 x 1.36	53.5S
MM01D6A6	600	6	1.20	30	1.52 x 1.52	59.84S
MM01D8A6L	600	8	1.00	45	2.15 x 2.15	84.6S
MM01D8B6	600	8	1.15	30	1.80 x 1.80	70.9S
MM01D10A6U	600	10	1.80	20	2.40 x 2.40	94.5S
MM01D8A6	600	10	1.15	30	2.15 x 2.15	84.6S
MM01D10A6	600	12	1.40	30	2.40 x 2.40	94.5S
MM01D15A6	600	15	1.20	30	3.00 x 3.00	118.1S
MM01D15A6U	600	15	1.60	22	3.00 x 3.00	118.1S
MM01D30A6	600	30	1.20	35	5.50 x 3.00	216.5 x 118.1
MM01D30A6U	600	30	1.45	25	5.50 x 3.00	216.5 x 118.1
MM01D60A6	600	60	1.20	40	5.54 x 5.54	218.1S
MM01D60A6U	600	60	2.10	25	5.54 x 5.54	218.1S
MM01D200A6	600	200	1.10	70	12.00 x 12.00	472.44S
MM01D8A6U	650	8	1.60	20	2.15 x 2.15	84.6S
MM01D8A7U	680	8	1.70	25	2.15 x 2.15	84.6S
MM01J8A12U	1200	8	2.60	30	2.57 x 2.57	101.1S
MC01J15A12	1200	15	1.90	40	3.20 x 3.20	126S
MC01J15A12U	1200	15	2.40	30	3.20 x 3.20	126S
MC01J30A12	1200	30	2.00	40	4.50 x 4.50	177.1S
MC01J30A12U	1200	30	2.60	30	4.50 x 4.50	177.1S
MC01J60A12	1200	60	2.10	45	5.00 x 7.22	196.8 x 284.3
MC01J60A12U	1200	60	2.70	35	5.00 x 7.22	196.8 x 284.3

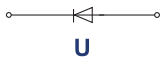

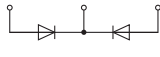





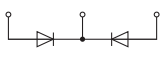
Discretes



FRED Discretes

Power Range : 200 - 1200V/8 - 100A


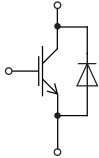


$T_c=25^\circ\text{C}$ unless otherwise noted

Package	Inside Circuit	Part Number	V_{RRM} (V)	$I_{F(AV)}$ Duty=0.5 $T_c=110^\circ\text{C}$ (A)	V_F $I_F = I_{F(AV)}$ $T_j=125^\circ\text{C}$ (V)	t_{rr} $I_F=1\text{A}$ $T_j=25^\circ\text{C}$ (ns)	$R_{\theta jc}$ Per Chip ($^\circ\text{C/W}$)
 TO-220	 U	MM8FU060K	600	8	1.50	16	2.50
		MM15F060K	600	15	1.15	21	1.50
		MM15FU060K	600	15	2.00	18	1.30
		MM30FU060K	600	30	2.00	20	0.80
		MM8F70K	700	8	1.20	18	2.50
		MM15F70K	700	15	1.20	23	1.50
		MM8FU120K	1200	8	2.30	20	2.00
		MM15FU120K	1200	15	2.30	25	1.50
		MM30FU120K	1200	30	2.30	25	0.80
 TO-220	 C	MM16FU060KC	600	2 x 8	1.40	17	2.50
		MM16F70KC	700	2 x 8	1.20	20	2.50
 TO-220F	 U	MM15F060K1	600	15	1.15	21	2.00
		MM30FU060K1	600	30	1.70	20	1.20
 TO-247	 U	MM100F20B	200	100	1.01	35	0.24
		MM30F060B	600	30	1.50	30	0.80
		MM30FU060B	600	30	2.00	20	0.80
		MM60F060B	600	60	1.30	27	0.50
		MM60FU060B	600	60	1.90	25	0.50
		MM75F60B	600	75	1.35	31	0.38
		MM30FC100B	1000	30	2.65	25	0.80
		MM30FC120B	1200	30	2.80	26	0.80
		MM30FU120B	1200	30	2.30	25	0.80
		MM60F120B	1200	60	1.85	32	0.45
MM60FU120B	1200	60	2.80	30	0.40		
 TO-3P	 C	D92-02	220	2 x 10	0.80	17	1.50
		MM60F020PC	200	2 x 30	0.86	22	0.80
		MM60FU030PC	300	2 x 30	1.15	22	0.80
		MM80FU040PC	400	2 x 40	1.20	20	0.80
		MM30F060PC	600	2 x 15	1.15	21	1.10
		MM30FU060PC	600	2 x 15	1.70	17	1.60
		MM60F060PC	600	2 x 30	1.30	30	0.80
		MM60FU060PC	600	2 x 30	1.30	22	0.80

IGBT Discretes

Power Range : 650-1350V / 15-60A


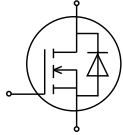

$T_c=25^\circ\text{C}$ unless otherwise noted

Package	Inside Circuit	Part Number	V_{CES} min. (V)	I_c $T_c=80-100^\circ\text{C}$ (A)	$V_{CE(sat)}$ typ. (V)	P_D max. (W)	E_{off} $T_J=125^\circ\text{C}$ (mJ)	$R_{\theta jc}$ max. ($^\circ\text{C}/\text{W}$)
 TO-247	 B	MM15G3T65B	650	15	1.65	125	0.20	1.20
		MM40G3T65B	650	40	1.65	230	1.10	0.65
		MM40G3U65B	650	40	1.90	230	1.00	0.65
		MM50G3T65B	650	50	1.65	300	1.15	0.50
		MM15G3T120B	1200	15	1.80	200	1.30	0.75
		MM25G3T120B	1200	25	1.80	326	2.40	0.46
		MM25G3U120BX	1200	25	2.15	326	1.00	0.46
		MM40G3T120B	1200	40	1.90	395	4.20	0.35
		MM40G3U120B	1200	40	2.15	395	2.00	0.38
		MM20G3R135B	1350	20	1.60	333	1.40	0.45
 TO-263		MM15G3T65S	650	15	1.65	125	0.20	1.20
 TO-264		MM40G3U120L	1200	40	2.15	395	2.00	0.38
		MM60GTU120L	1200	60	2.40	500	3.80	0.25

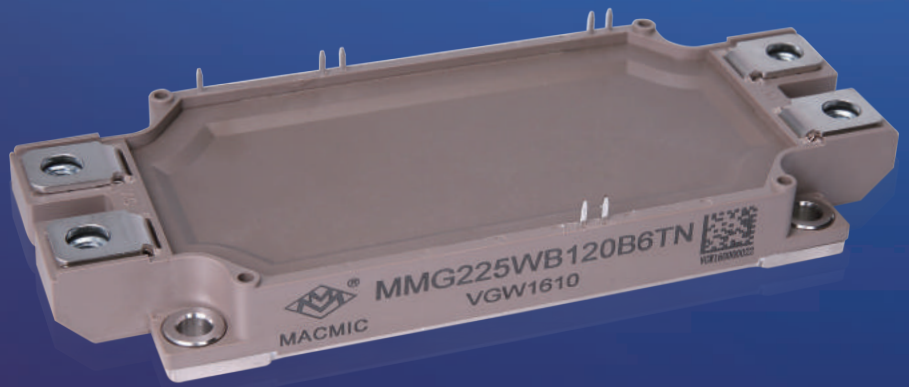
MOS Discretes

Power Range : 1500V / 2.5A

$T_c=25^\circ\text{C}$ unless otherwise noted

Package	Inside Circuit	Part Number	V_{CEs} min. (V)	I_c $T_c=80\sim 100^\circ\text{C}$ (A)	$V_{CE(sat)}$ typ. (V)	P_D max. (W)	E_{off} $T_J=125^\circ\text{C}$ (mJ)	$R_{\theta jc}$ max. ($^\circ\text{C}/\text{W}$)
 TO-3PF		MM3N150PF	1500	2.5	6.00	63	61	2.00
 TO-263		MM3N150S	1500	2.5	6.00	63	61	0.89


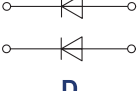




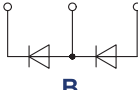
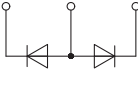
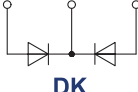

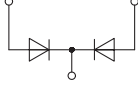


Power Modules



FRED Modules

Power Range : 100 - 1700V / 100 - 600A


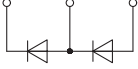
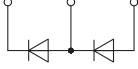
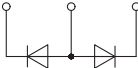
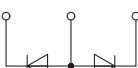
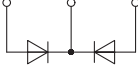
T_c=25°C unless otherwise noted

Package	Inside Circuit	Part Number	V _{RRM} (V)	I _{F(AV)} Duty=0.5 T _c = 110°C (A)	I _{FSM} t=10ms T _J =45°C (A)	V _F @ I _F T _J =125°C (V)	I _F (A)	t _{rr} T _J =25°C (ns)	R _{θjc} (°C/W)
 <p>FJ</p>	 <p>D</p>	MMF2X100J040D	400	100 x 2	1100	1.20	100	60	0.34
		MMF2X100J060D	600	100 x 2	1500	1.10	100	115	0.30
		MMF2X60J070D	700	60 x 2	600	1.57	60	70	0.60
		MMF2X100J070D	700	100 x 2	1200	1.15	100	110	0.45
		MMF2X60J120D	1200	60 x 2	500	1.75	60	90	0.60
		MMF2X100J120D	1200	100 x 2	1450	1.38	100	135	0.45
	 <p>U</p>	MMF100J170U	1700	100	1100	2.30	100	140	0.20
 <p>FZ</p>	 <p>DK1</p>	MMF400Z020DK1	200	200 x 2	1800	1.20	200	90	0.20
		MMF200ZB040DK1	400	100 x 2	1500	1.00	100	95	0.20
		MMF200ZB040DK1B	400	100 x 2	1350	1.00	100	85	0.21
		MMF200ZB060DK1	600	100 x 2	1500	1.15	100	105	0.20
 <p>FN</p>	 <p>B</p>	MMF150N060B6B	600	150 x 2	1400	1.15	150	130	0.34
		MMF100N120B	1200	100 x 2	1100	1.60	100	150	0.44
	 <p>DA</p>	MMF300N060DA6B	600	150 x 2	1400	1.15	150	130	0.34
		MMF200N070DA	700	100 x 2	1100	1.55	100	85	0.34
		MMF200N090DA	900	100 x 2	1080	1.90	100	65	0.35
		MMF200N120DA	1200	100 x 2	1100	1.60	100	150	0.44
		MMF200N120DA6B	1200	100 x 2	1100	2.45	100	150	0.44
	 <p>DK</p>	MMF400N010DK6B	100	200 x 2	2500	0.62	200	105	0.24
		MMF400N020DK2B	200	200 x 2	2000	0.90	200	135	0.34
		MMF300N060DK6B	600	150 x 2	1400	1.15	150	130	0.34
MMF200N070DK		700	100 x 2	1100	1.55	100	85	0.34	
MMF200N090DK		900	100 x 2	1080	1.90	100	65	0.35	
MMF200N120DK		1200	100 x 2	1100	1.60	100	150	0.44	
MMF200N120DK6B		1200	100 x 2	1100	2.45	100	150	0.44	
 <p>FY</p>	 <p>DK1</p>	MMF400Y010DK1	100	200 x 2	1500	0.90	200	65	0.06
		MMF1000Y010DK1	100	500 x 2	3000	0.90	500	220	0.08
		MMF800Y020DK1	200	400 x 2	3000	0.90	400	165	0.08
		MMF200Y040DK1	400	100 x 2	1200	1.10	100	60	0.20
		MMF300Y040DK1	400	150 x 2	1800	1.05	150	70	0.10
		MMF300Y040DK1B	400	150 x 2	1900	1.20	150	65	0.10
		MMF400Y040DK1B	400	200 x 2	2550	1.20	200	75	0.08
		MMF400Y040DK1	400	200 x 2	2400	1.10	200	80	0.08
		MMF200Y060DK1	600	100 x 2	2100	1.00	100	105	0.09
		MMF300Y060DK1	600	150 x 2	3500	1.10	150	130	0.06
MMF300Y060DK1B	600	150 x 2	2650	1.30	150	95	0.08		
 <p>FYB</p>	 <p>U</p>	MMF300YB050U	500	300	5000	1.20	300	160	0.11
		MMF300YB070U	700	300	5000	1.08	300	180	0.12

FRED Modules

Power Range : 100 - 1700V / 100 - 600A


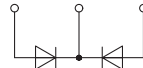


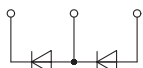

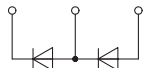

$T_c=25^\circ\text{C}$ unless otherwise noted

Package	Inside Circuit	Part Number	V_{RRM} (V)	$I_{F(AV)}$ Duty=0.5 $T_c=110^\circ\text{C}$ (A)	I_{FSM} $t=10\text{ms}$ $T_j=45^\circ\text{C}$ (A)	V_F @ I_F $T_j=125^\circ\text{C}$ (V) (A)	t_{rr} $T_j=25^\circ\text{C}$ (ns)	$R_{\theta jc}$ ($^\circ\text{C/W}$)
 <p>FS</p>	 <p>B</p>	MMF400S040B	400	400 x 2	2800	1.60 400	110	0.10
		MMF150S060B	600	150 x 2	1500	1.15 150	130	0.22
		MMF200S060B	600	200 x 2	2000	1.15 200	140	0.18
		MMF300S060B	600	300 x 2	3000	1.15 300	150	0.14
		MMF150S120B	1200	150 x 2	1500	1.30 150	145	0.22
		MMF200S120B	1200	200 x 2	1800	1.90 200	110	0.22
		MMF300S120B	1200	300 x 2	2700	2.10 300	135	0.14
		MMF100S170B	1700	100 x 2	1000	1.95 100	500	0.22
		MMF200S170B	1700	200 x 2	2000	1.95 200	750	0.14
	 <p>B2B</p>	MMF150S060B2B	600	150 x 2	1500	1.15 150	130	0.22
		MMF200S060B2B	600	200 x 2	2000	1.15 200	140	0.18
		MMF300S060B2B	600	300 x 2	3000	1.15 300	150	0.14
		MMF150S120B2B	1200	150 x 2	1500	1.30 150	145	0.22
		MMF200S120B2B	1200	200 x 2	1800	1.90 200	110	0.22
		MMF300S120B2B	1200	300 x 2	2700	2.10 300	135	0.14
		MMF100S170B2B	1700	100 x 2	1000	1.95 100	500	0.22
	 <p>DA</p>	MMF150S060DA	600	150 x 2	1500	1.15 150	130	0.22
		MMF200S060DA	600	200 x 2	2000	1.15 200	140	0.18
		MMF300S060DA	600	300 x 2	3000	1.15 300	150	0.14
		MMF150S120DA	1200	150 x 2	1500	1.30 150	145	0.22
		MMF200S120DA	1200	200 x 2	1800	1.90 200	110	0.22
		MMF300S120DA	1200	300 x 2	2700	2.10 300	135	0.14
		MMF100S170DA	1700	100 x 2	1000	1.95 100	500	0.22
	 <p>DA2B</p>	MMF150S060DA2B	600	150 x 2	1500	1.15 150	130	0.22
		MMF200S060DA2B	600	200 x 2	2000	1.15 200	140	0.18
		MMF300S060DA2B	600	300 x 2	3000	1.15 300	150	0.14
		MMF150S120DA2B	1200	150 x 2	1500	1.30 150	145	0.22
		MMF200S120DA2B	1200	200 x 2	1800	1.90 200	110	0.22
		MMF300S120DA2B	1200	300 x 2	2700	2.10 300	135	0.14
		MMF100S170DA2B	1700	100 x 2	1000	1.95 100	500	0.22
	 <p>DK</p>	MMF150S060DK	600	150 x 2	1500	1.15 150	130	0.22
		MMF200S060DK	600	200 x 2	2000	1.15 200	140	0.18
		MMF300S060DK	600	300 x 2	3000	1.15 300	150	0.14
		MMF150S120DK	1200	150 x 2	1500	1.30 150	145	0.22
		MMF200S120DK	1200	200 x 2	1800	1.90 200	110	0.22
		MMF300S120DK	1200	300 x 2	2700	2.10 300	135	0.14
MMF100S170DK		1700	100 x 2	1000	1.95 100	500	0.22	
MMF200S170DK	1700	200 x 2	2000	1.95 200	750	0.14		

FRED Modules

Power Range : 100 - 1700V / 100 - 600A


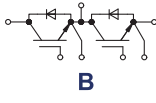
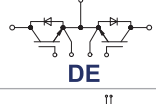

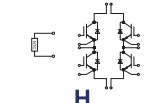
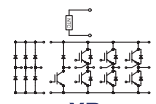
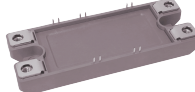
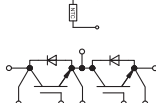
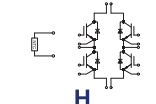

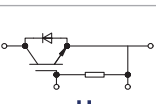

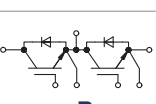

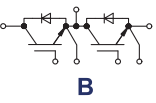


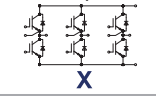
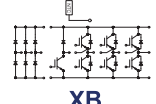

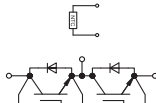
$T_c=25^\circ\text{C}$ unless otherwise noted

Package	Inside Circuit	Part Number	V_{RRM} (V)	$I_{F(AV)}$ Duty=0.5 $T_c=110^\circ\text{C}$ (A)	I_{FSM} $t=10\text{ms}$ $T_j=45^\circ\text{C}$ (A)	V_F @ I_F $T_j=125^\circ\text{C}$ (V) (A)	t_{rr} $T_j=25^\circ\text{C}$ (ns)	$R_{\theta jc}$ ($^\circ\text{C/W}$)
 <p>FS</p>	 <p>DK2B</p>	MMF400S040DK2B	400	400 x 2	2800	1.35 400	110	0.10
		MMF150S060DK2B	600	150 x 2	1500	1.15 150	130	0.22
		MMF200S060DK2B	600	200 x 2	2000	1.15 200	140	0.18
		MMF300S060DK2B	600	300 x 2	3000	1.15 300	150	0.14
		MMF400S060DK2B	600	400 x 2	4000	1.30 400	162	0.11
		MMF150S120DK2B	1200	150 x 2	1500	1.30 150	145	0.22
		MMF200S120DK2B	1200	200 x 2	1800	1.90 200	110	0.22
		MMF300S120DK2B	1200	300 x 2	2700	2.10 300	135	0.14
		MMF100S170DK2B	1700	100 x 2	1000	1.95 100	500	0.22
		MMF200S170DK2B	1700	200 x 2	2000	1.95 200	750	0.14
		 <p>U</p>	MMF300S060U	600	300	2500	1.20 300	125
	MMF600S060U		600	600	4800	1.15 600	175	0.08
	MMF300S120U		1200	300	2500	1.85 300	150	0.14
	MMF400S120U		1200	400	3200	2.00 400	180	0.11
MMF600S120U	1200		600	4800	2.10 600	200	0.11	
MMF400S170U	1700		400	4000	1.95 100	1100	0.09	
 <p>FD</p>	 <p>B</p>	MMF400D120B	1200	400 x 2	5000	2.00 400	375	0.12
		MMF300D170B	1700	300 x 2	3000	2.25 300	500	0.14
		MMF600D170B	1700	600 x 2	5600	2.80 600	500	0.11
	 <p>U</p>	MMF400D120U	1200	400	3600	2.10 400	190	0.09
	 <p>B1B</p>	MMF300D170B1B	1700	300 x 2	3000	2.25 300	500	0.14
		 <p>B2B</p>	MMF400D120B2B	1200	400 x 2	3200	3.00 400	180
	MMF300D170B2B		1700	300 x 2	3000	2.00 300	500	0.14
	MMF400D170B2B		1700	400 x 2	3200	1.95 400	2000	0.10

IGBT Modules - 600V&650V

Power Range : 100 - 1200A


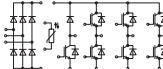

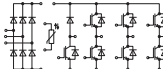


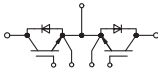
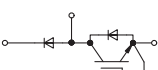
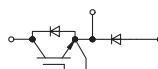
T_C=25°C unless otherwise noted

Package	Inside Circuit	Part Number	V _{CES} min. (V)	I _C T _C =65~100 °C (A)	V _{CE(sat)} typ. (V)	P _D max. (W)	E _{off} T _J =125°C (mJ)	R _{θjc} max. (K/W)
 GD	 B	MMG300D060B6EN	600	300	1.45	940	12.0	0.16
		MMG400D060B6EN	600	400	1.45	1250	15.0	0.12
		MMG600D060B6EN	600	600	1.45	1480	17.0	0.07
		MMG800D060B6EN	600	800	1.45	2100	29.0	0.07
	 DE	MMG300D060DE6EN	600	300	1.45	940	12.0	0.16
		MMG400D060DE6EN	600	400	1.45	1250	15.0	0.12
 GH	 H	MMG75H060H6EN	600	75	1.45	250	2.8	0.60
		MMG50H060XB6EN	600	50	1.45	190	2.1	0.80
	 XB	MMG75H060XB6EN	600	75	1.45	250	2.8	0.60
		MMG100H060XB6EN	600	100	1.45	330	3.4	0.45
 GHB	 B	MMG75HB060B6EN	600	75	1.45	250	2.8	0.60
		MMG100HB060B6EN	600	100	1.45	330	3.4	0.45
		MMG150HB060B6EN	600	150	1.45	428	5.3	0.35
		MMG200HB060B6EN	600	200	1.45	600	6.9	0.25
		MMG300HB060B6EN	600	300	1.45	940	12.0	0.16
		MMG400HB060B6EN	600	400	1.45	1250	15.0	0.12
	 H	MMG75HB060H6EN	600	75	1.45	250	2.8	0.60
		MMG100HB060H6EN	600	100	1.80	330	3.4	0.45
		MMG150HB060H6EN	600	150	1.45	428	5.3	0.35
		MMG200HB060H6EN	600	200	1.45	680	8.0	0.22
 GK	 U	MMG600K060U6EN	600	600	1.45	1650	22.5	0.09
		MMG800K060U6EN	600	800	1.45	2100	29.0	0.07
 GQ	 B	MMG300Q060B6EN	600	300	1.45	940	12.0	0.16
		MMG400Q060B6EN	600	400	1.45	1250	15.0	0.12
 GS	 B	MMG75S060B6EN	600	75	1.80	375	3.2	0.60
		MMG100S060B6EN	600	100	1.45	330	3.4	0.45
		MMG150S060B6EN	600	150	1.45	428	5.3	0.35
		MMG200S060B6EN	600	200	1.45	600	6.9	0.25
	 DE	MMG75S060DE6EN	600	75	1.80	375	3.2	0.60
		MMG100S060DE6EN	600	100	1.60	330	3.4	0.45
		MMG150S060DE6EN	600	150	1.45	428	5.3	0.35
		MMG200S060DE6EN	600	200	1.45	600	6.9	0.25
 GW	 X	MMG100W060X6EN	600	100	1.45	330	3.4	0.45
		MMG150W060X6EN	600	150	1.45	428	5.3	0.35
		MMG200W060X6EN	600	200	1.45	600	6.9	0.25
	 XB	MMG50W060XB6EN	600	50	1.45	190	2.1	0.80
		MMG75W060XB6EN	600	75	1.45	250	2.8	0.60
		MMG100W060XB6EN	600	100	1.45	330	3.4	0.45
		MMG150W060XB6EN	600	150	1.45	428	5.3	0.35
 GWB	 B	MMG450WB060B6EN	600	450	1.45	1200	17.5	0.13
		MMG600WB060B6EN	600	600	1.45	1578	25.0	0.10
		MMG300WB065B6EN	650	300	1.45	833	12.0	0.18
		MMG450WB065B6EN	650	450	1.45	1250	14.5	0.12
		MMG600WB065B6EN	650	600	1.45	1760	27.5	0.09

IGBT Modules - 1200V

Power Range : 10 - 800A


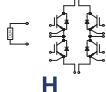
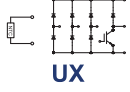
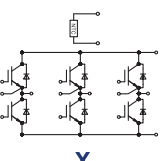
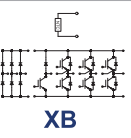
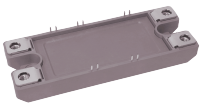
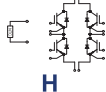
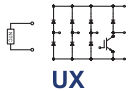

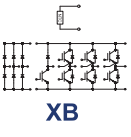

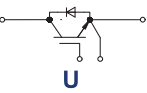

T_C=25°C unless otherwise noted

Package	Inside Circuit	Part Number	V _{CES} min. (V)	I _C T _C =65~100 °C (A)	V _{CE(sat)} typ. (V)	P _D max. (W)	E _{off} T _J =125°C (mJ)	R _{θjc} max. (K/W)	
 GCB	 XB	MMG10CB120XB6TC	1200	10	1.85	107	0.8	1.40	
		MMG15CB120XB6TC	1200	15	1.85	130	1.2	1.15	
		MMG15CB120XB6TN	1200	15	1.70	105	1.5	1.15	
		MMGT15CB120XB6C	1200	15	1.85	137	1.4	1.12	
 GCE	 XB	MMG25CE120XB6T4N	1200	25	1.85	175	2.2	0.75	
		MMG25CE120XB6TC	1200	25	1.85	176	2.4	0.75	
		MMG35CE120XB6T4N	1200	35	1.85	215	2.9	0.60	
		MMG35CE120XB6TC	1200	35	1.85	214	3.3	0.60	
 GD	 B	MMG100D120B6HN	1200	100	2.10	650	6.0	0.22	
		MMG100D120B6TC	1200	100	1.85	556	5.6	0.27	
		MMG100D120B6TN	1200	100	1.70	560	10.0	0.25	
		MMG100DR120B	1200	100	1.80	1000	11.6	0.15	
		MMG150D120B6HN	1200	150	2.10	880	9.0	0.17	
		MMG150D120B6TC	1200	150	1.85	750	9.5	0.20	
		MMG150D120B6TN	1200	150	1.70	780	22.0	0.16	
		MMG150DR120B	1200	150	1.80	1250	14.0	0.10	
		MMGT150D120B6C	1200	150	1.75	880	13.4	0.17	
		MMG200D120B6HN	1200	200	2.10	1150	11.0	0.13	
		MMG200D120B6T4N	1200	200	1.75	1100	23.0	0.14	
		MMG200D120B6TC	1200	200	1.85	1000	12.0	0.15	
		MMG200D120B6TN	1200	200	1.70	1050	25.0	0.12	
		MMG200DR120B	1200	200	1.80	1388	20.0	0.09	
		MMGT200D120B6C	1200	200	1.75	1150	18.0	0.13	
		MMG300D120B6HN	1200	300	2.10	1650	19.5	0.09	
		MMG300D120B6T4N	1200	300	1.75	1600	32.5	0.09	
		MMG300D120B6TC	1200	300	1.85	1500	19.0	0.10	
		MMG300D120B6TN	1200	300	1.70	1450	37.0	0.09	
		MMG300DR120B	1200	300	1.90	1785	33.0	0.07	
		MMGT300D120B6C	1200	300	1.75	1660	27.0	0.09	
		MMG400D120B6HN	1200	400	2.10	2100	24.0	0.07	
		MMG400D120B6TC	1200	400	1.85	2000	35.0	0.75	
		MMG400D120B6TN	1200	400	1.70	1925	50.0	0.07	
		MMGT400D120B6C	1200	400	1.75	2140	36.0	0.07	
		MMG450D120B6T4N	1200	450	1.75	2400	43.0	0.06	
		MMG450D120B6TC	1200	450	1.85	2238	42.0	0.07	
		MMG450D120B6TN	1200	450	1.70	1920	55.5	0.07	
		MMGT450D120B6C	1200	450	1.75	2400	41.0	0.07	
		 DE	MMG150D120DE6TN	1200	150	1.70	780	22.0	0.16
			MMG200D120DE6TN	1200	200	1.70	1050	25.0	0.12
			MMG300D120DE6TN	1200	300	1.70	1388	20.0	0.09
MMG300DR120DE	1200		300	1.90	1785	33.0	0.07		
 UA	MMG400D120DE6TN	1200	400	1.70	1925	50.0	0.07		
	MMG150D120UA6TN	1200	150	1.70	780	22.0	0.16		
	MMG200D120UA6HN	1200	200	2.10	1150	12.0	0.13		
	MMG200D120UA6TN	1200	200	1.70	1050	25.0	0.12		
 UK	MMG300D120UA6TN	1200	300	1.70	1388	20.0	0.09		
	MMG400D120UA6TN	1200	400	1.70	1925	50.0	0.07		
	MMG200D120UK6TN	1200	200	1.70	1050	25.0	0.12		
	MMG300D120UK6TN	1200	300	1.70	1388	20.0	0.09		
		MMG400D120UK6HN	1200	400	2.10	2100	24.0	0.07	
		MMG400D120UK6TN	1200	400	1.70	1925	50.0	0.07	

IGBT Modules - 1200V

Power Range : 10 - 800A




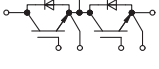

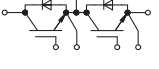
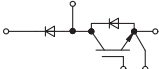

T_C=25°C unless otherwise noted

Package	Inside Circuit	Part Number	V _{CES} min. (V)	I _C T _C =65~100 °C (A)	V _{CE(sat)} typ. (V)	P _D max. (W)	E _{off} T _J =125°C (mJ)	R _{θjc} max. (K/W)
 GH	 H	MMG50H120H6HN	1200	50	2.10	300	3.3	0.50
		MMG75H120H6HN	1200	75	2.10	465	4.8	0.32
		MMG100H120H6HN	1200	100	2.10	550	6.0	0.27
	 UX	MMG150H160UXK6TN	1200	100	1.70	450	10.0	0.28
		MMG100H160UX	1200	I _{d(av)} = 100A	1.80	330	5.8	0.38
		MMG150H160UX6TN	1200	I _{d(av)} = 150A	1.70	348	8.0	0.36
	 X	MMG25H120X6TN	1200	25	1.70	147	2.1	0.85
		MMG50H120X6HN	1200	50	2.10	330	3.3	0.50
		MMG50H120X6T4N	1200	50	1.85	280	4.5	0.54
		MMG50H120X6TC	1200	50	1.85	278	2.8	0.54
		MMG50H120X6TN	1200	50	1.70	260	4.9	0.48
		MMGT50H120X6C	1200	50	1.85	340	4.5	0.44
		MMG75H120X6T4N	1200	75	1.85	385	6.4	0.39
		MMG75H120X6TC	1200	75	1.85	385	6.2	0.39
		MMG75H120X6TN	1200	75	1.70	348	8.0	0.36
 XB	MMG15H120XB6TN	1200	15	1.70	105	1.3	1.20	
	MMG25H120XB6TN	1200	25	1.70	147	2.1	0.85	
	MMG40H120XB6TC	1200	40	1.95	208	3.4	0.72	
	MMG40H120XB6TN	1200	40	1.80	195	4.2	0.64	
 GHB	 H	MMG40HB120H6HN	1200	40	2.10	250	2.5	0.60
		MMG50HB120H6HN	1200	50	2.10	300	3.0	0.50
		MMG75HB120H6HN	1200	75	2.10	465	4.5	0.32
		MMG100HB120H6HN	1200	100	2.10	550	5.5	0.27
	 UX	MMG100HB160UX	1200	50	1.80	330	5.8	0.38
 GHD	 XB	MMG25HD120XB6T4N	1200	25	1.85	160	2.4	0.95
		MMG25HD120XB6TC	1200	25	1.85	166	2.4	0.90
		MMG35HD120XB6T4N	1200	35	1.85	210	3.4	0.72
		MMG35HD120XB6TC	1200	35	1.85	208	3.3	0.72
		MMG50HD120XB6T4N	1200	50	1.85	280	4.8	0.54
		MMG50HD120XB6TC	1200	50	1.85	278	4.0	0.54
 GJ	 U	MMG50J120U	1200	50	1.80	416	5.5	0.30
		MMG75J120U	1200	75	1.80	630	7.0	0.20
		MMG75J120U6HN	1200	75	2.10	468	4.8	0.32
		MMG100J120U6HN	1200	100	2.10	550	5.5	0.27
		MMG100J120U6T4N	1200	100	1.75	555	9.0	2.70
	 UZ	MMG50J120UZ	1200	50	1.80	416	5.5	0.30
		MMG75J120UZ	1200	75	1.80	630	7.0	0.20
		MMG100J120UZ	1200	100	1.80	690	10.0	0.18
		MMG100J120UZ6HN	1200	100	2.10	550	5.5	0.27
		MMG100J120UZ6T4N	1200	100	1.75	555	9.0	0.27
MMG150J120UZ6TN	1200	150	1.70	690	14.5	0.18		

IGBT Modules - 1200V

Power Range : 10 - 800A


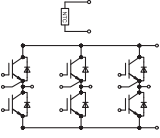
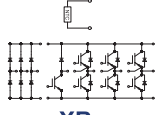

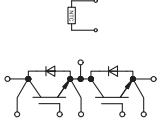

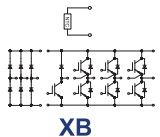
T_c=25°C unless otherwise noted

Package	Inside Circuit	Part Number	V _{CE(s)} min. (V)	I _C T _C = 65~100 °C	V _{CE(sat)} typ. (V)	P _D max. (W)	E _{off} T _J =125°C (mJ)	R _{θjc} max. (K/W)
 <p>GK</p>	 <p>U</p>	MMG300K120U6HN	1200	300	2.10	1650	19.5	0.09
		MMG400K120U6HN	1200	400	2.10	2000	24.0	0.08
		MMG400K120U6TN	1200	400	1.70	1925	50.0	0.07
		MMG400KR120U	1200	400	1.80	1925	42.0	0.07
		MMG600K120U6HN	1200	600	2.10	3300	40.0	0.05
		MMG600K120U6TN	1200	600	1.70	2800	88.0	0.05
		MMG600KR120U	1200	600	1.90	3290	66.0	0.04
		MMG800K120U6HN	1200	800	2.10	3950	55.0	0.04
 <p>GQ</p>	 <p>B</p>	MMG100Q120B6TN	1200	100	1.50	560	10.0	0.25
		MMG150Q120B6HN	1200	150	2.10	830	9.6	0.18
		MMG150Q120B6TN	1200	150	1.70	780	22.0	0.16
		MMG200Q120B6HN	1200	200	2.10	1070	12.0	0.14
		MMG200Q120B6TC	1200	200	1.85	1000	12.0	0.15
		MMG200Q120B6TN	1200	200	1.70	1050	25.0	0.12
 <p>GS</p>	 <p>B</p>	MMG40S120B6UC	1200	40	2.15	230	2.0	0.65
		MMG50S120B6HN	1200	50	2.10	330	3.0	0.45
		MMG50S120B6T4N	1200	50	1.85	285	4.5	0.53
		MMG50SR120B	1200	50	1.80	416	5.5	0.30
		MMG75S120B6HN	1200	75	2.10	468	4.5	0.32
		MMG75S120B6T4N	1200	75	1.85	395	7.0	0.38
		MMG75S120B6TC	1200	75	1.85	385	6.2	0.39
		MMG75S120B6TN	1200	75	1.70	348	8.0	0.36
		MMG75S120B6UC	1200	75	2.20	405	4.0	0.37
		MMG75SR120B	1200	75	1.80	630	7.0	0.20
		MMGT75S120B6C	1200	75	1.85	440	6.7	0.34
		MMG100S120B6C	1200	100	2.50	625	8.0	0.20
		MMG100S120B6HN	1200	100	2.10	550	5.5	0.27
		MMG100S120B6T4N	1200	100	1.75	555	10.0	0.27
		MMG100S120B6TC	1200	100	1.85	515	5.6	0.29
		MMG100S120B6TN	1200	100	1.70	450	10.0	0.28
		MMG100S120B6UC	1200	100	2.20	555	5.0	0.27
		MMG100SR120B	1200	100	1.80	690	10.0	0.18
		MMGT100S120B6C	1200	100	1.75	576	9.0	0.26
		MMG150S120B6T4N	1200	150	1.75	790	15.5	0.19
	MMG150S120B6TC	1200	150	1.85	750	10.0	0.20	
	MMG150S120B6TN	1200	150	1.70	650	14.5	0.19	
	MMG150SR120B	1200	150	1.90	893	15.4	0.14	
	MMGT150S120B6C	1200	150	2.20	820	9.4	0.15	
	 <p>UA</p>	MMG50S120UA6TN	1200	50	1.70	260	4.9	0.48
		MMG75S120UA6TN	1200	75	1.70	348	8.0	0.36
		MMG100S120UA6TN	1200	100	1.70	450	10.0	0.28
		MMG150S120UA6TN	1200	150	1.70	625	14.5	0.20
	 <p>UK</p>	MMG50S120UK6TN	1200	50	1.70	260	4.9	0.48
		MMG75S120UK6TN	1200	75	1.70	348	8.0	0.36
		MMG100S120UK6TN	1200	100	1.70	450	10.0	0.28
		MMG150S120UK6TN	1200	150	1.70	650	14.5	0.19

IGBT Modules - 1200V

Power Range : 10 - 800A

T_c=25°C unless otherwise noted

Package	Inside Circuit	Part Number	V _{CES} min. (V)	I _C T _c = 65~100 °C (A)	V _{CE(sat)} typ. (V)	P _D max. (W)	E _{off} T _J =125°C (mJ)	R _{θjc} max. (K/W)
 <p>GW</p>	 <p>X</p>	MMG50W120X6TC	1200	50	1.85	278	2.8	0.54
		MMGT50W120X6C	1200	50	1.85	340	4.5	0.44
		MMG75W120X6TC	1200	75	1.85	385	6.2	0.39
		MMG75W120X6TN	1200	75	1.70	368	8.0	0.34
		MMGT75W120X6C	1200	75	1.85	440	6.7	0.34
		MMG100W120X6T4N	1200	100	1.75	515	9.5	0.29
		MMG100W120X6TC	1200	100	1.85	515	5.6	0.29
		MMG100W120X6TN	1200	100	1.70	450	10.0	0.28
		MMGT100W120X6C	1200	100	1.85	576	9.0	0.26
		MMG150W120X6T4N	1200	150	1.75	750	16.0	0.20
		MMG150W120X6TC	1200	150	1.85	750	10.0	0.20
		MMG150W120X6TN	1200	150	1.70	625	14.5	0.20
		MMGT150W120X6C	1200	150	1.85	800	13.8	0.19
		MMG200W120X6T4N	1200	200	1.75	1000	18.5	0.15
 <p>XB</p>	MMG40W120XB6TN	1200	40	1.80	195	4.2	0.64	
	MMG50W120XB6TC	1200	50	1.85	278	2.8	0.54	
	MMG50W120XB6TN	1200	50	1.70	260	4.9	0.48	
	MMG75W120XB6TC	1200	75	1.85	385	6.2	0.39	
	MMG75W120XB6TN	1200	75	1.70	368	8.0	0.34	
	MMG100W120XB6T4N	1200	100	1.75	515	8.5	0.29	
 <p>GWB</p>	 <p>B</p>	MMG225WB120B6TC	1200	225	1.85	1150	13.8	0.13
		MMG225WB120B6TN	1200	225	1.70	1050	33.0	0.12
		MMGT225WB120B6C	1200	255	1.85	1300	20.0	0.12
		MMG300WB120B6TC	1200	300	1.85	1500	28.0	0.10
		MMG300WB120B6TN	1200	300	1.70	1400	37.0	0.09
		MMGT300WB120B6C	1200	300	1.85	1660	27.0	0.09
		MMG450WB120B6E4N	1200	450	1.75	2305	61.5	0.07
		MMG450WB120B6TC	1200	450	1.85	2238	42.0	0.07
		MMG450WB120B6TN	1200	450	1.70	1950	55.0	0.06
		MMGT450WB120B6C	1200	450	1.85	2400	41.0	0.05
		MMG600WB120B6E4N	1200	600	1.75	3125	79.5	0.05
		MMG600WB120B6TC	1200	600	1.85	3000	52.0	0.05
MMGT600WB120B6C	1200	600	1.85	3010	47.0	0.04		
 <p>GWD</p>	 <p>XB</p>	MMG75WD120XB6T4N	1200	75	1.85	385	6.4	0.39
		MMG75WD120XB6TC	1200	75	1.85	385	6.2	0.39
		MMG100WD120XB6T4N	1200	100	1.75	515	8.5	0.29
		MMG100WD120XB6TC	1200	100	1.85	515	5.6	0.29

IGBT Modules - 1700V

Power Range : 50 - 600A


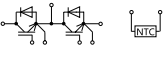

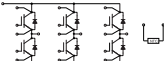

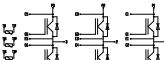
T_c=25°C unless otherwise noted

Package	Inside Circuit	Part Number	V _{CE(sat)} min. (V)	I _c T _c =65~100 °C (A)	V _{CE(sat)} typ. (V)	P _D max. (W)	E _{off} T _J =125°C (mJ)	R _{θjc} max. (K/W)
 GD	 B	MMG100D170B	1700	100	2.50	790	32.0	0.19
		MMG100D170B6EN	1700	100	2.00	780	31.0	0.19
		MMG100D170B6TC	1700	100	2.05	833	26.0	0.18
		MMG150D170B	1700	150	2.50	1070	48.0	0.14
		MMG150D170B6EN	1700	150	2.00	1070	47.0	0.14
		MMG150D170B6TC	1700	150	2.15	1071	34.0	0.14
		MMG200D170B	1700	200	2.50	1360	64.0	0.11
		MMG200D170B6EN	1700	200	2.00	1500	63.0	0.10
		MMG300D170B	1700	300	2.25	1875	100.0	0.08
		MMG300D170B6EN	1700	300	2.00	1760	94.0	0.09
		MMG400D170B6EN	1700	400	2.00	2700	126.0	0.06
 GK	 U	MMG400K170U6EN	1700	400	2.00	2700	126.0	0.06
		MMG600K170U6EN	1700	600	2.10	3700	118.0	0.04
 GS	 B	MMG50S170B	1700	50	2.40	395	9.8	0.38
		MMG50S170B6EN	1700	50	2.00	410	15.5	0.36
		MMG50S170B6TC	1700	50	2.05	416	12.0	0.36
		MMG75S170B	1700	75	2.40	535	18.5	0.28
		MMG75S170B6EN	1700	75	2.00	550	23.5	0.27
		MMG75S170B6TC	1700	75	2.15	555	17.0	0.27
		MMG100S170B	1700	100	2.30	682	24.0	0.22
		MMG100S170B6EN	1700	100	2.00	660	32.5	0.22
		MMG100S170B6TC	1700	100	2.15	681	16.0	0.22
		MMG150S170B6EN	1700	150	2.00	750	49.0	0.16
 GWB	 B	MMG225WB170B6EN	1700	225	2.00	1650	70.5	0.09
		MMG300WB170B	1700	300	2.65	2000	94.0	0.08
		MMG300WB170B6EN	1700	300	2.00	2000	94.0	0.08
		MMG450WB170B	1700	450	2.70	2700	150.0	0.06
		MMG450WB170B6EN	1700	450	2.00	2700	140.0	0.06
		MMG600WB170B	1700	600	2.70	3750	215.0	0.04
		MMG600WB170B6EN	1700	600	2.00	3570	187.0	0.04
				MMG150WB170H6EN	1700	150	2.00	1250
	 H							

IGBT Modules - for EV Application

Power Range : 650 - 1200V / 400 - 600A


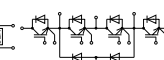


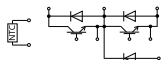
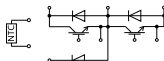

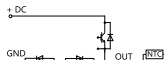
$T_C=25^\circ\text{C}$ unless otherwise noted

Package	Inside Circuit	Part Number	V_{CES} min. (V)	I_C $T_C=65\sim 100^\circ\text{C}$ (A)	$V_{CE(sat)}$ typ. (V)	P_D max. (W)	E_{off} $T_J=125^\circ\text{C}$ (mJ)	$R_{\theta jc}$ max. (K/W)
 GWE	 B	MMG450WE065B6EN	650	450	1.45	1250	18.0	0.12
		MMG450WE120B6E4N	1200	450	1.75	2305	61.5	0.07
		MMG600WE120B6E4N	1200	600	1.75	3125	79.5	0.05
 GVB	 X	MMG400VB065X6EN	650	400	1.45	1250	14.3	0.12
		MMG400VB065X6TC	650	400	1.65	1250	11.5	0.12
 GV	 X	MMG600V065X6EN	650	600	1.50	1070	19.5	0.14

IGBT Modules - for 3 Level Application

Power Range : 650 - 1700V / 80 - 600A


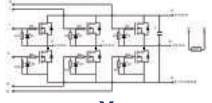

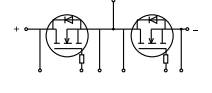

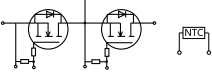

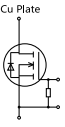

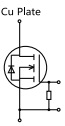
$T_C=25^\circ\text{C}$ unless otherwise noted

Package	Inside Circuit	Part Number	V_{CES} min. (V)	I_C $T_C=65\sim 100^\circ\text{C}$ (A)	$V_{CE(sat)}$ typ. (V)	P_D max. (W)	E_{off} $T_J=125^\circ\text{C}$ (mJ)	$R_{\theta jc}$ max. (K/W)
 GB	 PD	MMG150B065PD6EN	650	150	1.45	428	5.2	0.35
		MMG150B065PD6TC	650	150	1.65	441	4.1	0.34
		MMG200B065PD6EN	650	200	1.45	600	7.1	0.25
		MMG300B065PD6EN	650	300	1.45	856	11.5	0.18
		MMG300B065PD6TC	650	300	1.65	857	8.5	0.18
		MMG150B170PD	1700	150	2.00	833	48.0	0.15
 GCE		MMG150CE065PD6EN	650	150	1.45	335	5.2	0.45
 GWB	 TLA	MMG600WB065TLA6EN	650	600	1.45	1760	27.5	0.09
		MMG300WB120TLA6TN	1200	300	1.70	1450	37.0	0.09
	 TLB	MMG600WB065TLB6EN	650	600	1.45	1760	27.5	0.09
		MMG300WB120TLB6TN	1200	300	1.70	1450	37.0	0.09
 GC	 BF	MMG80C120BF	1200	80	2.10	600	5.0	0.25

MOS Modules

Power Range : 60 - 250V / 200 - 3200A


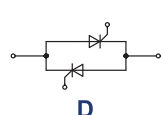

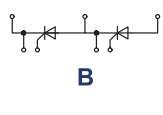

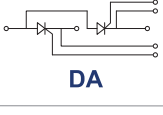
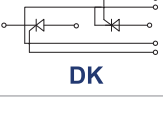
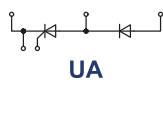


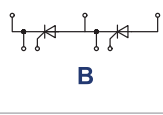
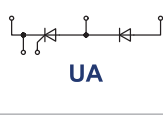

T_c=25°C unless otherwise noted

Package	Inside Circuit	Part Number	V _{DSS} min. (V)	I _D (A)	R _{DS(on)} typ. (mΩ)	R _{θjc} (K/W)
 NH	 X	MMN200H010X	100	200	4.50	0.55
 NDB	 B	MMN1000DB010B	100	1250	0.57	0.11
		MMN600DB012B	120	850	0.64	0.10
		MMN600DB015B	150	850	1.20	0.09
		MMN800DB015B	150	980	0.96	0.08
		MMN600DB020B	200	760	1.35	0.07
 NWB	 B	MMN550WB025B	250	690	1.50	0.06
 NA	 U1	MMN400A006U1	60	568	0.65	0.15
		MMN668A010U1	100	668	1.10	0.15
 ND	 U1	MMN2600D60U1	60	3200	0.35	0.04
		MMN2600D010U1	100	3000	0.41	0.04

Thyristors (SCR) Modules

Power Range : 300 - 1600V / 25 - 200A


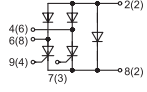

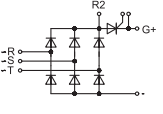

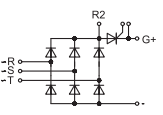

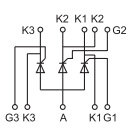

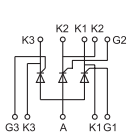
T_c=25 C unless otherwise noted

Package	Inside Circuit	Part Number	V _{RRM} V _{DRM} (V)	I _{T(AV)} T _c = 80~95°C (A)	V _{TM} @ I _{TM}		R _{θjc} (K/W)
					(V)	(A)	
 KJ	 D	MMK40J160D	1600	40	1.85	125	0.60
 KA	 B	MMK25A160B	1600	25	1.60	75	0.50
		MMK40A160B	1600	40	1.81	141	0.50
		MMK60A160B	1600	60	1.54	188	0.45
		MMK90A160B	1600	90	1.60	282	0.35
		MMK110A160B	1600	110	1.64	345	0.30
	 B6B	MMK110A160B6B	1600	110	1.65	280	0.25
	 DA	MMK110A160DA	1600	110	1.70	345	0.24
	 DK	MMK110A160DK	1600	110	1.70	345	0.24
	 UA	MMK25A160UA	1600	25	1.60	75	0.50
		MMK40A160UA	1600	40	1.81	141	0.50
		MMK60A160UA	1600	60	1.54	188	0.45
		MMK90A160UA	1600	90	1.60	282	0.35
		MMK110A160UA	1600	110	1.64	345	0.30
	 UK	MMK25A160UK	1600	25	1.60	75	0.50
		MMK40A160UK	1600	40	1.81	141	0.50
MMK60A160UK		1600	60	1.54	188	0.45	
MMK90A160UK		1600	90	1.60	282	0.35	
MMK110A160UK		1600	110	1.64	345	0.30	
 KS	 B	MMK130S160B	1600	130	1.57	408	0.20
		MMK160S160B	1600	160	1.54	502	0.18
		MMK200S160B	1600	200	1.75	600	0.13
	 UA	MMK130S160UA	1600	130	1.57	408	0.20
		MMK160S160UA	1600	160	1.54	502	0.18
		MMK200S160UA	1600	200	1.75	600	0.13
	 UK	MMK130S160UK	1600	130	1.57	408	0.20
		MMK160S160UK	1600	160	1.54	502	0.18
		MMK200S160UK	1600	200	1.75	600	0.13

Thyristors (SCR) Modules

Power Range : 300 - 1600V / 25 - 200A



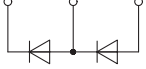
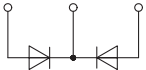

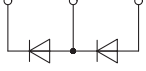
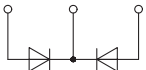




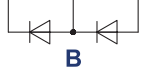
T_c=25°C unless otherwise noted

Package	Inside Circuit	Part Number	V _{RRM} V _{DRM} (V)	I _{T(AV)} T _c = 80~95°C (A)	V _{TM} @ I _{TM} (V) (A)	R _{θjc} (K/W)
 KLB	 HB	MMK25LB160HB	1600	25	1.60 75	0.24
		MMK35LB160HB	1600	35	1.75 110	0.24
 KT	 UX	MMK75T160UX	1600	75	1.50 250	0.25
		MMK100T160UX	1600	100	1.65 315	0.24
		MMK150T160UX	1600	150	1.65 400	0.16
		MMK200T160UX	1600	200	1.55 500	0.14
 KU	 UX	MMK75U160UX	1600	75	1.50 250	0.30
		MMK100U160UX	1600	100	1.65 315	0.25
 KX	 DA	MMK150X030DA	300	150	1.15 450	0.20
 KX	 DA	MMK200X040DA	400	200	1.20 600	0.15

Rectifier Diode Modules

Power Range : 1600 - 1800V / 60 - 400A

$T_c=25^\circ\text{C}$ unless otherwise noted

Package	Inside Circuit	Part Number	V_{RRM}	$I_{F(AV)}$	I_{FSM}	$V_{F(max)@I_F}$		$R_{\theta jc}$	
			(V)	$T_c=85^\circ\text{C}$ (A)	$t=10\text{ms}$ $T_j=45^\circ\text{C}$ (A)	(V)	(A)	(K/W)	
 DA	 U	MMD60A160U	1600	60	1600	1.15	60	0.50	
		MMD60A160B	1600	60	1350	1.50	180	0.63	
		MMD90A160B	1600	90	2000	1.30	200	0.36	
	 B	MMD110A160B	1600	110	2500	1.25	200	0.30	
		MMD130A160B	1600	130	3450	1.50	400	0.25	
		MMD90A180B	1800	90	2000	1.30	200	0.36	
		MMD110A180B	1800	110	2500	1.25	200	0.30	
		MMD130A180B	1800	130	3500	1.50	400	0.20	
		 DK	MMD60A160DK	1600	60	1350	1.50	180	0.63
	MMD90A160DK		1600	90	2000	1.30	200	0.36	
	MMD110A160DK		1600	110	2500	1.25	200	0.30	
	MMD90A180DK		1800	90	2000	1.30	200	0.36	
	MMD110A180DK		1800	110	2500	1.25	200	0.30	
	 DS	 B	MMD130S160B	1600	130	3500	1.20	300	0.20
			MMD160S160B	1600	160	5000	1.15	350	0.18
MMD180S160B			1600	180	6000	1.20	400	0.17	
MMD200S160B			1600	200	7000	1.25	500	0.16	
MMD240S160B			1600	240	10000	1.25	500	0.14	
MMD130S180B			1800	130	3500	1.20	300	0.20	
MMD160S180B			1800	160	5000	1.15	300	0.18	
MMD180S180B			1800	180	6000	1.20	400	0.17	
MMD200S180B			1800	200	7000	1.25	500	0.16	
 DK		MMD130S160DK	1600	130	3500	1.20	300	0.20	
		MMD160S160DK	1600	160	5000	1.15	350	0.18	
		MMD180S160DK	1600	180	6000	1.20	400	0.17	
		MMD200S160DK	1600	200	7000	1.25	500	0.16	
		MMD240S160DK	1600	240	10000	1.25	500	0.14	
		MMD130S180DK	1800	130	3500	1.20	300	0.20	
		MMD160S180DK	1800	160	5000	1.15	350	0.18	
		MMD180S180DK	1800	180	6000	1.20	400	0.17	
		MMD200S180DK	1800	200	7000	1.25	500	0.16	
 U		MMD200S160U	1600	200	6500	1.50	600	0.16	
		MMD300S160U	1600	300	9000	1.25	500	0.09	
		MMD400S160U	1600	400	12000	1.02	400	0.09	
 DD	 U	MMD400D160U	1600	400	12000	1.00	400	0.09	
 DAB	 B	MMD110AB160B	1600	110	2350	1.40	300	0.30	
		MMD160AB160B	1600	160	5000	1.50	500	0.18	

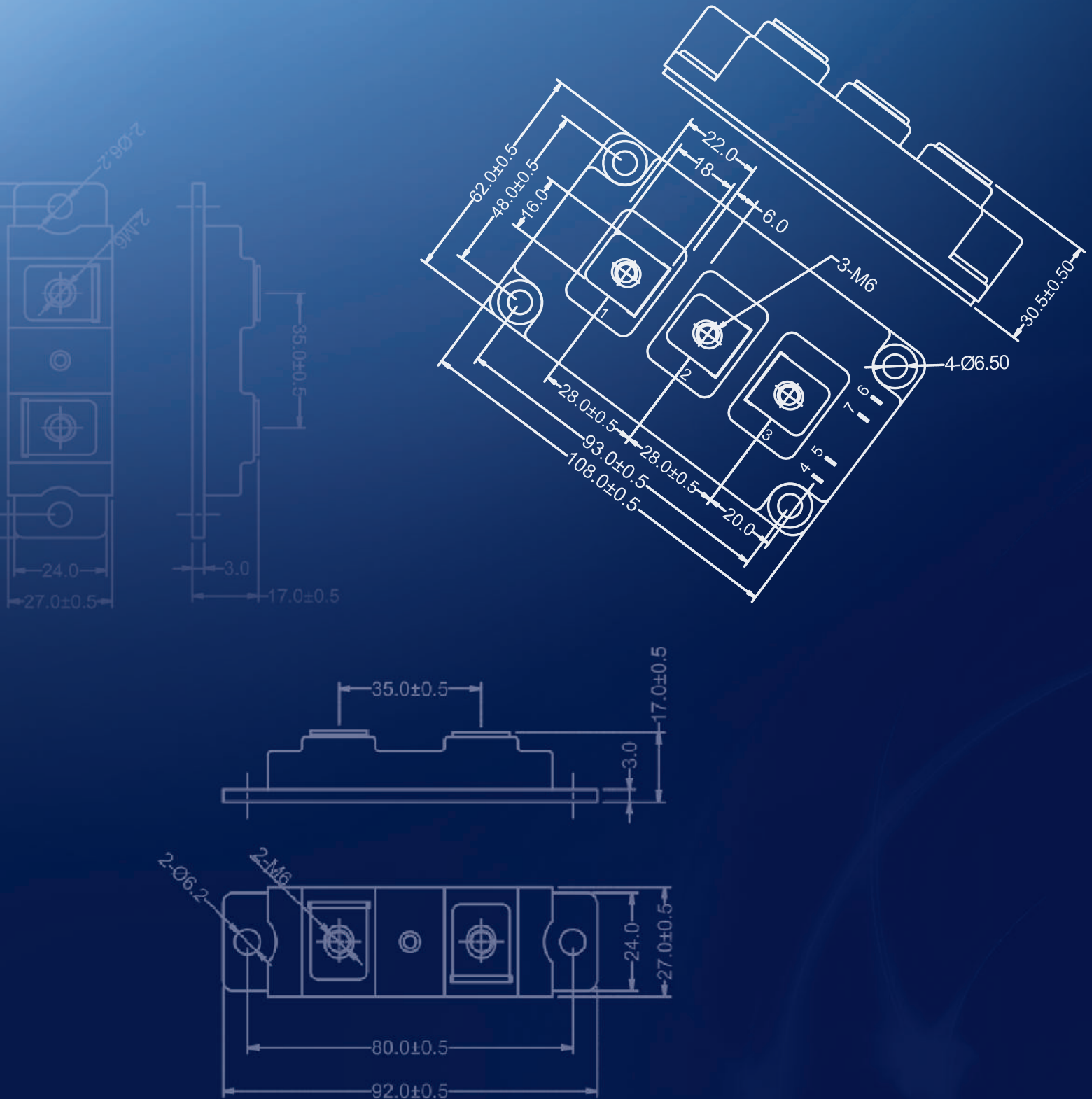
Three-Phase Rectifier modules

Power Range : 1600 - 2000A / 50 - 250A

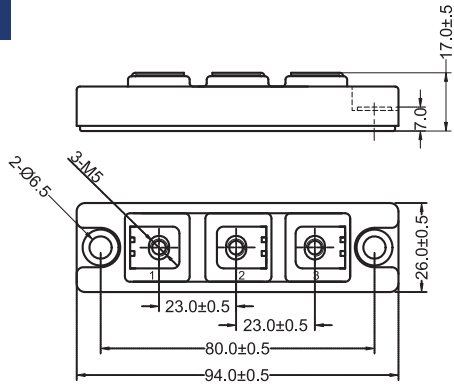
T_c=25°C unless otherwise noted

Package	Inside Circuit	Part Number	V _{RRM} (V)	I _{d(AV)} T _c = 95~100 °C (A)	I _{FSM} t=10ms T _j =45°C (A)	V _{F(max)} @I _F T _j =25°C (V) (A)	R _{θjc} (K/W)
 DL		MMD50L160X	1600	50	400	1.80 100	0.20
 DEC		MMD70EC160X	1600	70	700	1.35 70	0.18
		MMD100EC160X	1600	100	1000	1.35 100	0.15
		MMD70EC180X	1800	70	700	1.35 70	0.18
		MMD100EC180X	1800	100	1000	1.35 100	0.15
 DE		MMD70E160X	1600	70	700	1.35 70	0.18
		MMD100E160X	1600	100	1000	1.35 100	0.15
		MMD70E180X	1800	70	700	1.35 70	0.18
		MMD100E180X	1800	100	1000	1.35 100	0.15
		MMD70E200X	2000	70	700	1.35 70	0.18
		MMD100E200X	2000	100	1000	1.35 100	0.15
 DEB		MMD70EB160X	1600	70	700	1.35 70	0.18
		MMD100EB160X	1600	100	1000	1.35 100	0.15
		MMD70EB180X	1800	70	700	1.35 70	0.18
		MMD100EB180X	1800	100	1000	1.35 100	0.15
 DF		MMD150F160X	1600	150	1500	1.45 150	0.11
		MMD200F160X	1600	200	2000	1.45 200	0.09
		MMD250F160X	1600	250	2500	1.55 250	0.08
		MMD150F180X	1800	150	1500	1.45 150	0.11
		MMD200F180X	1800	200	2000	1.45 200	0.09
		MMD250F180X	1800	250	2500	1.55 250	0.08
		MMD100F200X	2000	100	1000	1.35 100	0.15
		MMD150F200X	2000	150	1500	1.45 150	0.11
		MMD200F200X	2000	200	2000	1.45 200	0.09
 DFB		MMD150FB160X	1600	150	1500	1.45 150	0.11
		MMD200FB160X	1600	200	2000	1.45 200	0.09
		MMD250FB160X	1600	250	2500	1.55 250	0.08
		MMD150FB180X	1800	150	1500	1.45 150	0.11
		MMD200FB180X	1800	200	2000	1.45 200	0.09
		MMD250FB180X	1800	250	2500	1.55 250	0.08

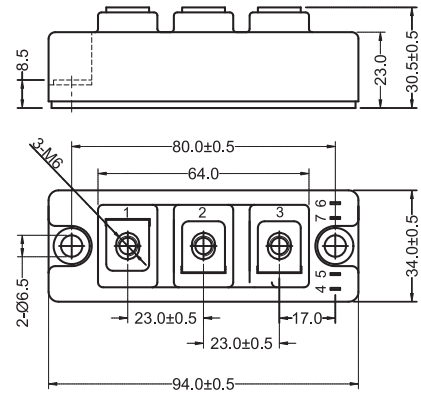
Outline Drawings



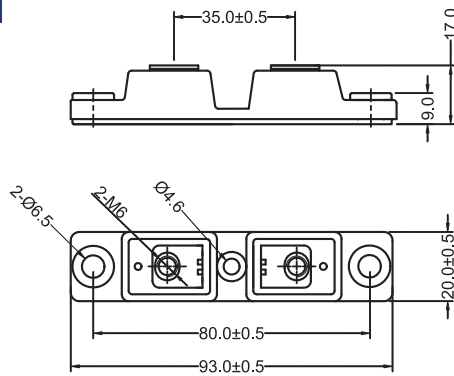
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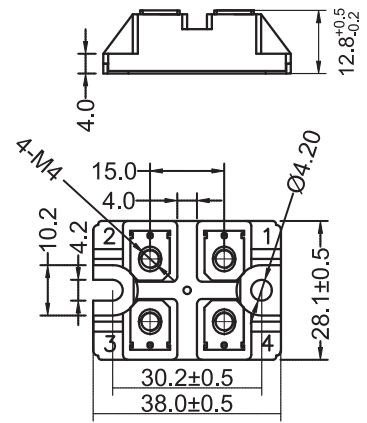
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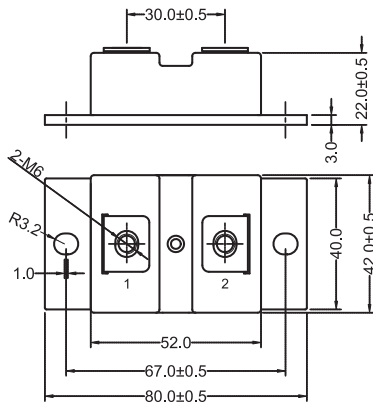
FZ



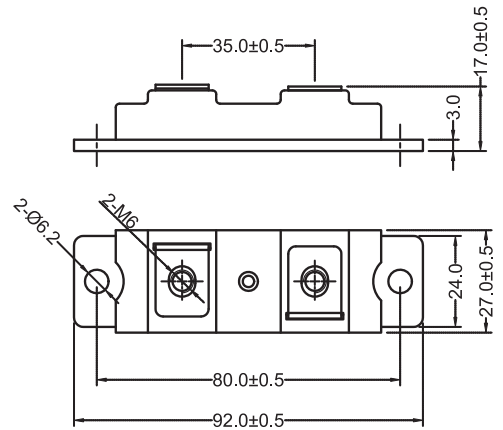
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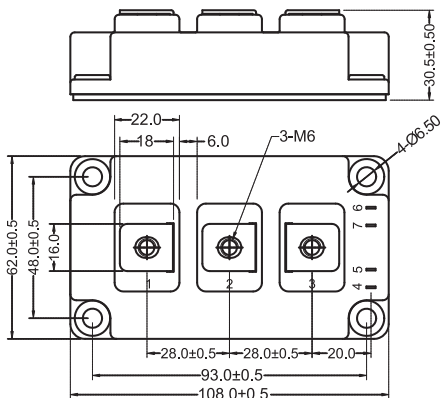
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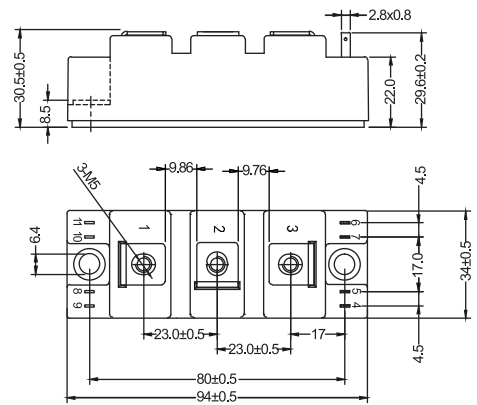
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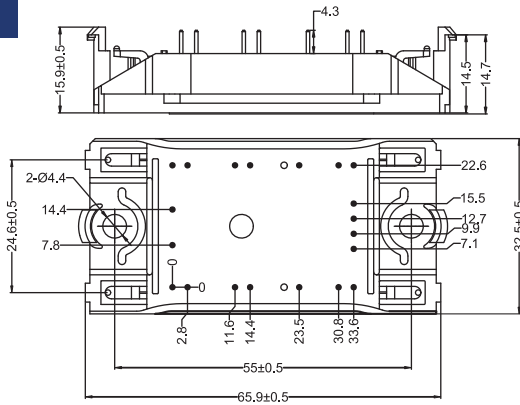
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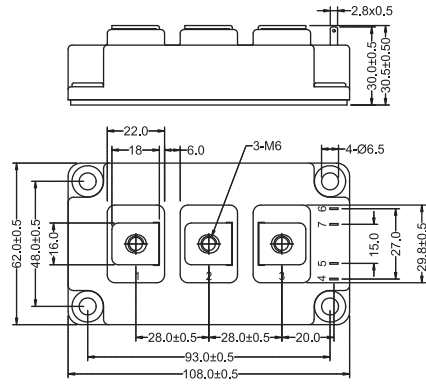
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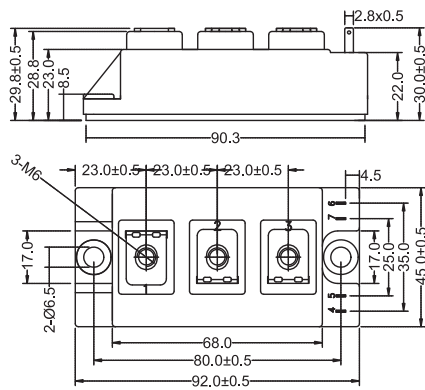
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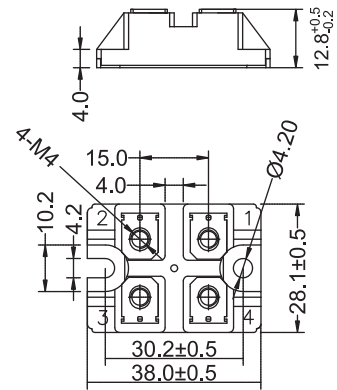
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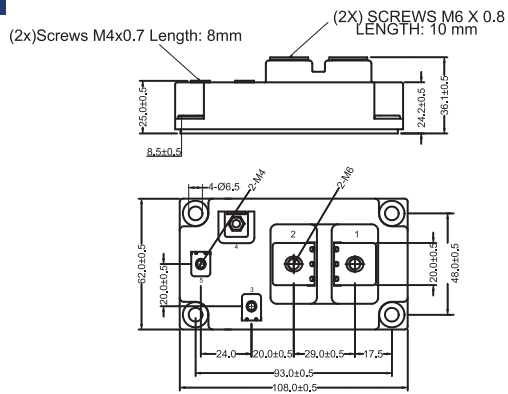
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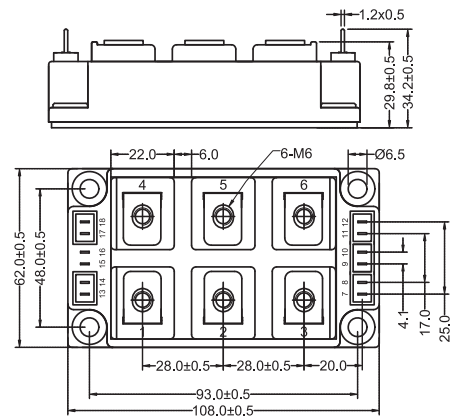
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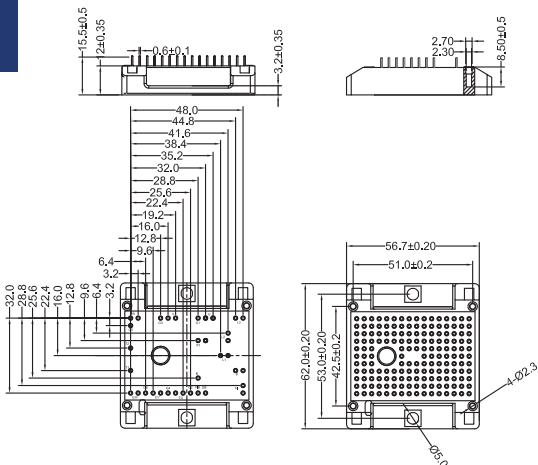
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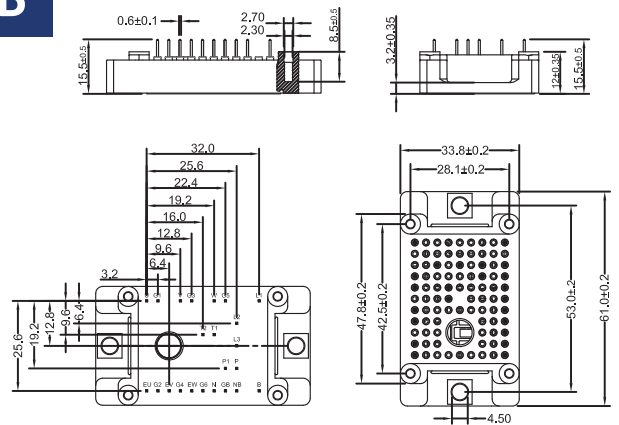
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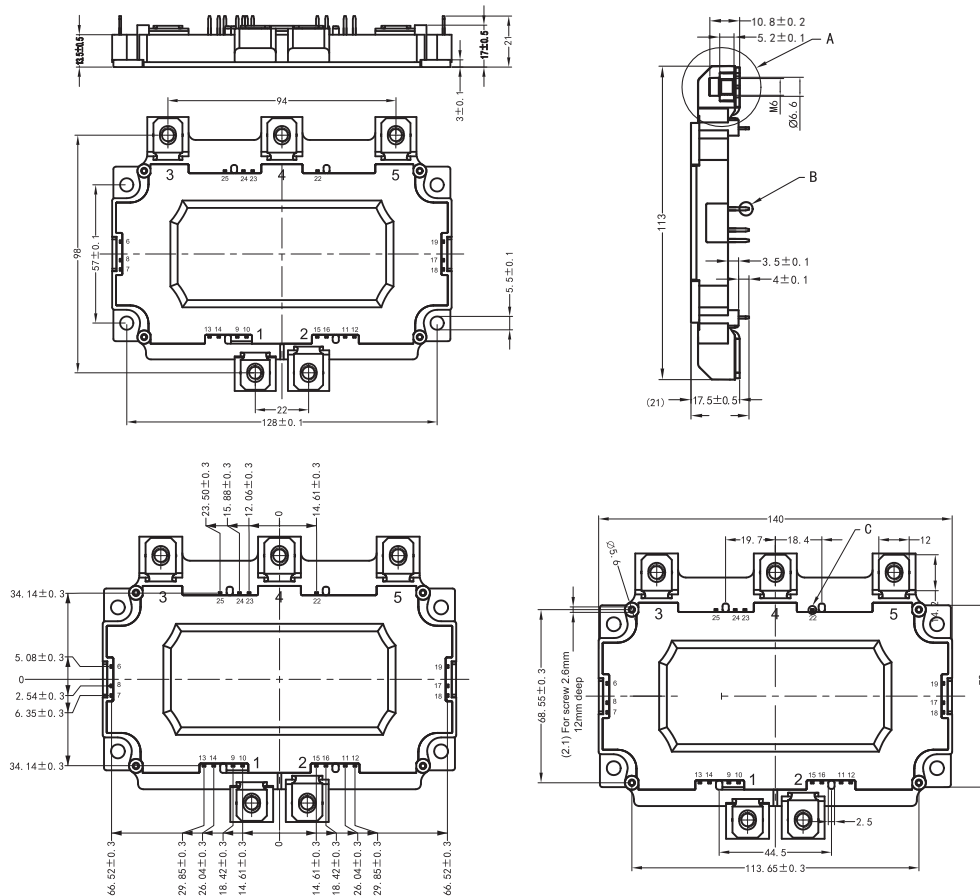
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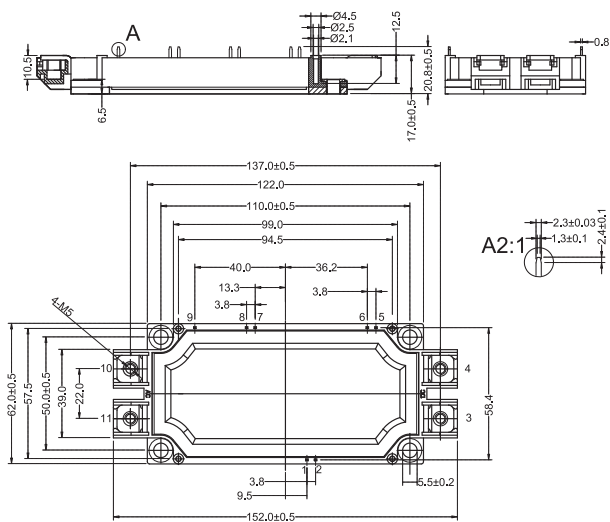
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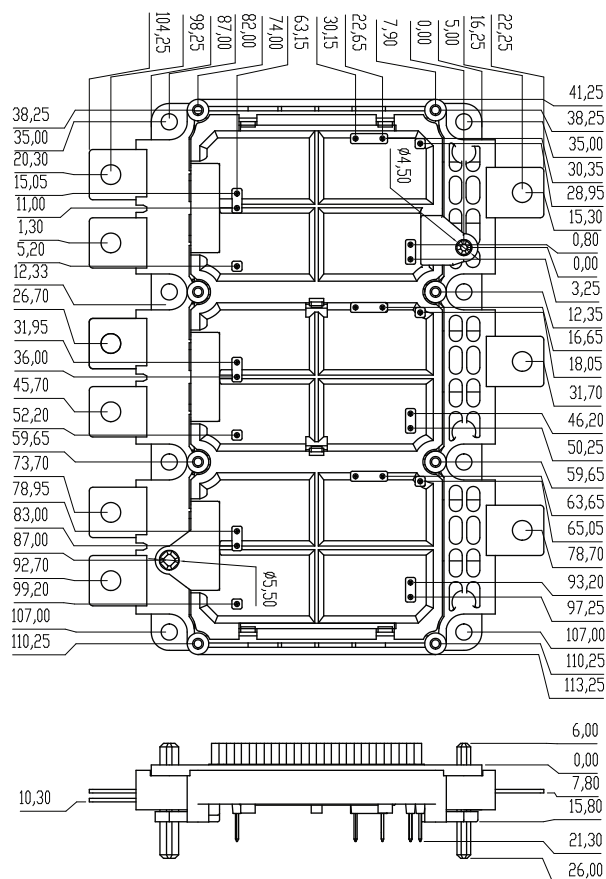
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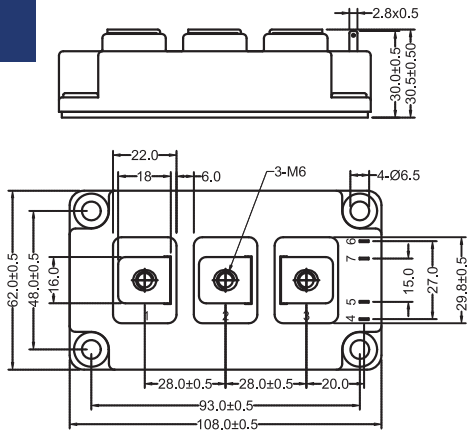
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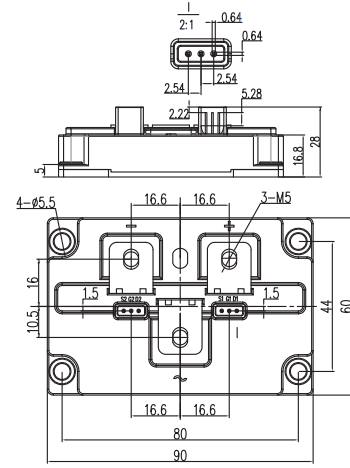
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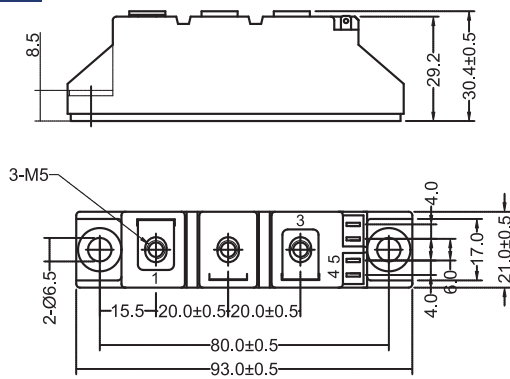
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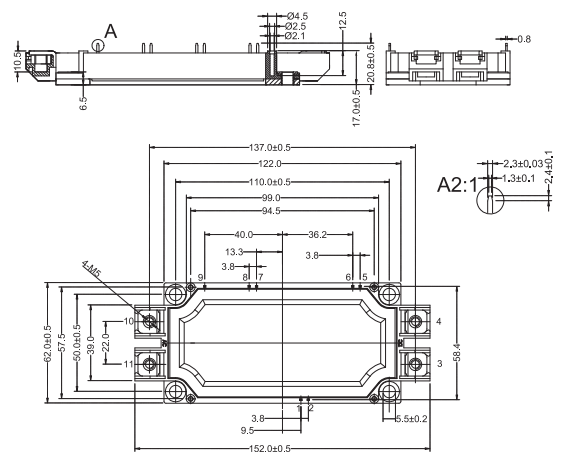
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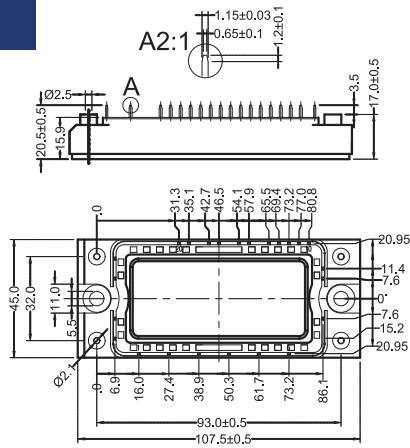
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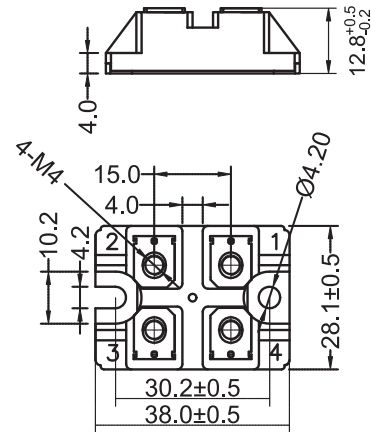
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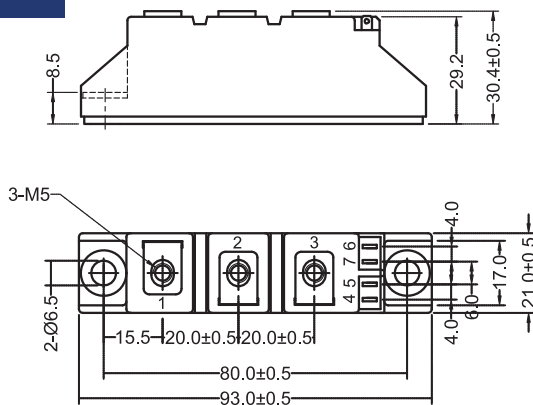
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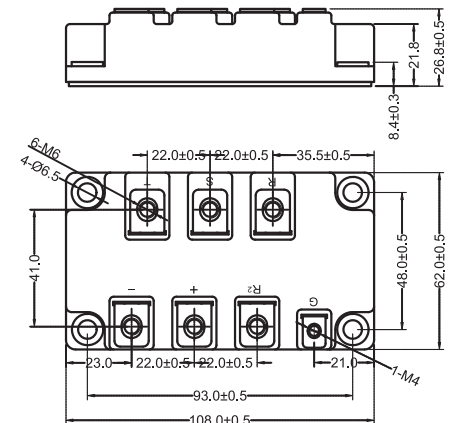
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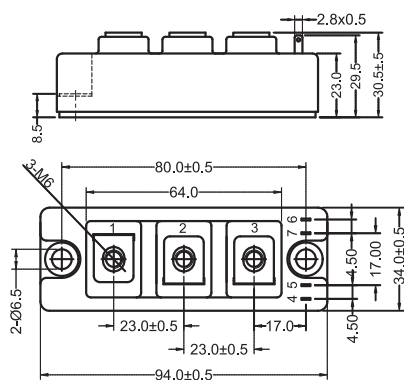
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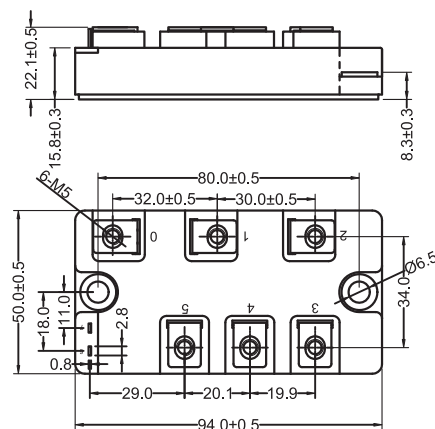
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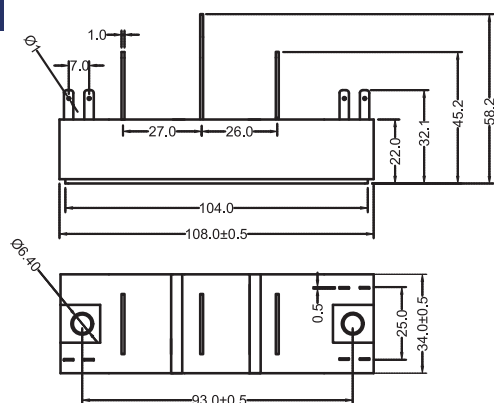
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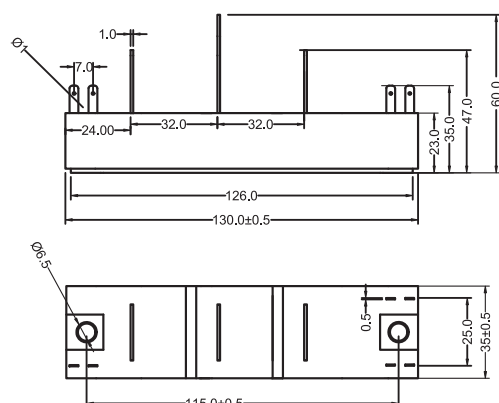
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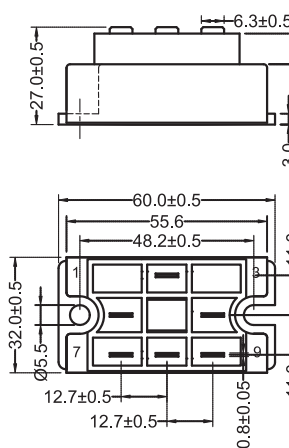
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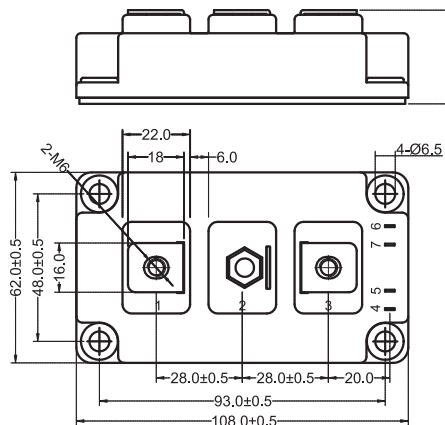
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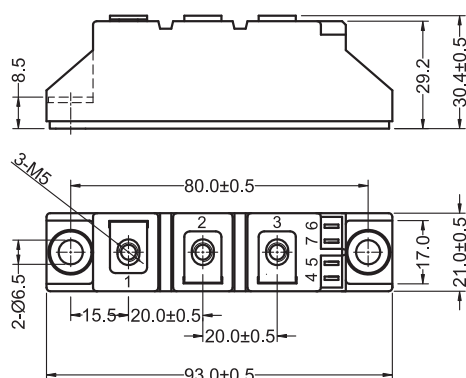
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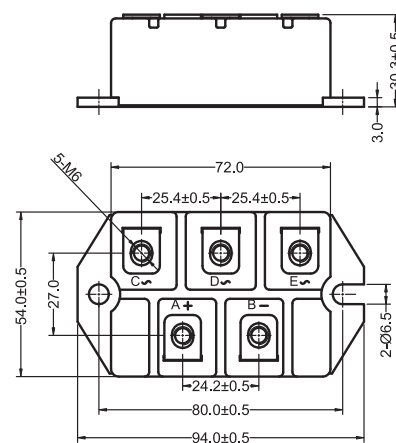
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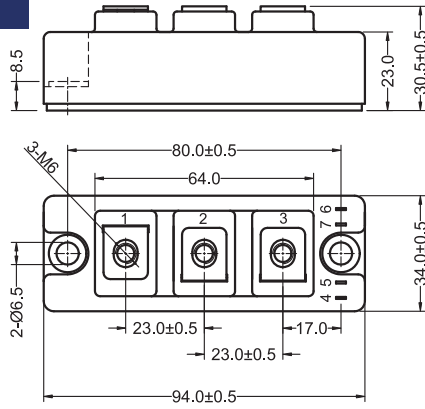
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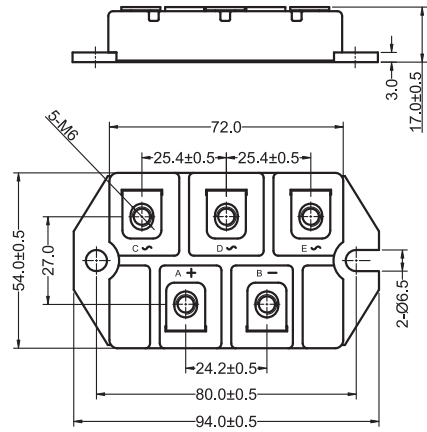
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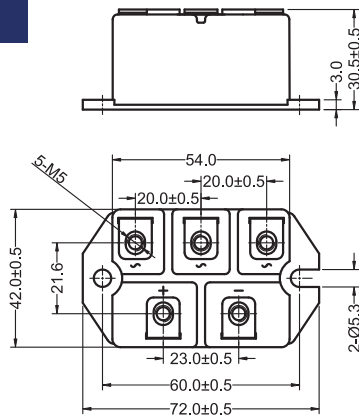
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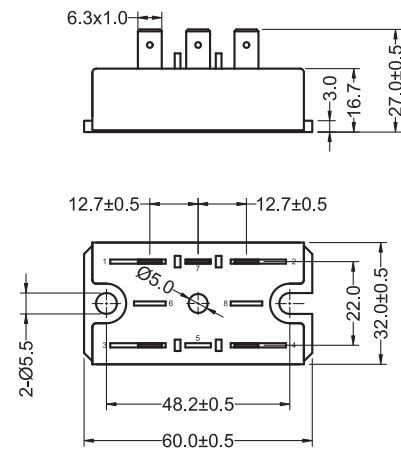
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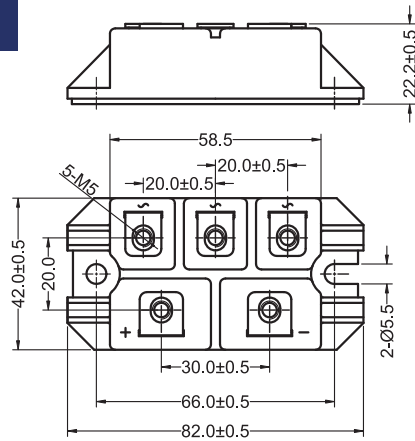
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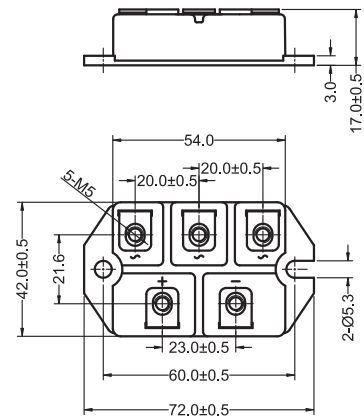
DL



DEB



DEC



DAB

