MacMic Science & Technology Co., Ltd.

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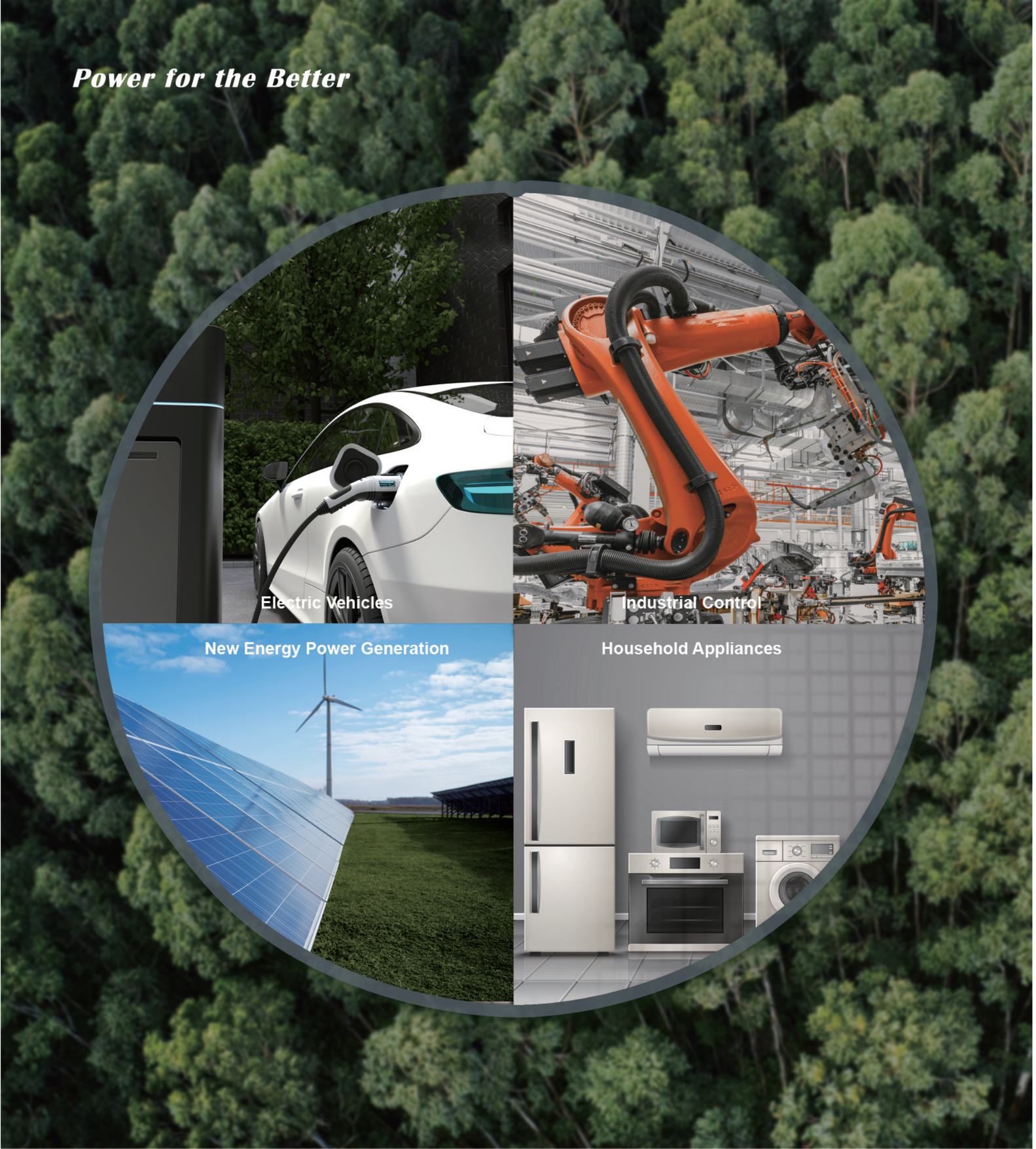
MACMIC®

Power Semiconductors

2026-2027 Product Catalogue

MacMic Science & Technology Co., Ltd.



CONTENTS

COMPANY PROFILE

MACMIC was founded in 2006. Its main business is the R&D, manufacturing and sales of power semiconductor devices. The main products of MACMIC are IGBT, MOSFET, FRD, SiC, GaN chips, discrete devices and modules. MACMIC has advanced IGBT and FRD technologies. MACMIC focuses on becoming an expert in providing power semiconductor device solutions. The company is one of the leading companies in the power semiconductor industry in China. In 2021, MACMIC was successfully listed on the Shanghai Science and Technology Innovation Board with stock ticker 688711.

BUSINESS SCOPES

- Design, development, manufacturing, and marketing of new types of power semiconductor devices, i.e. IGBT, FRD, SiC, GaN chips and discrete devices, standard and customer-specific power modules (CSPM).

QUALITY MANAGEMENT SYSTEMS

- Insisting on independent innovation, scientific management and continuous improvement, providing better products and services to meet and exceed customers' requirements and expectations.

- The entire production process is managed by the ISO9001 and IATF16949 quality management systems. Every process is strictly checked and tested to ensure the quality and stability of the products.

COMPANY GOALS

- Independent innovation, design, development and manufacturing of world-class IGBT, FRD, SiC, GaN discretes and modules, to provide solutions of power semiconductor devices.

COMPANY STRENGTH

POWER MODULE FABRICATION LINES

Fab 1（Huashan Plant）—Plant Area: 6000m^2, Clean Room Area: 1700m^2
Fab 2（Xinzhu Plant）—Plant Area: 11200m^2, Clean Room Area: 5600m^2
Fab 3（Xinzhu Plant）—Plant Area: 12000m^2, Clean Room Area: 7500m^2
Fab 4（Core Energy*）—Plant Area: 14000m^2, Clean Room Area: 12300m^2

* Note：Core Energy is a subsidiary of MacMic.

CHARACTERISTIC ANALYSIS LABORATORY

Diode Reverse Recovery Tester
IGBT Static Parameter Tester
IGBT Switching Parameter Tester
IGBT Charge Tester
IGBT Short Circuit Tester
HV Static Parameter Tester
UIS Tester
Surge Current Tester
Electrostatic Discharge Tester
……

RELIABILITY LABORATORY

High Temperature Reverse Bias Tester
High Temperature Gate Bias Tester
Power Cycle Tester
High / Low Temperature Cycle Tester
85 / 85 Temperature / Humidity Tester
High Humidity High Temperature Reverse Bias Tester
High Temperature Storage Life Tester
Low Temperature Storage Life Tester
Thermal Shock Tester
Salt Spray Evaluation Tester
Vibration Evaluation Test
Mechanical Shock Tester
Highly Accelerated Stress Tester

Macro Ambitions Achieved through Micro Steps

FAILURE ANALYSIS LABORATORY

Digital Microscope
Scanning Acoustic Microscope
Scanning Electron Microscope (SEM)
Ion Milling System
Thermal EMMI
Laser Decap
Automatic Cutting Machine
Automatic Grinder and Polisher

IGBT MODULES

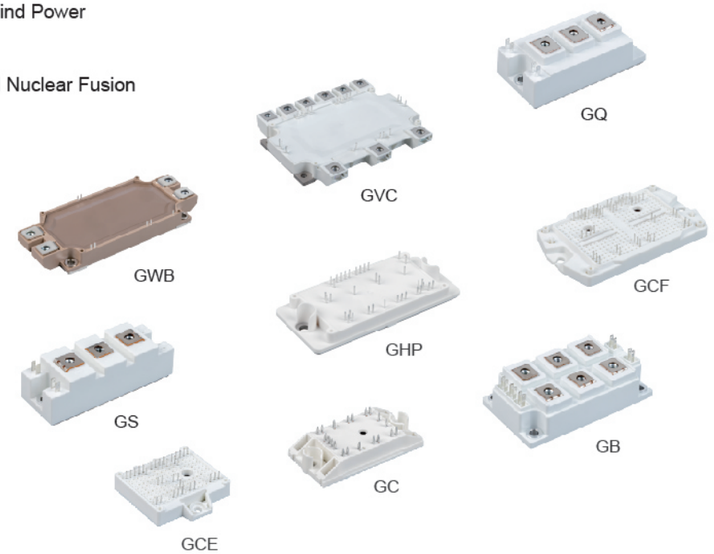
Ranges
- 600-2300V / 10-1200A

Packages
- GB, GC, GCB, GCE, GCF, GD, GEB, GH, GHB, GHC, GHD, GHP, GJ, GK, GQ, GQC, GS, GV, GVB, GVC, GVD, GVE, GVF, GW, GWB, GWD, GWJ

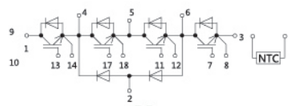
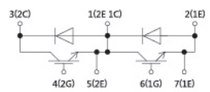
Circuit Configurations
- Single Circuit
- Half-Bridge Circuit, Full-Bridge Circuit, Three Phase Bridge Circuit
- Chopping Circuit, Common-Emitter Circuit
- Three-Level Circuit

Features
- Fast Switching Speed
- Low Conduction Loss
- Soft Turn-Off Characteristic
- High Short Circuit Capability

Applications
- Welding Machine, Cutting Machine
- Plating Power Supply, Induction Heating
- UPS, Inverter, Chopper
- Servo Drive, Switched Reluctance Drive
- Solar Inverter, Wind Power
- Electric Vehicle
- AIDC, Controlled Nuclear Fusion



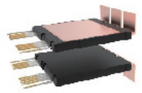
600-650V IGBT MODULES

Circuit	Part Number	V_{CES} min. (V)	I_C (A)	$V_{CE(sat)}$ typ. (V)	R_{thJC} max. (K/W)	T_{jmax}	Package Outline
	M3i						
 PD	MMG150B065PD6TC	650	150	1.55	0.34	150℃	GB
	MMG200B065PD6TC	650	200	1.55	0.25	150℃	GB
	MMG300B065PD6TC	650	300	1.55	0.17	150℃	GB
	MMG100CE065PD6TC	650	100	1.55	0.45	150℃	GCE
	MMG75S060B6TC	600	75	1.55	0.60	150℃	GS
	MMG100S060B6TC	600	100	1.55	0.45	150℃	GS
 B	MMG150S060B6TC	600	150	1.65	0.34	150℃	GS
	MMG200S060B6TC	600	200	1.55	0.25	150℃	GS
	MMG300Q060B6TC	600	300	1.55	0.17	150℃	GQ
	MMG300D060B6TC	600	300	1.55	0.17	150℃	GD
	MMG400D060B6TC	600	400	1.55	0.125	150℃	GD
 B	M5i						
	MMG200CE065PD6T5	650	200	1.50	0.32	150℃	GCE
	M6i						
	MMG150CE065PD6T6	650	150	1.40	0.40	150℃	GCE


GWB

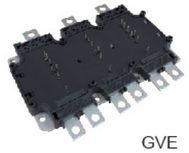

GV

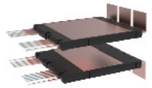

GVB


SSC

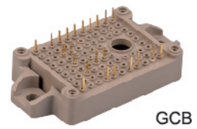

GVD


GVC


GVE


DSC

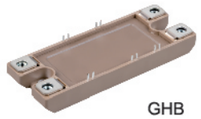

GJ

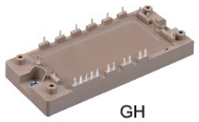

GCB

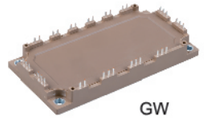

GD


GQC

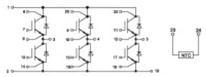
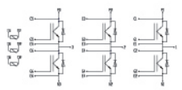
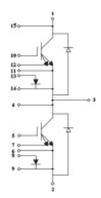
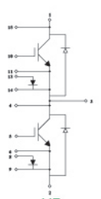

GQ


GHB


GH

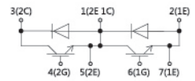
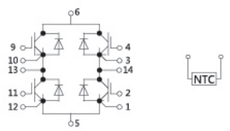
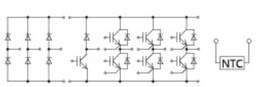
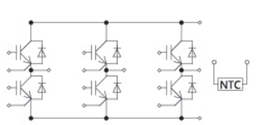

GW

750V IGBT MODULES

Circuit	Part Number	V_{CES} min. (V)	I_C (A)	$V_{CE(sat)}$ typ. (V)	R_{thJC} max. (K/W)	T_{jmax}	Package Outline
 X	MMG280VD075X6T7	750	280	1.38	0.252	175℃	GVD
	MMG400VD075X6TC-12	750	400	1.40	0.146	150℃	GVD
 X	MMG400VB075X6TC	750	400	1.21	0.107	150℃	GVB
	MMG400VC075X6TC	750	400	1.21	0.14	150℃	GVC
	MMG600V075X6T7	750	600	1.10	0.16	175℃	GV
	MMG820V075X6T7	750	820	1.10	0.12	175℃	GV
	MMG950V075X6T7	750	950	1.15	0.10	175℃	GV
 HB	MMG770VE075X6T7	750	770	1.20	0.16	175℃	GVE
	MMG880VE075X6T7	750	880	1.00	0.14	175℃	GVE
	MMG500VF075X6T7	750	500	1.28	0.33	175℃	GVF
 HB	CS095HB08C1P1-I7000 *	750	950	1.24	0.133	175℃	DSC
	CS080HB08C1P1-I7000*	750	800	1.22	0.132	175℃	DSC
	CS054HB08C2P1-Z7000*	750	540	1.22	0.358	175℃	SSC

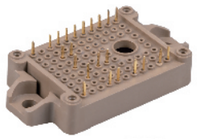
* Note: Transfer-Molded IGBT Modules by Core Energy

1200V IGBT MODULES

Circuit	Part Number	V_{CES} min. (V)	I_C (A)	$V_{CE(sat)}$ typ. (V)	R_{thJC} max. (K/W)	T_{jmax}	Package Outline
	M3i						
 B	MMG50S120B6UC	1200	50	1.70	0.37	150℃	GS
	MMG75S120B6UC	1200	75	1.70	0.28	150℃	GS
	MMG100S120B6UC	1200	100	2.20	0.27	150℃	GS
	MMG150S120B6UC	1200	150	2.00	0.15	150℃	GS
 H	MMG150D120B6UC	1200	150	1.70	0.16	150℃	GD
	MMG200D120B6UC	1200	200	1.90	0.14	150℃	GD
	MMG300D120B6UC	1200	300	1.90	0.095	150℃	GD
	MMG50QC120H6UC	1200	50	1.70	0.37	150℃	GQC
	MMG75QC120H6UC	1200	75	1.70	0.28	150℃	GQC
 XB	MMG10CB120XB6TC	1200	10	1.85	1.25	150℃	GCB
	MMG10CB120X6TC	1200	10	1.85	1.25	150℃	GCB
	MMG15CB120XB6TC	1200	15	1.85	1.05	150℃	GCB
 X	MMG25CE120XB6TC	1200	25	1.85	0.75	150℃	GCE
	MMG35CE120XB6TC	1200	35	1.85	0.60	150℃	GCE
	MMG25HD120XB6TC	1200	25	1.85	0.90	150℃	GHD

GQ

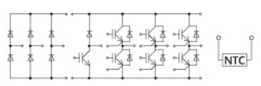
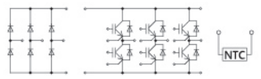
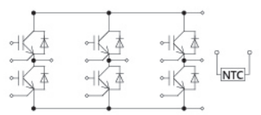
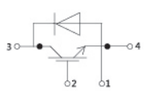
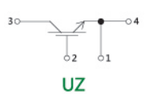
GWJ



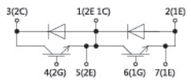
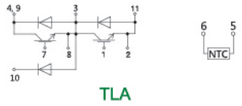
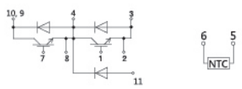
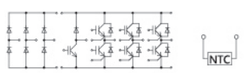
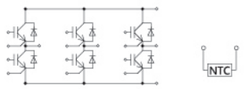
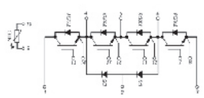
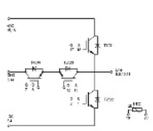
GCB

GHE

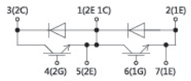
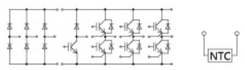
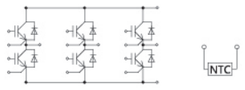
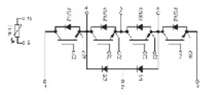
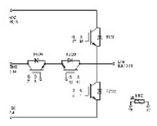
1200V IGBT MODULES

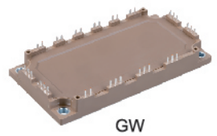
Circuit	Part Number	V_{CES} min. (V)	I_C (A)	$V_{CE(sat)}$ typ. (V)	R_{thJC} max. (K/W)	T_{jmax}	Package Outline
 XB	MMG35HD120XB6TC	1200	35	1.85	0.72	150℃	GHD
	MMG35HD120XT6TC	1200	35	1.85	0.72	150℃	GHD
	MMG50HD120XB6TC	1200	50	1.80	0.54	150℃	GHD
	MMG50HD120XT6TC	1200	50	1.80	0.54	150℃	GHD
	MMG25H120XB6TC	1200	25	1.85	0.90	150℃	GH
	MMG40H120XB6TC	1200	40	1.95	0.72	150℃	GH
 XT	MMG50W120XB6TC	1200	50	1.85	0.54	150℃	GW
	MMG75W120XB6TC	1200	75	1.85	0.39	150℃	GW
	MMG75WD120XB6TC	1200	75	1.85	0.39	150℃	GWD
	MMG100WD120XB6TC	1200	100	1.70	0.29	150℃	GWD
 X	MMG75H120X6TC	1200	75	1.85	0.39	150℃	GH
	MMG75W120X6TC	1200	75	1.85	0.39	150℃	GW
	MMG100W120X6TC	1200	100	1.85	0.29	150℃	GW
	MMG150W120X6TC	1200	150	1.85	0.20	150℃	GW
 U	MMG75J120UZ6TC	1200	75	1.85	0.39	150℃	GJ
	MMG75J120U6TC	1200	75	1.85	0.39	150℃	GJ
	MMG100J120UZ6TC	1200	100	1.85	0.29	150℃	GJ
	MMG150J120UZ6TC	1200	150	1.85	0.20	150℃	GJ
 UZ	MMG75S120B6TC	1200	75	1.85	0.39	150℃	GS
	MMG100S120B6TC	1200	100	1.70	0.29	150℃	GS
	MMG150S120B6TC	1200	150	1.85	0.20	150℃	GS
 B	MMG150D120B6TC	1200	150	1.70	0.19	150℃	GD

1200V IGBT MODULES

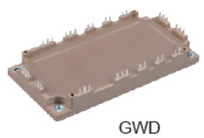
Circuit	Part Number	V_{CES} min. (V)	I_C (A)	$V_{CE(sat)}$ typ. (V)	R_{thJC} max. (K/W)	T_{jmax}	Package Outline
 B	MMG200Q120B6TC	1200	200	1.70	0.14	150℃	GQ
	MMG200D120B6TC	1200	200	1.70	0.14	150℃	GD
	MMG300D120B6TC	1200	300	1.85	0.10	150℃	GD
	MMG400D120B6TC	1200	400	1.85	0.75	150℃	GD
	MMG450D120B6TC	1200	450	1.85	0.07	150℃	GD
 B	MMG300WB120B6TC	1200	300	1.80	0.094	150℃	GWB
	MMG450WB120B6TC	1200	450	1.85	0.065	150℃	GWB
 TLA	MMG300WB120TLA6TC	1200	300	1.80	0.10	150℃	GWB
	MMG300WB120TLB6TC	1200	300	1.80	0.10	150℃	GWB
 TLB	M6i						
	MMG600WB120B6T6	1200	600	1.70	0.051	150℃	GWB
 XB	M7i						
	MMG10CB120XB6T7	1200	10	1.52	2.05	175℃	GCB
	MMG10CB120XB6T7_Y2	1200	10	1.52	2.05	175℃	GCB
	MMG15CB120XB6T7	1200	15	1.52	1.80	175℃	GCB
	MMG15CB120XB6T7_Y2	1200	15	1.52	1.80	175℃	GCB
 X	MMG25CB120XB6T7	1200	25	1.54	0.79	175℃	GCB
	MMG25CB120X6T7	1200	25	1.52	0.48	175℃	GCB
	MMG25CB120X6T7_Y2	1200	25	1.52	0.48	175℃	GCB
	MMG25CE120X6T7	1200	25	1.52	0.48	175℃	GCE
 PD	MMG25CE120XB6T7	1200	25	1.52	0.48	175℃	GCE
	MMG25CE120XB6T7_Y2	1200	25	1.52	0.48	175℃	GCE
	MMG35CB120X6T7	1200	35	1.52	1.65	175℃	GCB
 BF	MMG35CE120XB6T7	1200	35	1.52	1.65	175℃	GCE
	MMG35CE120XB6T7_Y2	1200	35	1.52	1.65	175℃	GCE

1200V IGBT MODULES

Circuit	Part Number	V_{CES} min. (V)	I_C (A)	$V_{CE(sat)}$ typ. (V)	R_{thJC} max. (K/W)	T_{jmax}	Package Outline
 B	MMG50CE120XB6T7	1200	50	1.52	0.44	175℃	GCE
	MMG50CE120XT6T7	1200	50	1.52	0.44	175℃	GCE
	MMG50CE120XB6T7_Y2	1200	50	1.52	0.44	175℃	GCE
	MMG50HD120XB6T7	1200	50	1.52	0.579	175℃	GHD
	MMG50HD120XB6T7_Y1	1200	50	1.52	0.579	175℃	GHD
 B	MMG75HE120XB6T7_W11	1200	75	1.48	0.44	175℃	GHE
	MMG75CE120X6T7	1200	75	1.52	0.44	175℃	GCE
	MMG75CE120X6T7_Y2	1200	75	1.52	0.44	175℃	GCE
	MMG75HE120XB6T7	1200	75	1.52	0.44	175℃	GHE
	MMG75HE120XB6T7_Y1	1200	75	1.52	0.44	175℃	GHE
 XB	MMG100WD120XB6T7	1200	100	1.52	0.373	175℃	GWD
	MMG100WD120XB6T7_Y1	1200	100	1.52	0.373	175℃	GWD
	MMG150WJ120XB6T7	1200	150	1.45	0.17	175℃	GWJ
	MMG150WJ120XB6T7_Y1	1200	150	1.45	0.17	175℃	GWJ
 X	MMG200W120X6T7	1200	200	1.50	0.249	175℃	GW
	MMG225WB120B6T7	1200	225	1.52	0.147	175℃	GWB
	MMG300VB120X6T7	1200	300	1.60	0.148	175℃	GVB
	MMG300WB120B6T7	1200	300	1.52	0.119	175℃	GWB
 PD	MMG450WQ120PD6T7	1200	450	1.55	0.107	175℃	GWQ
	MMG450WQ120PD6T7H	1200	450	1.60	0.107	175℃	GWQ
	MMG450WB120B6T7	1200	450	1.52	0.0875	175℃	GWB
	MMG500W120PD6T7	1200	500	1.67	0.107	175℃	GW
	MMG500W120PD6T7H	1200	500	1.67	0.107	175℃	GW
 BF	MMG560WQ120BF6T7	1200	560	1.58	0.09	175℃	GWQ
	MMG560WQ120BF6T7S	1200	560	1.50	0.09	175℃	GWQ
	MMG600WB120B6T7	1200	600	1.52	0.0721	175℃	GWB
	MMG800WB120B6T7	1200	800	1.52	0.052	175℃	GWB
	MMG800D120B6T7	1200	800	1.60	0.051	175℃	GD

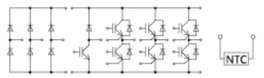
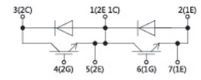
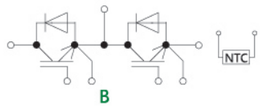
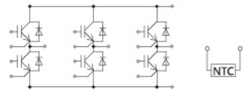
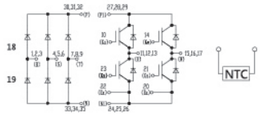

GW


GS


GWD


GWB

1700V IGBT MODULES

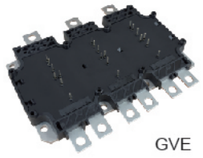
Circuit	Part Number	V_{CES} min. (V)	I_C (A)	$V_{CE(sat)}$ typ. (V)	R_{thJC} max. (K/W)	T_{jmax}	Package Outline
	M3i						
 XB	MMG75W170X6TC	1700	75	2.15	0.26	150℃	GW
	MMG100W170X6TC	1700	100	2.40	0.21	150℃	GW
 B	MMG75WD170XB6TC	1700	75	2.15	0.27	150℃	GWD
	MMG75S170B6TC	1700	75	2.15	0.27	150℃	GS
	MMG100S170B6TC	1700	100	2.15	0.22	150℃	GS
 B	MMG150D170B6TC	1700	150	2.15	0.14	150℃	GD
	MMG200D170B6TC	1700	200	2.20	0.10	150℃	GD
	MMG300D170B6TC	1700	300	2.15	0.085	150℃	GD
 X	MMG300WB170B6TC	1700	300	2.15	0.09	150℃	GWB
	MMG450WB170B6TC	1700	450	2.00	0.053	150℃	GWB
	MMG75W170HX6TC	1700	75	2.15	0.30	150℃	GW
	MMG100W170HX6TC	1700	100	2.20	0.20	150℃	GW
 HX	MMG150W170HX6TC	1700	150	2.20	0.17	150℃	GW
	M6i						
	MMG600WB170B6T6	1700	600	1.70	0.039	150℃	GWB

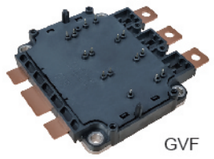

GV


GVB

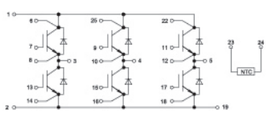
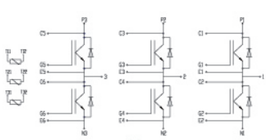

GVC

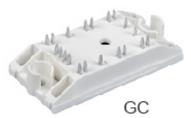

GVD


GVE

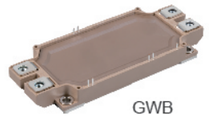

GVF

IGBT MODULES FOR ELECTRIC VEHICLES

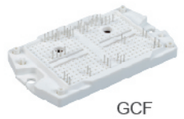
Circuit	Part Number	V_{CES} min. (V)	I_C (A)	$V_{CE(sat)}$ typ. (V)	R_{thJC} max. (K/W)	T_{jmax}	Package Outline
 B	MMG450WB120B6TC	1200	450	1.85	0.065	150℃	GWB
	MMG600WB120B6T6_W11	1200	600	1.70	0.051	150℃	GWB
	MMG800WB120B6T7_W11	1200	800	1.80	0.04	175℃	GWB
	MMG280VD075X6T7	750	280	1.38	0.252	175℃	GVD
	MMG400VD075X6T7C-12	750	400	1.40	0.146	150℃	GVD
	MMG400VB075X6TC	750	400	1.21	0.107	150℃	GVB
 X	MMG400VC075X6TC	750	400	1.21	0.14	150℃	GVC
	MMG600V075X6T7	750	600	1.10	0.16	175℃	GV
	MMG820V075X6T7	750	820	1.10	0.12	175℃	GV
	MMG950V075X6T7	750	950	1.15	0.10	175℃	GV
	MMG600V120X6T7	1200	600	1.38	0.10	175℃	GV
 X	MMG770VE075X6T7	750	770	1.20	0.16	175℃	GVE
	MMG880VE075X6T7	750	880	1.00	0.14	175℃	GVE
	MMG500VF075X6T7	750	500	1.28	0.33	175℃	GVF


GC


GB


GWB


GWQ

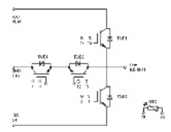
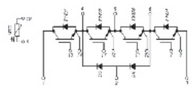
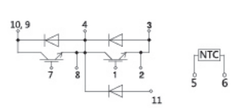
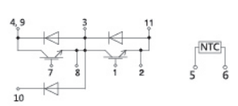

GCF


GCE


GD


GEB

IGBT MODULES FOR RENEWABLE ENERGY

Circuit	Part Number	V_{CES} min. (V)	I_C (A)	$V_{CE(sat)}$ typ. (V)	R_{thJC} max. (K/W)	T_{jmax}	Package Outline
 BF	MMG80C120BF_Y1	1200	80	1.90	0.50	150℃	GC
	MMG150B065PD6TC	650	150	1.55	0.34	150℃	GB
	MMG500W120PD6T7	1200	500	1.67	0.107	175℃	GW
	MMG500W120PD6T7H	1200	500	1.67	0.107	175℃	GW
	MMG450WB120B6TC	1200	450	1.85	0.065	150℃	GWB
	MMG450WB170B6TC	1700	450	2.00	0.053	150℃	GWB
 PD	MMG600WB120B6T6	1200	600	1.70	0.051	150℃	GWB
	MMG600WB170B6T6	1700	600	1.70	0.039	150℃	GWB
	MMG800WB120B6T6	1200	800	1.80	0.04	150℃	GWB
	MMG800WB120B6T7_W11	1200	800	1.50	0.039	175℃	GWB
	MMG300WB120TLB6TC	1200	300	1.80	0.10	150℃	GWB
	MMG300WB120TLA6TC	1200	300	1.80	0.10	150℃	GWB
 B	MMG150CE065PD6T6	650	150	1.40	0.40	150℃	GCE
	MMG200CE065PD6T5	650	200	1.50	0.32	150℃	GCE
	MMG200CE065PD6T5S	650	200	1.50	0.32	150℃	GCE
	MMG800D120B6T7	1200	800	1.60	0.051	175℃	GD
	MMG200WQ100BT6T7H	1000	200	1.60	0.279	175℃	GWQ
 TLB	MMG450WQ120PD6T7	1200	450	1.55	0.107	175℃	GWQ
	MMG450WQ120PD6T7H	1200	450	1.60	0.107	175℃	GWQ
	MMG560WQ120BF6T7	1200	560	1.58	0.09	175℃	GWQ
	MMG560WQ120BF6T7S	1200	560	1.50	0.09	175℃	GWQ
 TLA	MMG600WQ100PD6T7	1000	600	1.80	0.097	175℃	GWQ
	MMG600WQ100PD6T7H	1000	600	1.80	0.097	175℃	GWQ
	MMG1200EB230B6T7	2300	1200	1.90	0.0185	175℃	GEB

IGBT DISCRETES

Ranges

- 650-1400V / 10-200A

Packages

- TO-247-3L, TO-247-S3L, TO-247-H3L, TO-247-4L, TO-247 Plus-3L, TO-247 Plus-4L, TO-247 Plus-C4L, TO-247 LP-4L, TOLT

Applications

- Welding Machine, Induction Cooker, Inverter
- Switching Mode Power Supply, UPS
- PV Inverter, Energy Storage

Features

- Fast Switching Speed
- High Short Circuit Capability

TO-247-3L

TO-247-4L

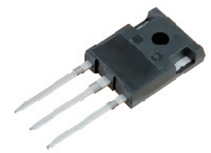
TO-247-S3L

TO-247 Plus-3L

TO-247 LP-4L

TO-247 Plus -C4L

Circuit	Part Number	V_{CES} min. (V)	I_C (A)	$V_{CE(sat)}$ typ. (V)	R_{thJC} max. (K/W)	T_{jmax}	Package Outline
	MM30G3T65B	650	30	1.66	0.59	150℃	TO-247-3L
	MM30G7U65BG	650	30	1.55	0.90	175℃	TO-247-3L
	MM30G7U65BSG	650	30	1.55	1.60	175℃	TO-247-S3L
	MM40G3U65B	650	40	1.55	0.65	150℃	TO-247-3L
	MM50GBU65B	650	50	1.50	0.42	150℃	TO-247-3L
	MM60G3U65B	650	60	1.55	0.50	150℃	TO-247-3L
	MM75G3T65B	650	75	1.45	0.24	150℃	TO-247-3L
	MM75G5T65B	650	75	1.50	0.39	150℃	TO-247-3L
	MM75G5U65BX	650	75	1.65	0.39	150℃	TO-247-3L
	MM75G5U65BKX	650	75	1.65	0.39	150℃	TO-247-4L
	MMQ75G7T65B	650	75	1.40	0.23	175℃	TO-247-3L
	MM100G5T65B	650	100	1.50	0.29	150℃	TO-247-3L



TO-247-H3L

TO-247 Plus-4L

TOLT

Circuit	Part Number	V_{CES} min. (V)	I_C (A)	$V_{CE(sat)}$ typ. (V)	R_{thJC} max. (K/W)	T_{jmax}	Package Outline
	MM120G3T65BM	650	120	1.60	0.20	150℃	TO-247 Plus-3L
	MM150G7U65ZA	650	150	1.40	0.21	175℃	TO-247 Plus-C4L
	MM50G7U75BK	750	50	1.45	0.46	175℃	TO-247 LP-4L
	MM75G7U75BK	750	75	1.45	0.34	175℃	TO-247 LP-4L
	MM100G7U75BK	750	100	1.45	0.27	175℃	TO-247 LP-4L
	MM120G7U75ZA	750	120	1.45	0.23	175℃	TO-247 Plus-4L
	MM160G7U75ZA	750	160	1.45	0.19	175℃	TO-247 Plus-4L
	MM200G7U75ZA	750	200	1.45	0.149	175℃	TO-247 Plus-4L
	MM10G3T120B	1200	10	1.85	1.20	150℃	TO-247-3L
	MM15G3T120B	1200	15	1.85	0.75	150℃	TO-247-3L
	MM25G3T120B	1200	25	1.80	0.39	150℃	TO-247-3L
	MM15G3T120T	1200	15	1.85	0.50	150℃	TOLT
	MM25G7T120T	1200	25	1.55	0.60	175℃	TOLT
	MM25G3U120BX	1200	25	2.15	0.46	150℃	TO-247-3L
	MM40G3T120B	1200	40	1.90	0.35	150℃	TO-247-3L
	MM40G3U120BX	1200	40	1.90	0.33	150℃	TO-247-3L
	MM40G5U120BX	1200	40	1.70	0.38	150℃	TO-247-3L
	MM40G7U120B	1200	40	1.50	0.34	175℃	TO-247-3L
	MM40G7U120BK	1200	40	1.50	0.34	175℃	TO-247 LP-4L
	MM50G3T120BM	1200	50	1.80	0.28	150℃	TO-247 Plus-3L
	MM50G3U120BMX	1200	50	1.95	0.28	150℃	TO-247 Plus-3L
	MMQ50G7T120BHG	1200	50	1.52	0.23	175℃	TO-247-H3L
	MM75G5U120BM	1200	75	1.70	0.28	150℃	TO-247 Plus-3L
	MM75G5U120BKM	1200	75	1.70	0.28	150℃	TO-247 Plus-4L
	MM100G7U120BKM	1200	100	1.50	0.18	175℃	TO-247 Plus-4L
	MM100G7U120ZA	1200	100	1.50	0.18	175℃	TO-247 Plus-C4L
	MM140G7U120ZA	1200	140	1.60	0.14	175℃	TO-247 Plus-C4L
	MM140G7U120BKM	1200	140	1.60	0.14	175℃	TO-247 Plus-4L
	MM140G8U140ZA	1400	140	1.60	0.135	175℃	TO-247 Plus-4L

SiC MODULES


NV


NCB

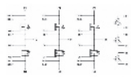
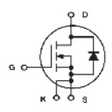

NCE

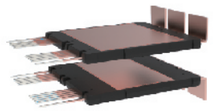

NJ

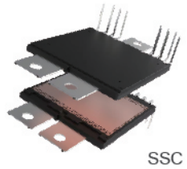

ND

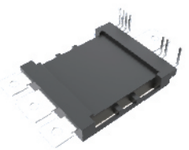

NS

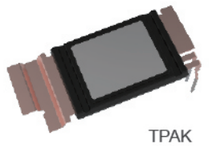
SiC MOSFET MODULES

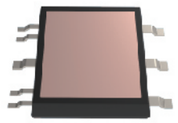
Circuit	Part Number	V_{DSS} (V)	I_D (A)	$R_{DS(on)}$ (mΩ)	R_{thJF}/R_{thJC} (K/W)	T_{jmax}	Package Outline
 BA	MMN02V120X6BS	1200	439	2	0.118	175℃	NV
	MMN01V120X6BS	1200	540	1	0.105	175℃	NV
	MMN15S120BC2P6NA	1200	80	15	0.467	175℃	NS
	MMN15S120BC2P6NA-H	1200	75	15	0.66	175℃	NS
 X	MMN7CB120BA6BS	1200	100	7	0.32	175℃	NCB
	MMN7CB120BA4P6NA	1200	100	7	0.36	175℃	NCB
 U	MMN4CE120BA4P6BS	1200	200	4	0.32	175℃	NCE
	MMN13J120U6NA	1200	108	13	0.565	175℃	NJ
 B	MMN08D120BC4P6NA	1200	120	8	0.27	175℃	ND
	MMN07D170BC3P6BS_F	1700	135	7	0.175	175℃	ND


DSC

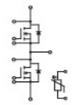
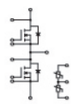
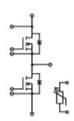
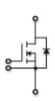
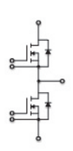

SSC


SDC


TPAK


SMIT

TRANSFER-MOLDED SiC MODULES

Circuit	Part Number	V_{DSS} (V)	I_D (A)	$R_{DS(on)}$ (mΩ)	R_{thJF}/R_{thJC} (K/W)	T_{jmax}	Package Outline
	CC002HB12C5C1-E3000	1200	1000	1.6	0.068	175℃	DSC
	CC001HB12C1P1-R4000	1200	1200	1.4	0.061	175℃	SSC
	CC002HB12C3P1-B2000	1200	480	2.1	0.0904	175℃	SDC
	CC010ST12F1C1-F1000	1200	200	2.2	0.10	175℃	Tpak
	CC008ST12F1C1-F1000	1200	250	8	0.095	175℃	Tpak
	CC060HB12S1C1-F1000	1200	25	60	0.50	175℃	SMIT
	CC035HB12S1C1-F1000	1200	40	35	0.27	175℃	SMIT

Note: Transfer-Molded SiC Modules by Core Energy

SiC DISCRETES

TO-247-2L

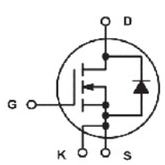
TO-247-4L

TO-263-7L

SiC SBD DISCRETES

Circuit	Part Number	V_{RRM} (V)	$I_{F(AV)}$ (A)	V_F (V)	I_{FSM} (A)	T_{jmax}	Qualification	Package Outline
	MM20S120B	1200	20	1.40	180	175℃	Industrial	TO-247-2L
	MM20SH120B	1200	20	1.44	180	175℃	Industrial	TO-247-2L
	MM40S120B	1200	40	1.40	360	175℃	Industrial	TO-247-2L
	MM40SH120B	1200	40	1.41	400	175℃	Industrial	TO-247-2L

SiC MOSFET DISCRETES

Circuit	Part Number	V_{DSS} (V)	I_D (A)	$R_{DS(on)}$ (mΩ)	Q_q (nC)	T_{jmax}	Qualification	Package Outline
	MML30N3S120BK	1200	65	30	102	175℃	Industrial	TO-247-4L
	MMQ30N3S120BK	1200	65	30	102	175℃	Automotive	TO-247-4L
	MMQ13N3S120BK	1200	149	13	185	175℃	Automotive	TO-247-4L
	MML13N3S120BK	1200	149	13	185	175℃	Industrial	TO-247-4L
	MMQ30N3S120SJ	1200	75	30	102	175℃	Automotive	TO-263-7L
	MML30N3S120SJ	1200	75	30	102	175℃	Industrial	TO-263-7L

GaN HEMT POWER DEVICES

Ranges

- 100-650V / 2.3-90mΩ

Packages

- QFN, TOLL, TOLT, WLCSP

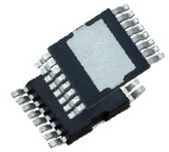
Applications

- Server Power Supply, Electric Vehicle, Inverter
- Humanoid Robot, Drone

Features

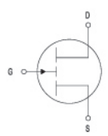
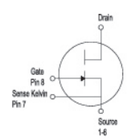
- Ultra High Switching Frequency
- No Reverse-recovery Charge
- Low Gate Charge, Low Output Charge

TOLL



TOLT

WLCSP

Circuit	Part Number	Configuration	V_{DS} max (V)	$R_{DS(on)}$ typ (mΩ)	$R_{DS(on)}$ max (mΩ)	Qoss (nC)	ID max (A)	ID pulse max (A)	Package Outline
	ASL025HG65TL	Single	650	20	25	220	72	130	TOLL
	ASL030HG65TL	Single	650	27	30	225	60	100	TOLL
	ASL050HG65TL	Single	650	45	50	150	40	70	TOLL
	ASL060HG65TL	Single	650	60	70	60	32	50	TOLL
	ASL075HG65TL	Single	650	75	90	50	24	32	TOLL
	ASL010HG10WB	Single	100	8	10	48	16	130	WLCSP 4.15x6.8
	ASL007HG10WB	Single	100	5.5	7	25	19	137	WLCSP 2.5x1.5
	ASL004H2G10WB	Single	100	3.1	4	27	29	165	WLCSP 2.5x1.5
	ASL002H2G10QX	Single	100	1.7	2.3	71	58	453	QFN 5x3

FRD MODULES

Ranges
- 200-1200V / 120-800A

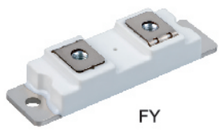
Circuit Configuration
- Non-insulated Common-Cathode Circuit
- Insulated Common-Cathode Circuit
- Insulated Common-Anode Circuit
- Insulated Half Bridge Circuit

Packages
- FD, FJ, FN, FS, FY, FYB, FZ

Features
- Short Recovery Time
- Soft-Recovery Characteristics
- Low Reverse Recovery Charge
- Low Forward Voltage
- High Avalanche Energy
- Stressless Package

Applications
- Welding Machine
- SMPS, UPS
- Inverter, Chopper
- PFC


FZ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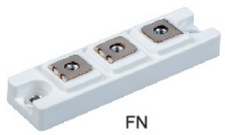
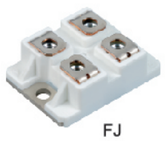
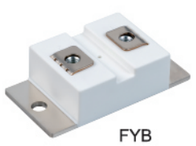
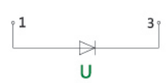

FN


FJ


FYB


FS


FD

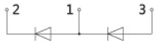
Circuit	Part Number	V_{RRM} (V)	$I_{F(AV)}$ (A)	I_{FSM} (A)	V_{FM} @ I_{FM} (V)	I_{FM} (A)	t_{rr} (ns)	R_{thJC} (K/W)	Package Outline
 DK1 (Non-insulated)	MMF200ZB040DK1	400	2×100	1250	1.00	100	70	0.20	FZ
	MMF200ZB040DK1C	400	2×100	1000	1.10	100	75	0.22	FZ
	MMF200ZB040DK1D	400	2×100	700	1.25	100	49	0.37	FZ
	MMF800Y020DK1	200	2×400	3000	1.00	400	165	0.08	FY
	MMF200Y040DK1	400	2×100	1250	1.00	100	70	0.10	FY
	MMF300Y040DK1B	400	2×150	1900	1.20	150	65	0.10	FY
	MMF400Y040DK1	400	2×200	2550	1.20	200	75	0.08	FY
	MMF400Y040DK1B	400	2×200	2550	1.20	200	75	0.08	FY
	MMF200Y060DK1	600	2×100	1200	1.20	100	91	0.20	FY
	MMF300Y060DK1	600	2×150	2500	1.20	150	100	0.08	FY
 U	MMF300YB050U	500	300	3800	1.20	300	160	0.11	FYB
	MMF300YB070U	700	300	3800	1.38	300	121	0.12	FYB
	MMF600S060U	600	600	4800	1.15	600	175	0.075	FS
	MMF300S120U	1200	300	2500	2.75	300	150	0.14	FS
 U	MMF400S120U	1200	400	3200	3.00	400	180	0.11	FS
	MMF600S120U	1200	600	4800	2.80	600	200	0.10	FS
	MMF400D120U	1200	400	3600	2.10	400	190	0.085	FD

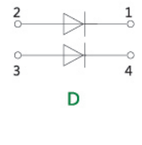
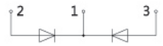

FJ


FN


FS


FD

Circuit	Part Number	V_{RRM} (V)	$I_{F(AV)}$ (A)	I_{FSM} (A)	V_{FM} @ I_{FM} (V)	I_{FM} (A)	t_{rr} (ns)	R_{thJC} (K/W)	Package Outline
 B	MMF200S060B	600	2×200	2000	1.15	200	140	0.18	FS
	MMF300S060B	600	2×300	3000	1.15	300	150	0.14	FS
	MMF150S120B	1200	2×150	1500	1.60	150	145	0.22	FS
	MMF200S120B	1200	2×200	1800	2.30	200	110	0.22	FS
	MMF300S120B	1200	2×300	2700	2.80	300	135	0.14	FS
 DK	MMF300N060DK6B	600	2×150	1410	1.25	150	95	0.34	FN
	MMF200N120DK	1200	2×100	1100	1.77	100	150	0.44	FN
	MMF150S060DK	600	2×150	1500	1.15	150	130	0.22	FS
	MMF200S060DK	600	2×200	2000	1.15	200	140	0.18	FS
	MMF300S060DK	600	2×300	3000	1.15	300	150	0.14	FS
	MMF150S120DK	1200	2×150	1500	1.60	150	145	0.22	FS
	MMF200S120DK	1200	2×200	1800	2.30	200	110	0.22	FS
 DA	MMF300N060DA6B	600	2×150	1400	1.15	150	130	0.36	FN
	MMF200N120DA	1200	2×100	1100	1.77	100	150	0.44	FN
	MMF200N070DA	700	2×100	1200	1.20	100	140	0.34	FN
	MMF150S060DA	600	2×150	1500	1.15	150	130	0.22	FS
	MMF200S060DA	600	2×200	2000	1.15	200	140	0.18	FS
	MMF300S060DA	600	2×300	3000	1.15	300	150	0.14	FS
	MMF150S120DA	1200	2×150	1500	1.60	150	145	0.22	FS

Circuit	Part Number	V_{RRM} (V)	$I_{F(AV)}$ (A)	I_{FSM} (A)	V_{FM} @ I_{FM} (V)	I_{FM} (A)	t_{rr} (ns)	R_{thJC} (K/W)	Package Outline
 D	MMF2X100J040D	400	2×100	1100	1.20	100	62	0.34	FJ
	MMF2X100J060D	600	2×100	1500	1.35	100	95	0.30	FJ
	MMF2X60J120D	1200	2×60	500	1.80	60	135	0.65	FJ
	MMF2X100J120D	1200	2×60	1400	2.15	100	125	0.40	FJ
 DK2B	MMF400N020DK2B	200	2×200	2000	0.90	200	135	0.34	FN
	MMF400S040DK2B	400	2×400	2800	1.60	400	110	0.10	FS
	MMF150S060DK2B	600	2×150	1500	1.25	150	95	0.30	FS
	MMF200S060DK2B	600	2×200	2000	1.15	200	140	0.18	FS
	MMF300S060DK2B	600	2×300	3000	1.10	300	165	0.15	FS
	MMF200S120DK2B	1200	2×200	1800	2.30	200	110	0.22	FS
 DA2B	MMF200S060DA2B	600	2×200	2000	1.15	200	140	0.18	FS
	MMF300S120DA2B	1200	2×300	2700	2.80	300	135	0.14	FS
	MMF300S060DA2B	600	2×300	3000	1.10	300	165	0.15	FS
 B2B	MMF150S120B2B	1200	2×150	1500	1.60	150	145	0.22	FS
	MMF300S120B2B	1200	2×300	2700	2.80	300	135	0.14	FS

FRD DISCRETES

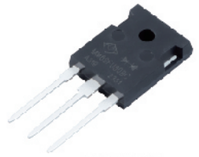
Ranges
- 300-1700V / 8-100A

Applications
- Welding Machine
- SMPS, UPS
- Home Appliances
- Charging Pile

Packages
- TO-220, TO-220F
- TO-247, TO-3P

Features
- Short Recovery Time
- Soft-Recovery Characteristics
- Low Reverse Recovery Charge
- Low Leakage Current
- High Avalanche Energy

TO-220(A/B/C)

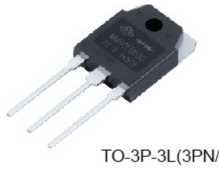


TO-247-3L

TO-3P-2L(3PN/3PB)

TO-220F

TO-247-2L



TO-3P-3L(3PN/3PB)

C

U

Circuit	Part Number	V_{RRM} (V)	$I_{F(AV)}$ (A)	V_F (V)	t_{rr} (ns)	R_{thJC} max. (K/W)	Package Outline
	MM60FU030PC	300	60	1.25	22	0.80	TO-3PN-3L
	MM60F040B	400	60	1.15	35	0.48	TO-247-2L
	MM80FU040PC	400	80	1.30	22	0.80	TO-3PN-3L
	MM30F060PC	600	30	1.41	21	0.80	TO-3PN-3L
	MM60F060PC	600	60	1.50	30	0.80	TO-3PB-3L
	MM60F060P	600	60	1.30	40	0.50	TO-3PB-2L
	MM60F060B	600	60	1.30	27	0.50	TO-247-2L
	MM30FU60K	600	30	2.00	20	0.80	TO-220C-2L
	MM75F60B	600	75	1.35	31	0.38	TO-247-2L
	MM75FU60B	600	75	2.00	25	0.38	TO-247-2L
	MM75FH60B	600	75	1.88	25	0.38	TO-247-2L
	MM75FU60B2	600	75	1.88	25	0.38	TO-247-2L
	MM30F060B	600	30	1.50	30	0.80	TO-247-2L
	MM60FU060B	600	60	2.00	25	0.50	TO-247-2L
	MM30FU060K1	600	30	2.00	20	1.50	TO-220F-2L
	MM30FU60KS	600	30	2.00	20	0.80	TO-220C-2L
	MM60FU60BC	600	60	2.00	20	0.80	TO-247-3L
	MM8FU060K	600	8	1.80	17	2.50	TO-220C-2L
	MM30FU60PC	600	30	2.00	18	1.30	TO-3PN-3L
	MM30FU060B	600	30	2.00	20	0.80	TO-247-2L
	MM15F060K1	600	15	1.30	30	2.00	TO-220F-2L
	MM15F060K	600	15	1.30	30	1.50	TO-220C-2L
	MM15FU60K	600	15	2.00	18	1.30	TO-220
	MM100F60B	600	100	1.55	50	0.26	TO-247-2L
	MM100FH60B	600	100	1.60	25	0.26	TO-247-2L
	MM15F70K	700	15	1.30	21	1.50	TO-220C-2L
	MM16F70KC	700	16	1.30	19	2.50	TO-220C-3L
	MM8F70K	700	8	1.30	19	2.50	TO-220C-2L
	MM30FC100B	1000	30	2.50	25	0.80	TO-247-2L
	MM60FC100B	1000	60	2.50	30	0.40	TO-247-2L
	MM15FU120K	1200	15	2.60	25	1.50	TO-220
	MM30FU120B	1200	30	2.90	26	0.80	TO-247-2L
	MM8FU120K	1200	8	2.80	20	2.00	TO-220
	MM30FU120K	1200	30	2.90	26	0.80	TO-220
	MM60F120B	1200	60	2.10	40	0.40	TO-247-2L
	MM60FU120B	1200	60	2.80	30	0.40	TO-247-2L
	MM30FC120B	1200	30	2.80	26	0.80	TO-247-2L
	MM60FC120B	1200	60	2.80	31	0.40	TO-247-2L
	MM75F170B	1700	75	2.00	0	0.24	TO-247-2L

RECTIFIER DIODE MODULES

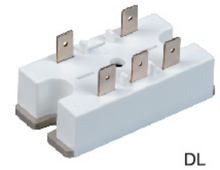
Ranges
- 1600-2000V / 50-300A

Circuit Configurations
- Three Phase Rectifier Bridge Circuit
- Half Bridge Circuit
- Common-Cathode Circuit
- Single Circuit

Applications
- Inverter
- Switching Mode Power Supply
- Welding Machine
- Medical Power Supply

Packages
- DA, DAB, DE, DEB, DF, DFB, DL, DS

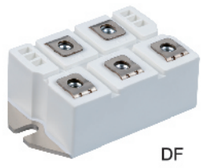
Features
- Compact Structure
- High Current Capability
- High Blocking Voltage
- High Reliability
- High Performance Price Ratio


DL


DE


DEB

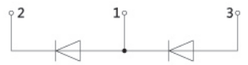

DFB


DF


DA


DAB


DS



B

U

Circuit	Part Number	V_{RRM} (V)	$I_{F(AV)}$ (A)	I_{FSM} (A)	V_{FM} @ I_{FM} (V)	(A)	R_{thJC} (K/W)	Package Outline
	MMD110A180B	1800	110	2500	1.60	350	0.30	DA
	MMD130A160B	1600	130	3450	1.50	400	0.25	DA
	MMD130A180B	1800	130	3500	1.50	400	0.20	DA
	MMD110AB160B	1600	110	2350	1.40	300	0.30	DAB
	MMD160AB160B	1600	160	5000	1.50	500	0.18	DAB
	MMD130S160B	1600	130	3500	1.50	400	0.20	DS
	MMD160S160B	1600	160	5500	1.50	500	0.18	DS
	MMD160S180B	1800	160	5500	1.50	500	0.18	DS
	MMD180S180B	1800	180	6000	1.50	600	0.18	DS
	MMD200S180B	1800	200	6500	1.50	600	0.16	DS
	MMD240S160B	1600	240	7350	1.55	600	0.12	DS
	MMD300S160U	1600	300	9000	1.25	500	0.09	DS

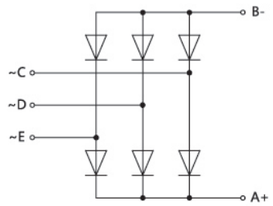

DE


DF


DEB


DFB

Circuit	Part Number	V_{RRM} (V)	$I_{F(AV)}$ (A)	I_{FSM} (A)	$V_{F(max)}$ @ I_F (V)	@ I_F (A)	R_{thJC} (K/W)	Package Outline
	MMD50L160X	1600	50	500	1.40	50	0.20	DL
	MMD70E160X MMD70E180X MMD70E200X	1600 1800 2000	70	700	1.35	70	0.18	DE
	MMD100E160X MMD100E180X MMD100E200X	1600 1800 2000	100	1000	1.35	100	0.15	DE
	MMD100F200X	2000	100	1000	1.35	100	0.15	DF
	MMD150F160X MMD150F180X	1600 1800	150	1500	1.45	150	0.11	DF
	MMD160F200X	2000	160	1600	1.50	160	0.11	DF
	MMD200F160X MMD200F180X MMD200F200X	1600 1800 2000	200	2000	1.45	200	0.09	DF
	MMD250F160X MMD250F180X	1600 1800	250	2500	1.55	250	0.08	DF
	MMD100EB160X	1600	100	1000	1.35	100	0.15	DEB
	MMD150FB160X	1600	150	1500	1.45	150	0.11	DFB
	MMD200FB160X	1600	200	2000	1.45	200	0.09	DFB
	MMD250FB160X MMD250FB180X	1600 1800	250	2500	1.55	250	0.08	DFB



X

EMERGING INDUSTRY APPLICATIONS

AI DATA CENTER POWER SUPPLY


GD


GWB


GWQ

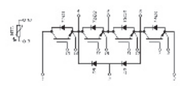

GQE

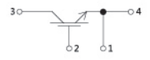

GQF

IGBT MODULES

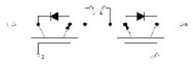
Circuit	Part Number	V_{RRM} (V)	$I_{F(AV)}$ (A)	Package Outline
	MMG300D120B6TC	1200	300	GD
	MMG300WB120B6TC	1200	300	GWB
	MMG400D120B6TC	1200	400	GD
	MMG450D120B6TC	1200	450	GD
	MMG450WQ120PD6T7	1200	450	GWQ
	MMG450WQ120PD6T7H	1200	450	GWQ
	MMG300D170B6TC	1700	300	GD
	MMG300WB170B6TC	1700	300	GWB
	MMG450WB170B6TC	1700	450	GWB
	MMG600WB170B6T6	1700	600	GWB
	MMG800QE170URB6T6	1700	800	GQE
	MMG800QF170URC6T6	1700	800	GQF

B

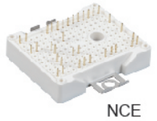

PD



UZ


URB


NCB

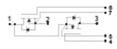

NCE


TO-247

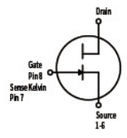

TOLL


TOLT

SiC POWER DEVICES

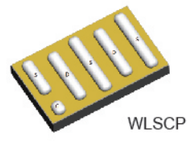
Circuit	Part Number	V_{DSS} (V)	$R_{DS(ON)}$ (mΩ)	Package Outline
 BA	MMN4CE120BA4P6BS	1200	4	NCE
 B	MMN07D170BC3P6BS_F	1700	7	ND
	MML13N3S120BK	1200	13	TO-247-4L

GAN HEMT POWER DEVICES

Circuit	Part Number	V_{DSS} (V)	$R_{DS(ON)}$ (mΩ)	Package Outline
	ASL025HG65TL	650	25	TOLL
	ASL030HG65TL	650	30	TOLL
	ASL050HG65TL	650	50	TOLL

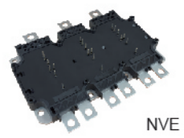
HUMANOID ROBOTS

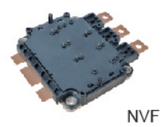

TOLL

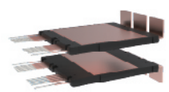

WLSCP

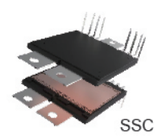
Type	Technology	Configuration	Package	V_{DS} max (V)	$R_{DS(on)}$ typ (mΩ)	$R_{DS(on)}$ max (mΩ)	Qoss (nC)	ID max (A)	ID pulse max (A)
ASL010HG10WB	Gen 1	Single	WLCSP 4.15X6.8	100	8	10	48	16	130
ASL007HG10WB	Gen 1	Single	WLCSP 2.5X1.5	100	5.5	7	25	19	137
ASL004H2G10WB	Gen 2	Single	WLCSP 2.5x1.5	100	3.1	4	27	29	165
ASL002H2G10QX	Gen 2	Single	QFN 5x3	100	1.7	2.3	71	58	453

LOW-ALTITUDE ECONOMY


NVE


NVF


DSC


SSC

CONTROLLED NUCLEAR FUSION


GS


GD

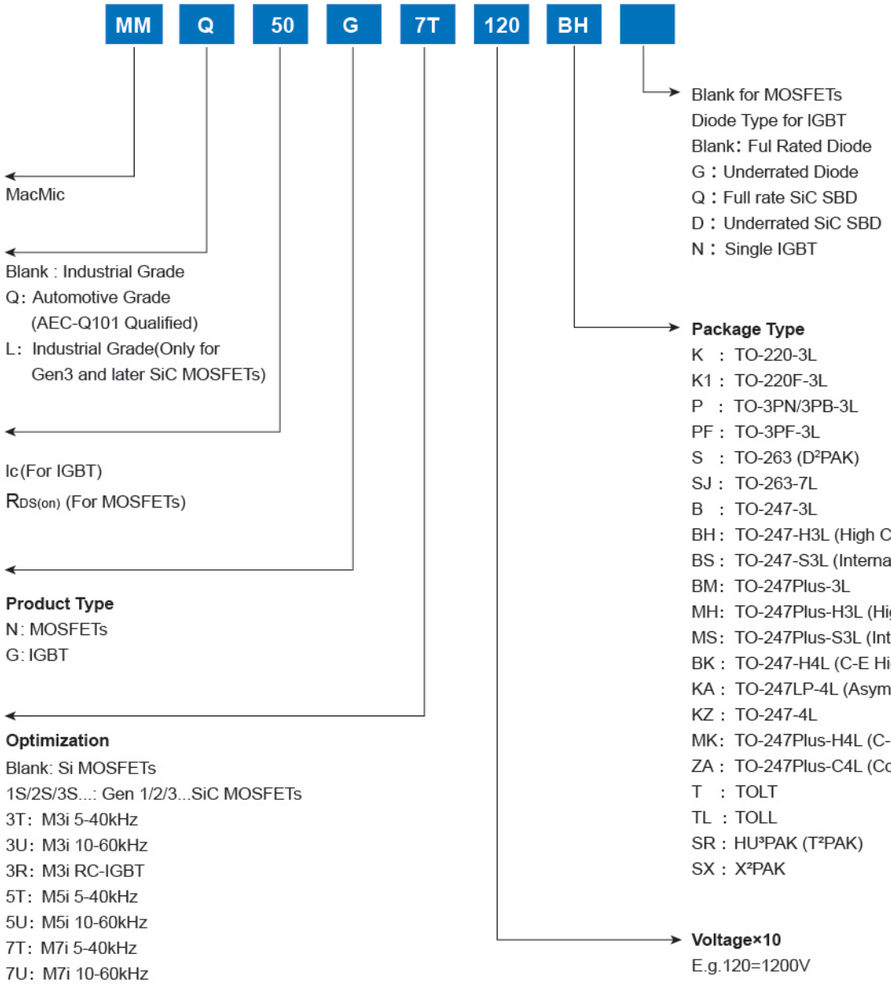

GWB / NWB


NCF

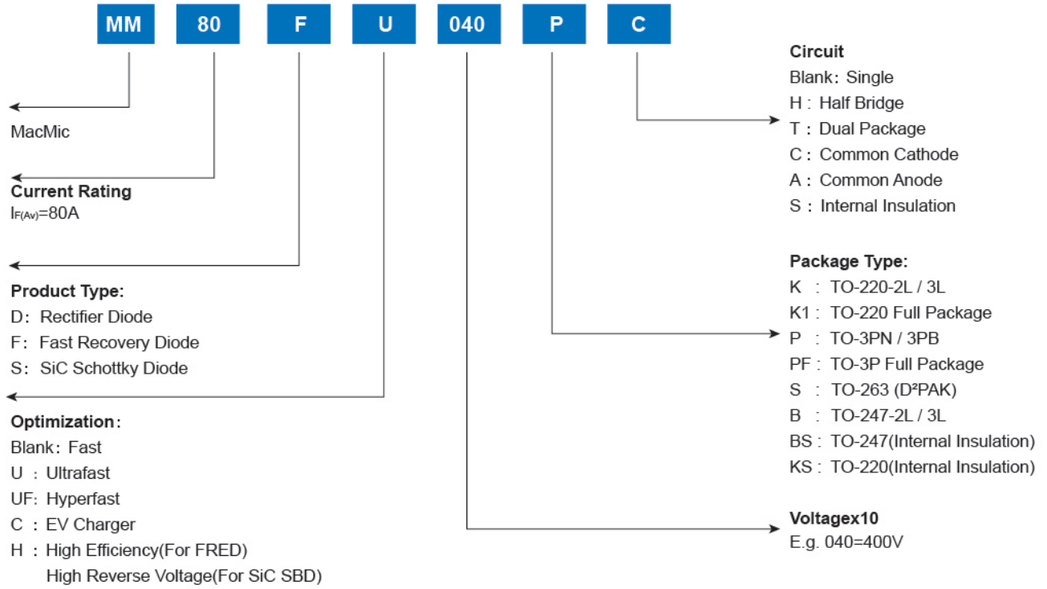

GEB

PRODUCT NAMING

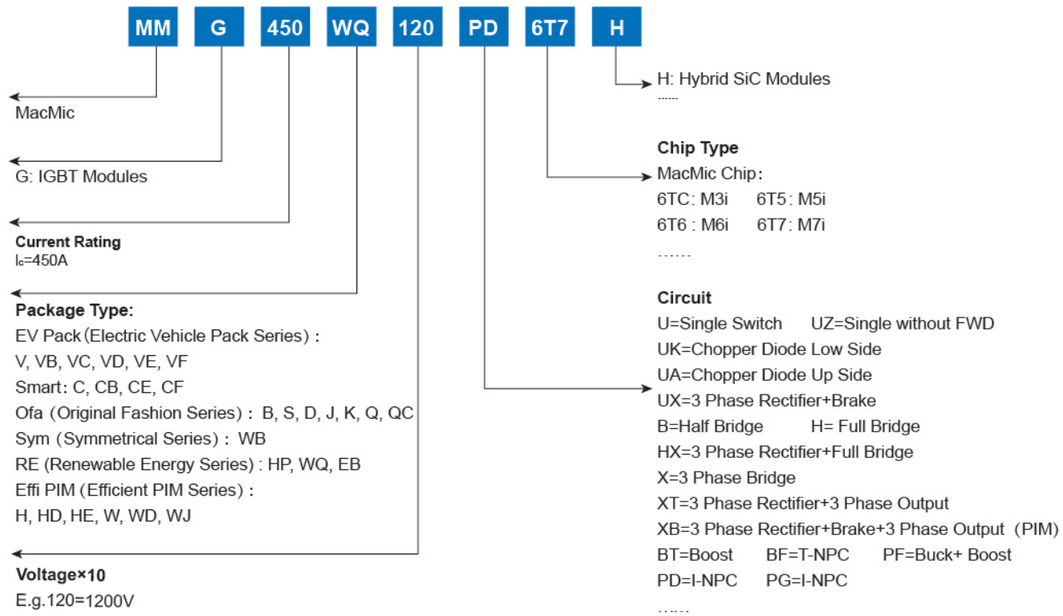
IGBT & MOSFET & SiC MOSFET DISCRETES



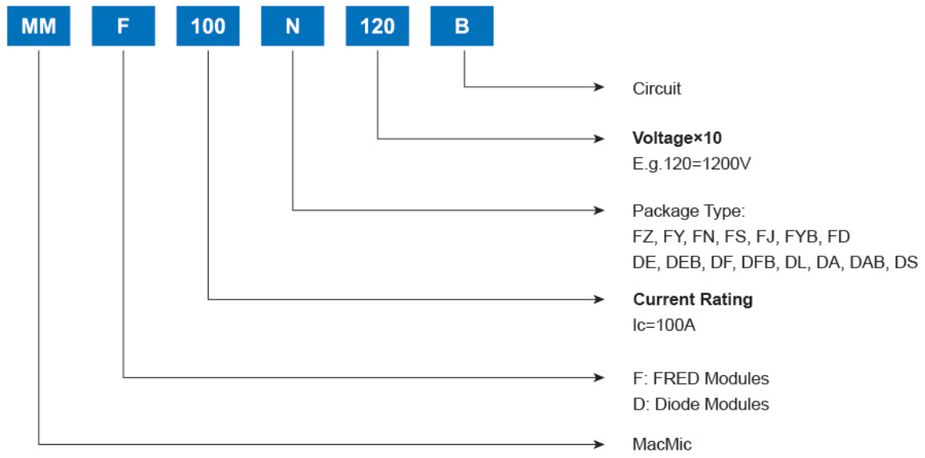
FRD & SiC SBD DISCRETES



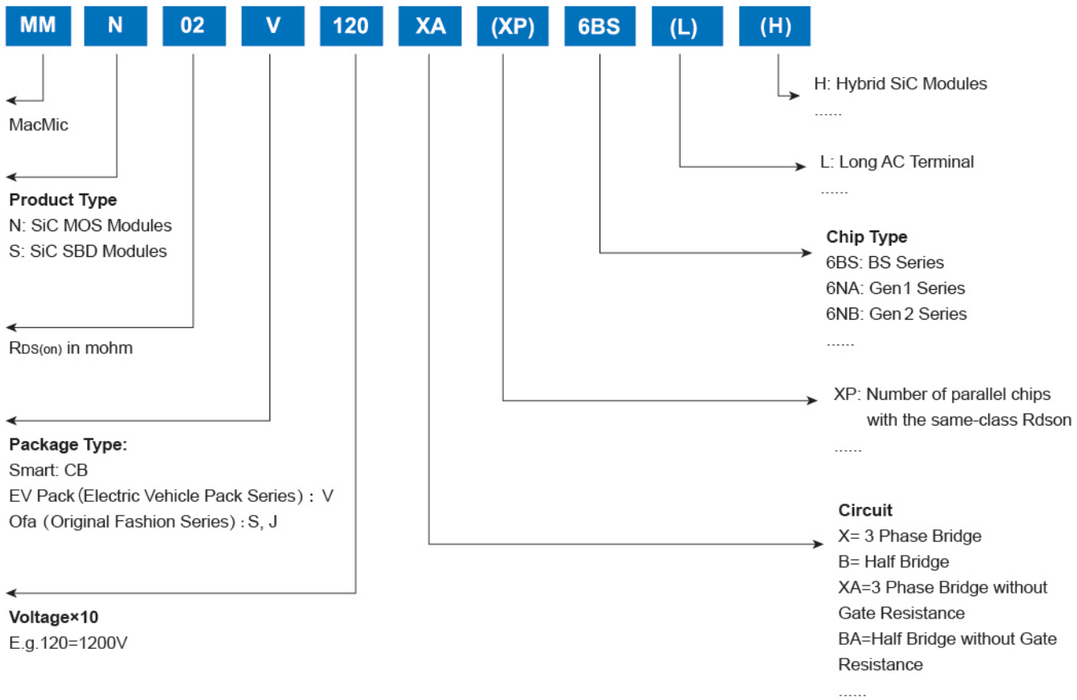
IGBT MODULES & HYBRID SiC MODULES



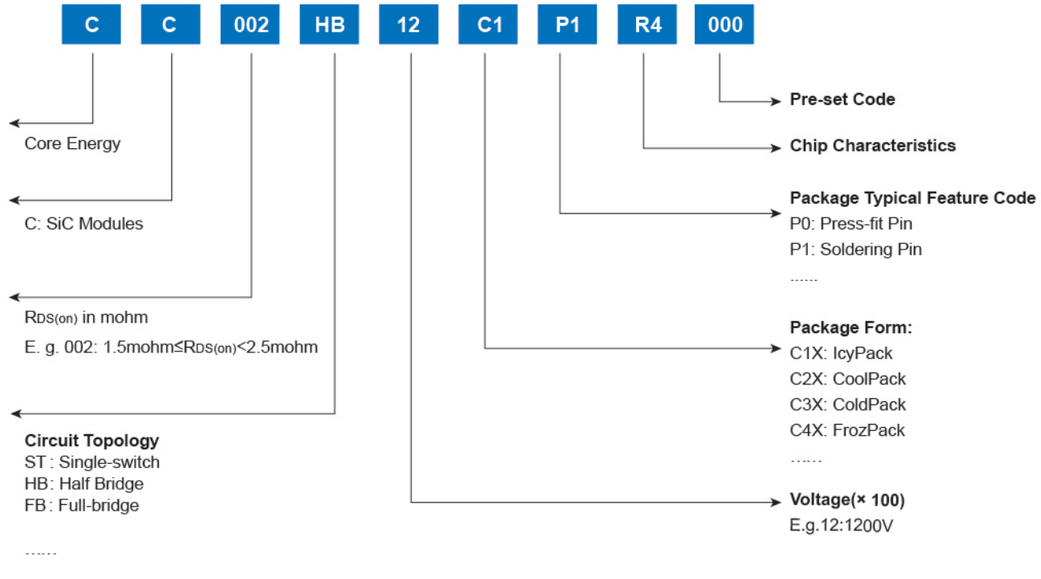
FRD MODULES / RECTIFIER DIODE MODULES / THREE-PHASE RECTIFIER BRIDGE MODULES



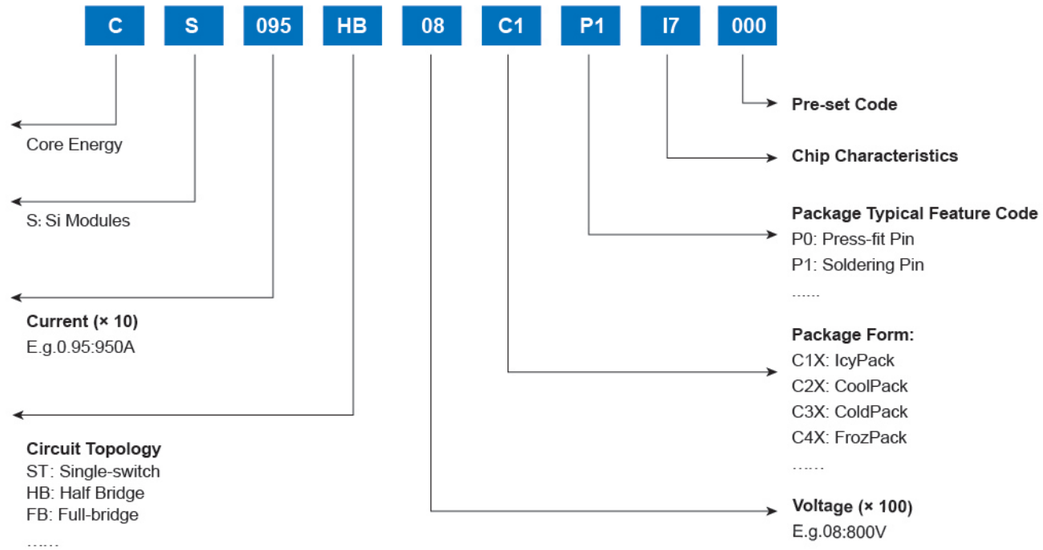
SiC MOSFET MODULES



TRANSFER-MOLDED SiC MODULES



TRANSFER-MOLDED IGBT MODULES



GaN HEMT POWER DEVICES

AS **L** **008** **H** **2G** **10** **TL** **C**

Ai Semiconductor

Q: Automotive Grade
(AEC-Q101 Qualified)
L: Industrial Grade

$R_{DS(on)}$=8mΩ

H : HEMT

Optimization
G : GEN1
2G: GEN2
.....

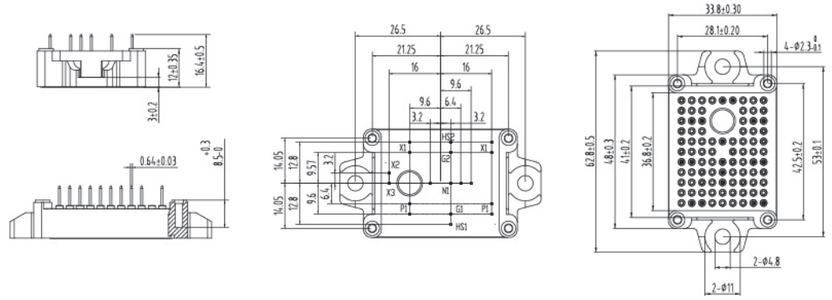
Voltage×10
E.g.10=100V

Package Type
T : TOLT
TL : TOLL
SR : HU³PAK(T²PAK)
SX : X²PAK
Q : QDPAK
QX : QFN-different size
DX : DFN-different size
WA : WLCSP-Solder Ball
WB : WLCSP-Solider Bar
LA : LGA

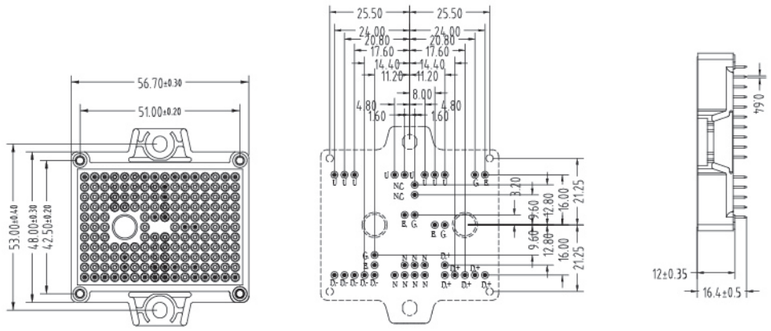
C : Drive IC

OUTLINE DRAWINGS

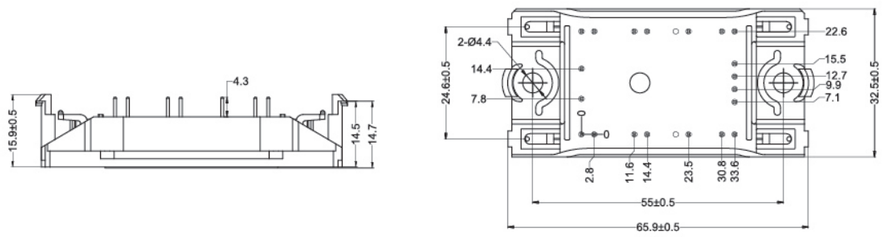
GCB



GCE

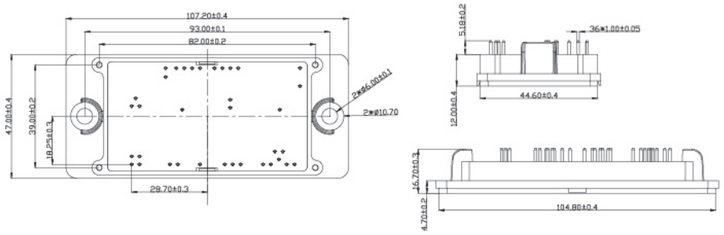


GC

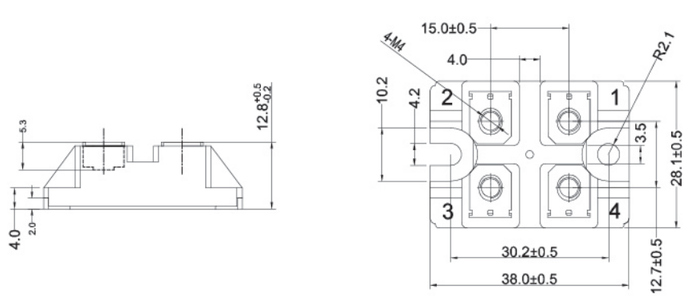


Unit:mm

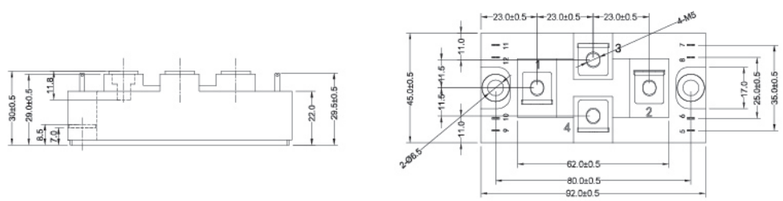
GHP



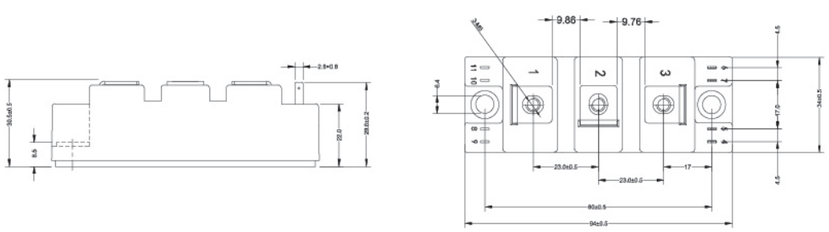
GJ / NJ / SJ



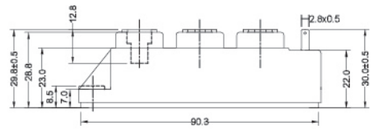
GQC

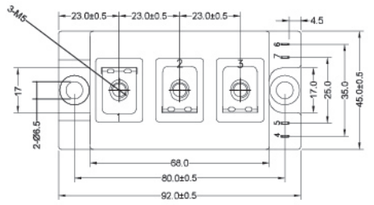


GS / NS

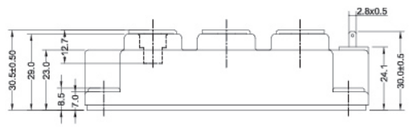


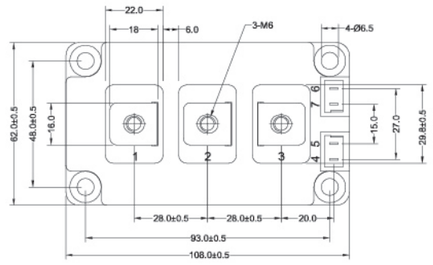
GQ



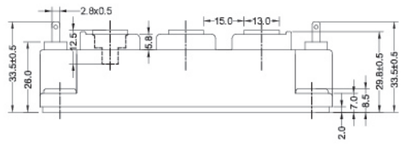


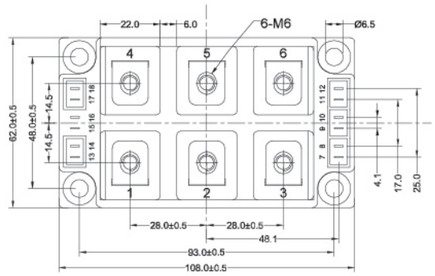
GD



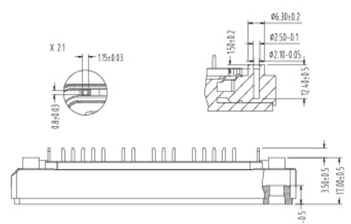


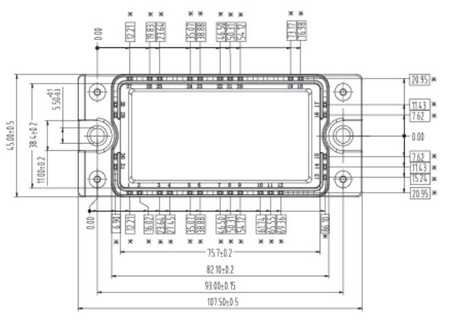
GB





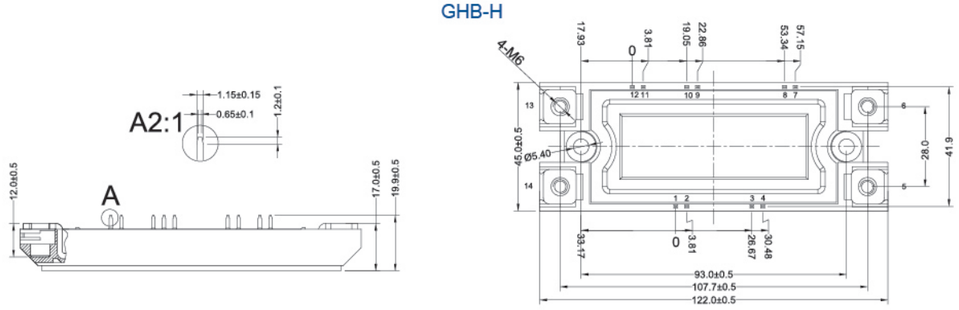
GHE



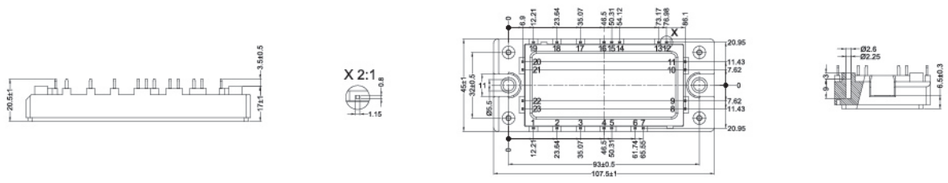


Unit:mm

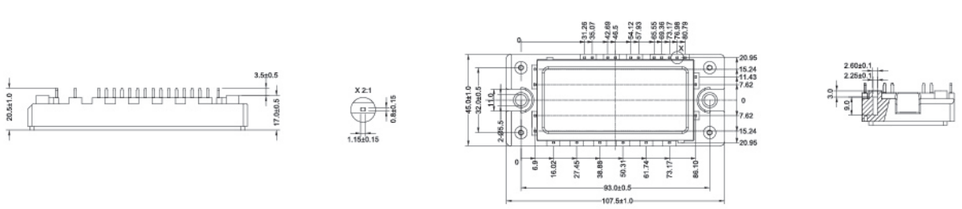
GHB-H



GHD-XB



GH-XB



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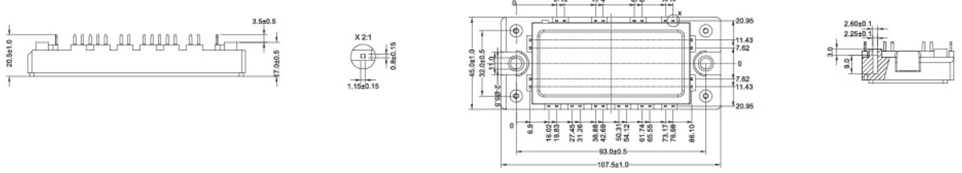

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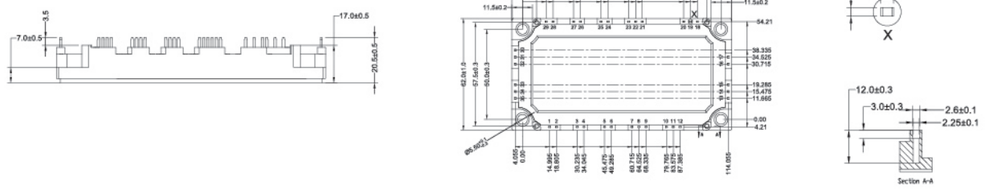

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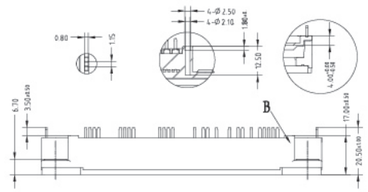

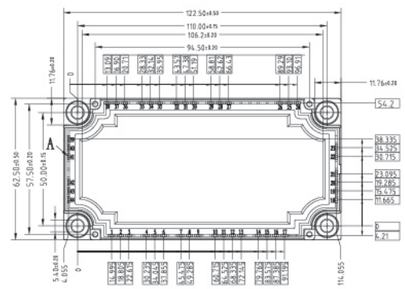

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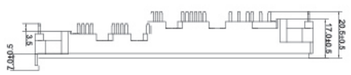

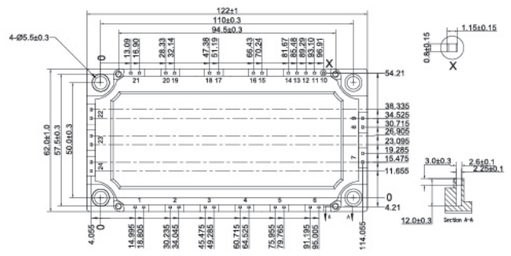

Unit:mm

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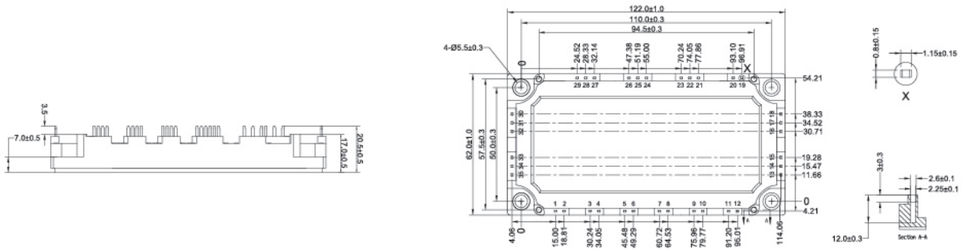

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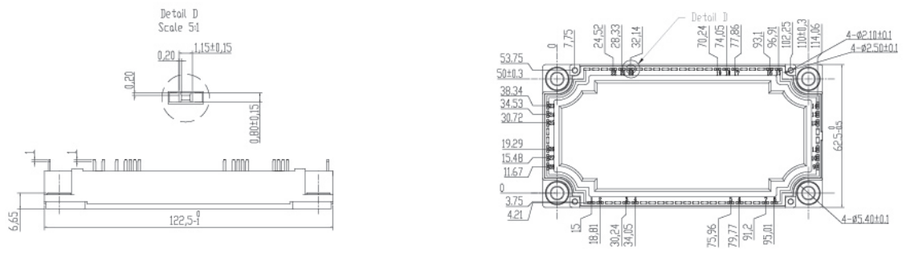
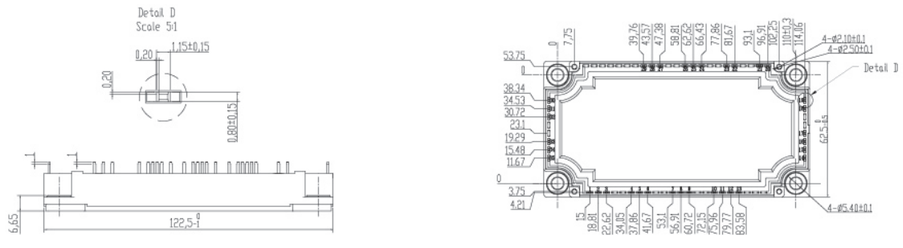


GW-HX



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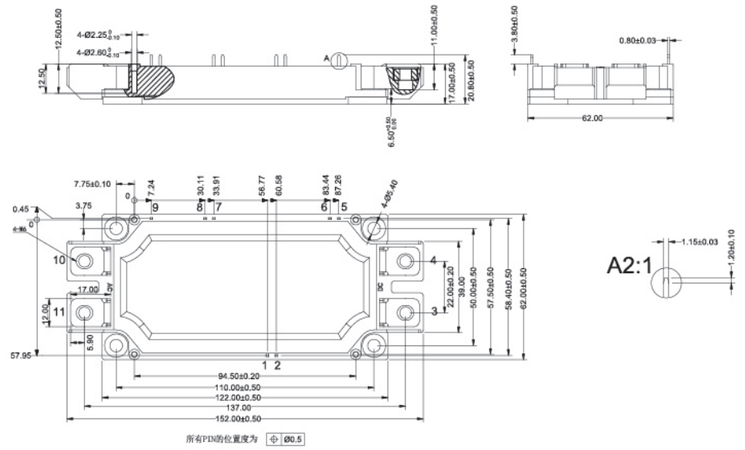

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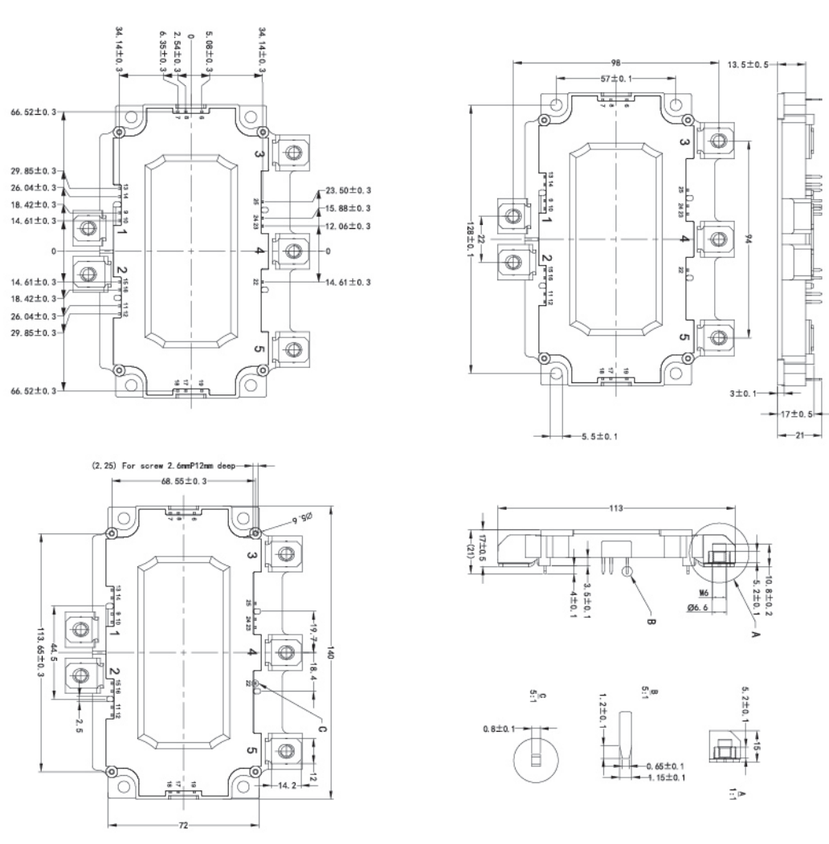

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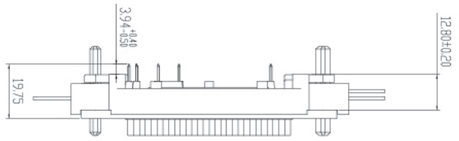

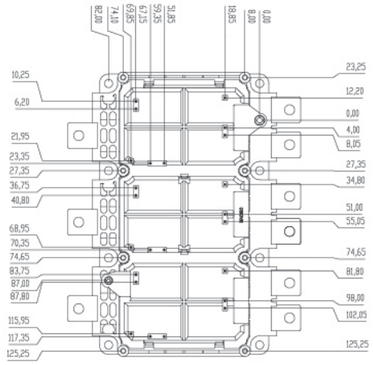

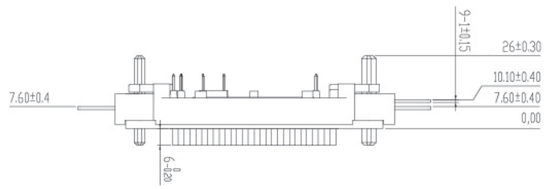

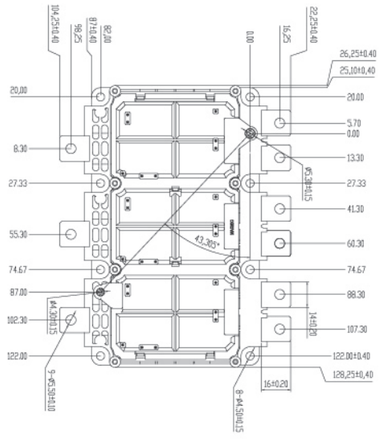

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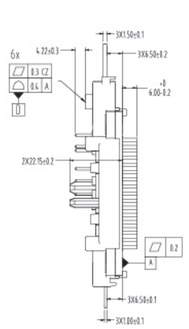

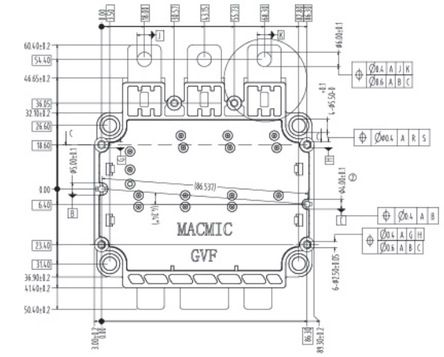

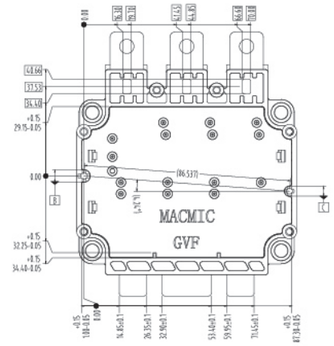

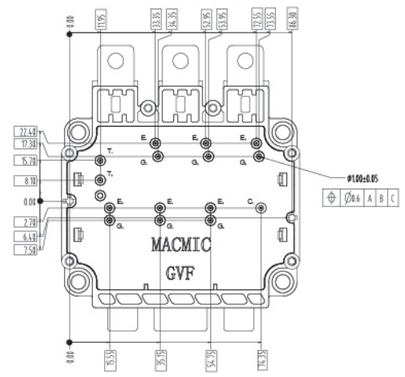

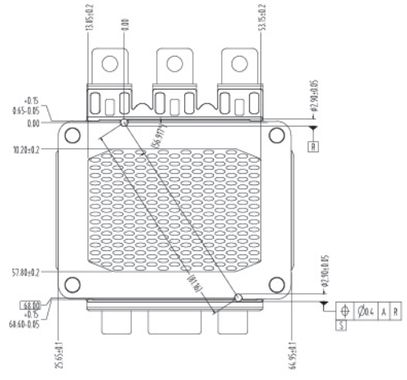

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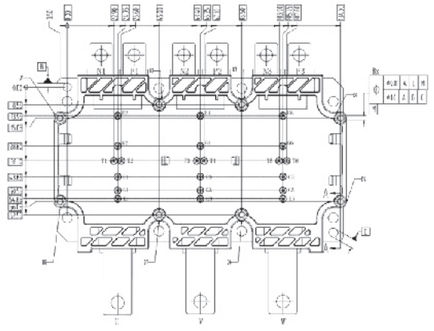

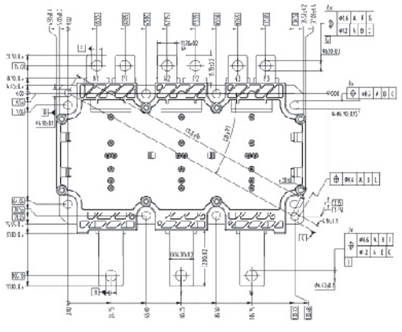

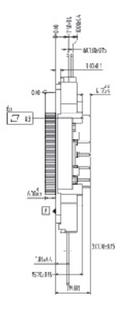

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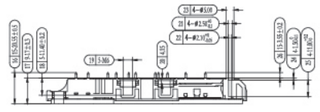

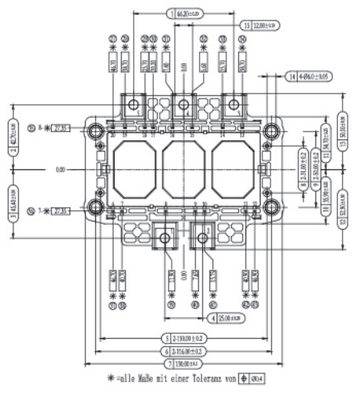

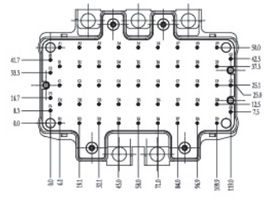

Unit:mm

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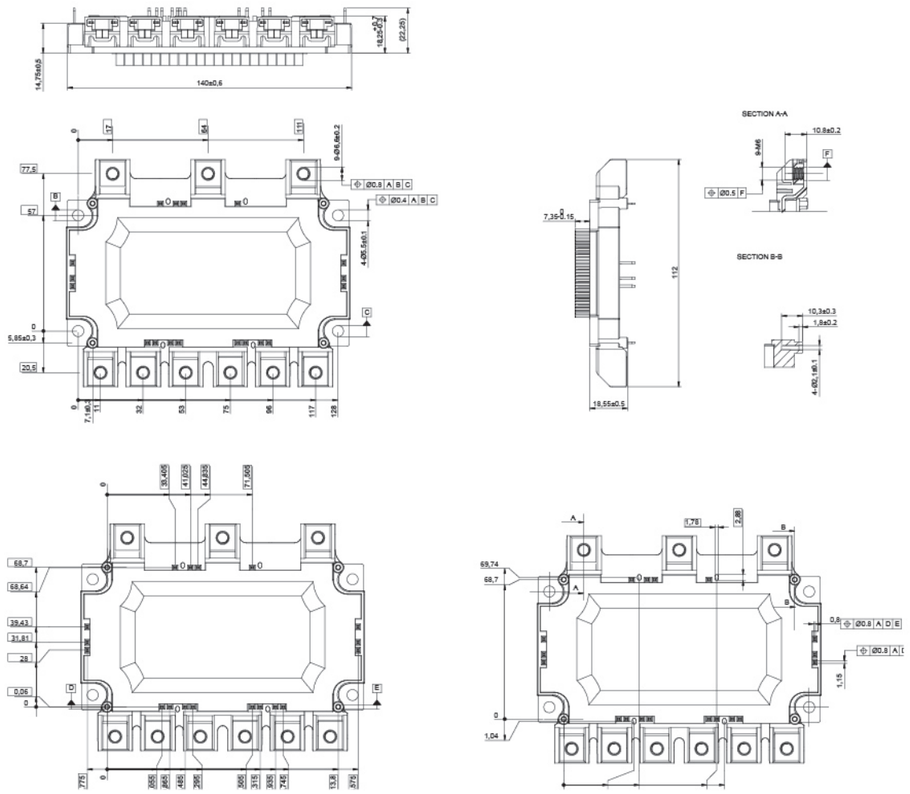

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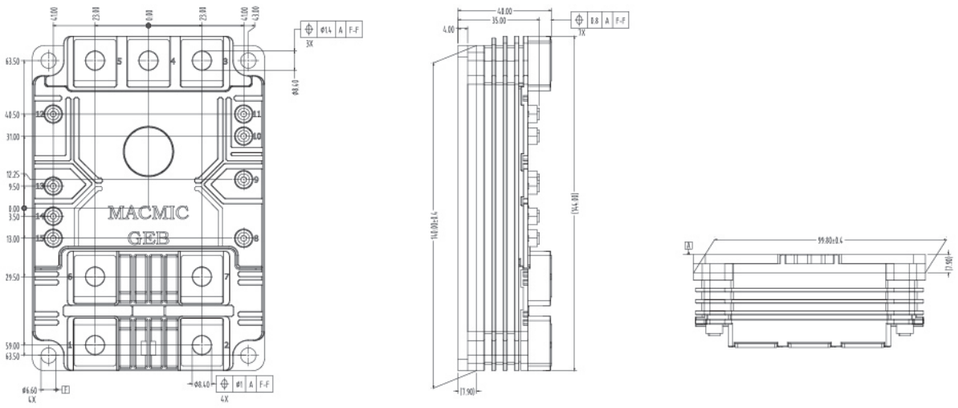

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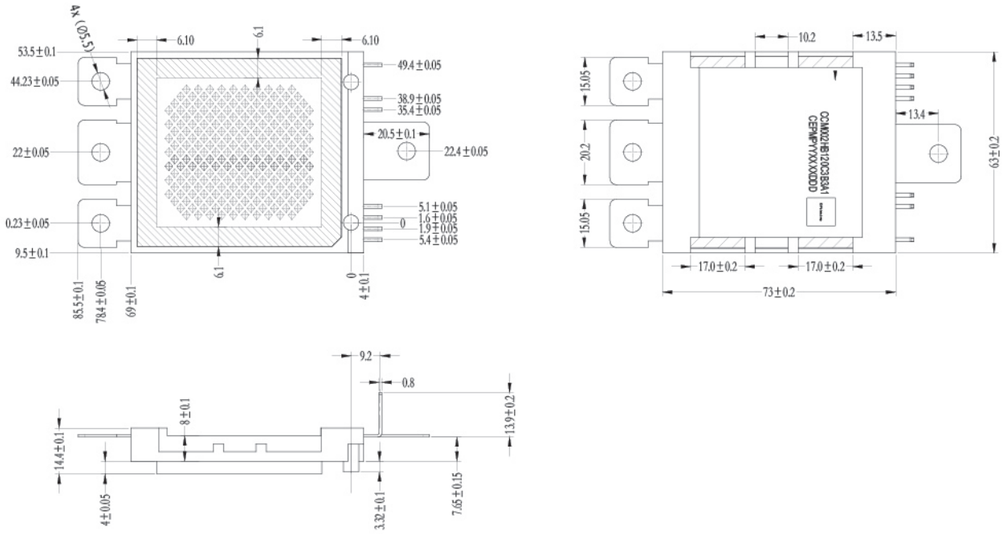

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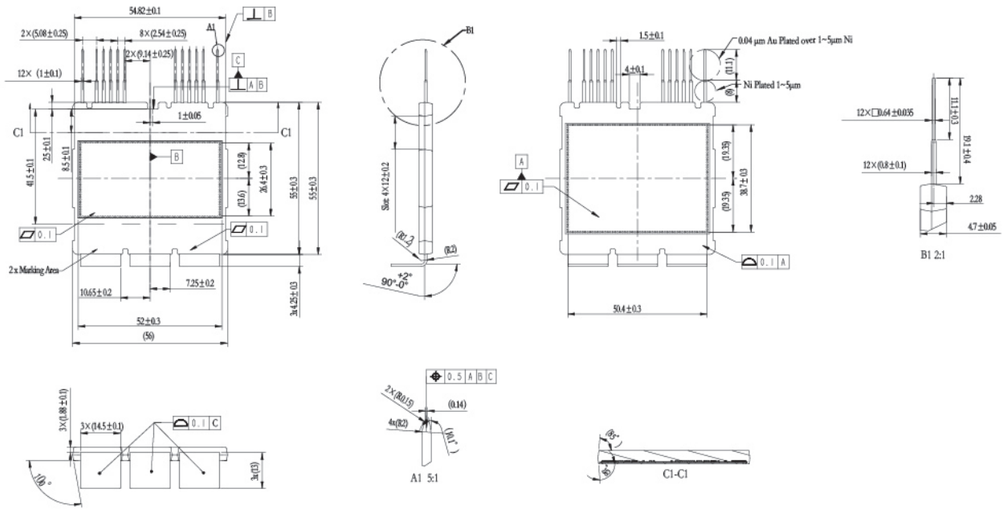

Unit:mm

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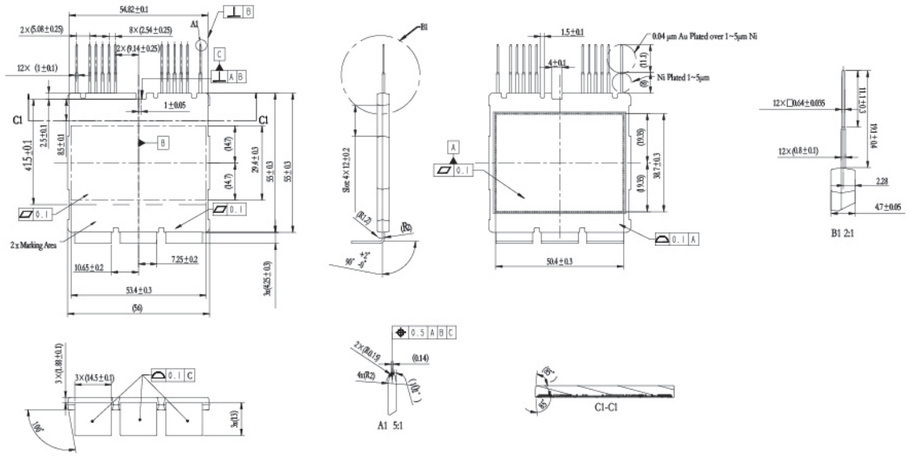
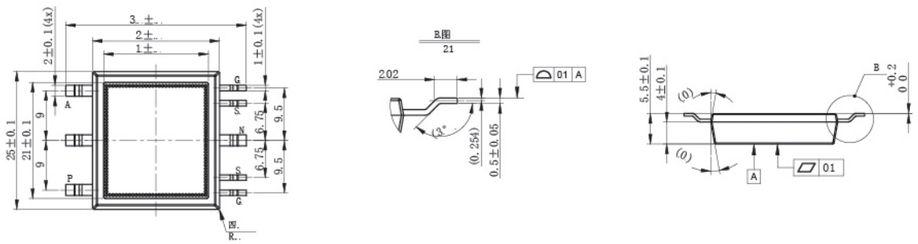


SMIT



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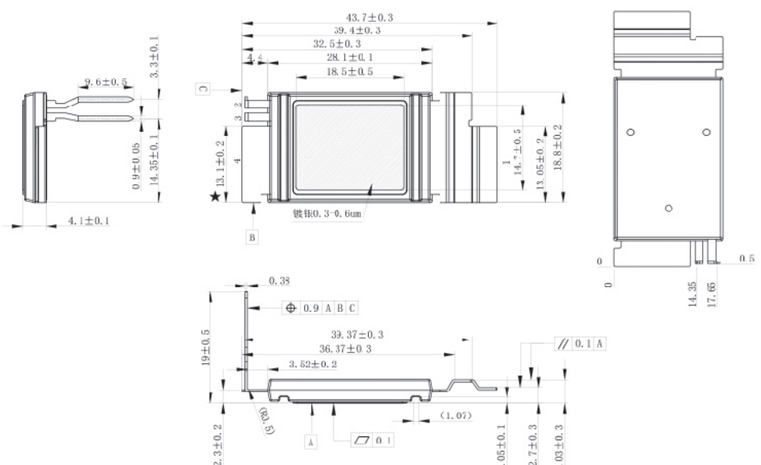

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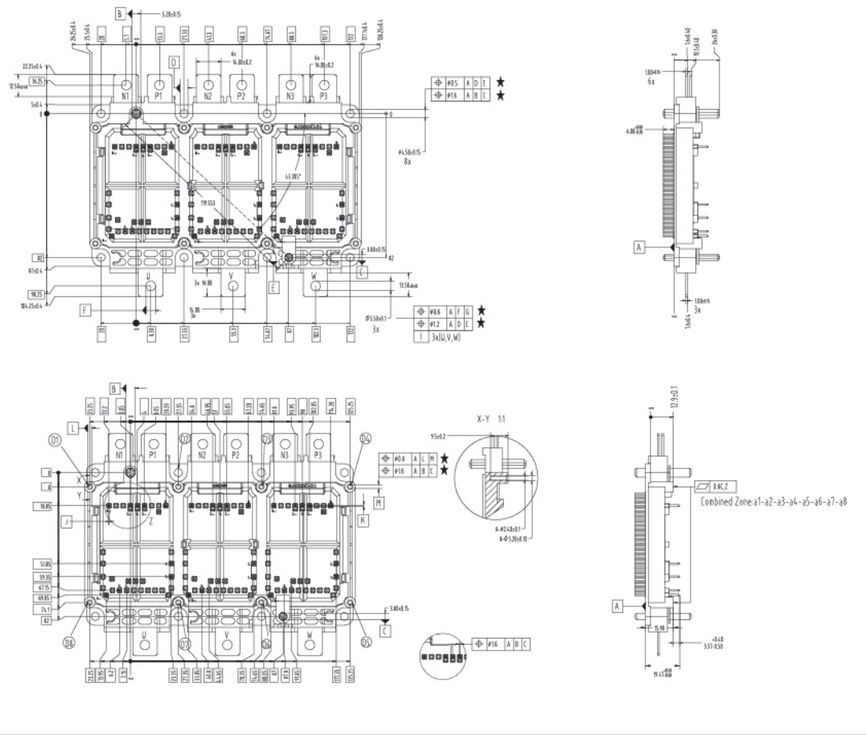
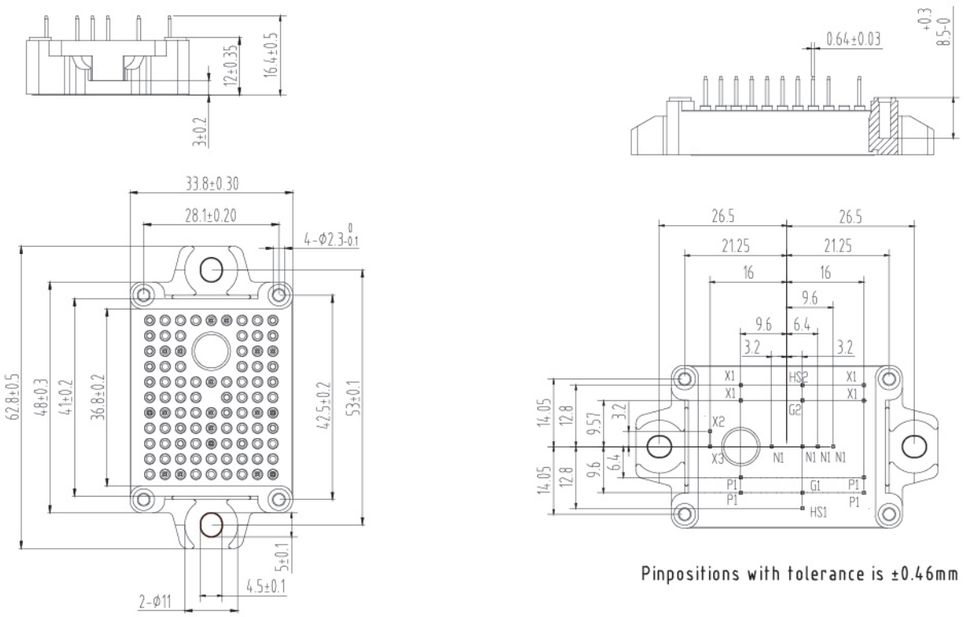


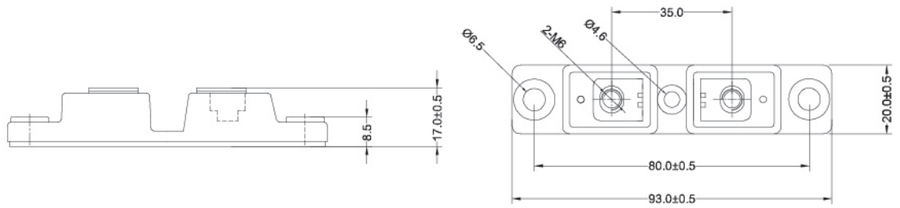
NCB



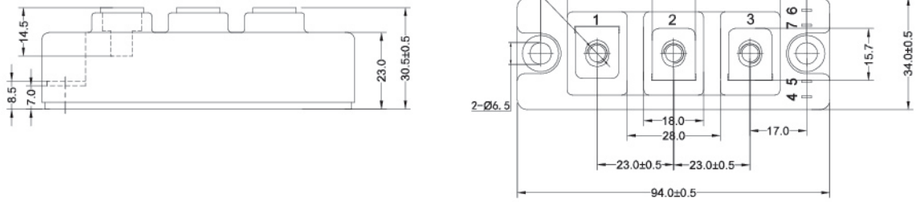
Pinpositions with tolerance is ±0.46mm

Unit:mm

FZ



FS



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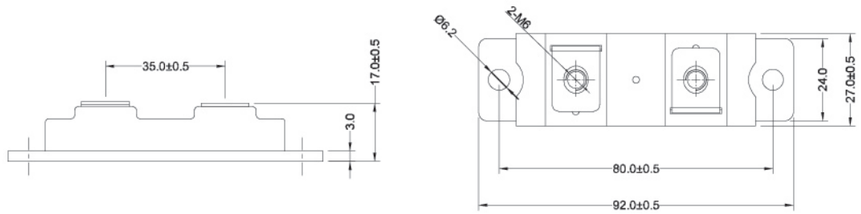

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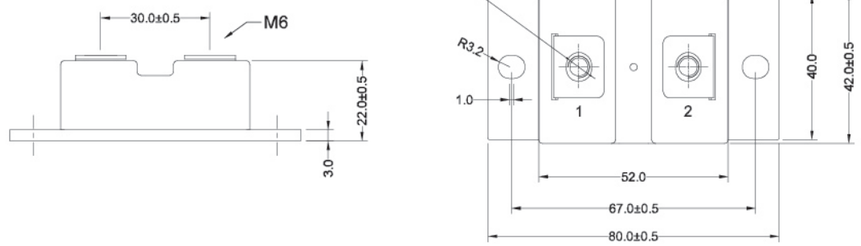

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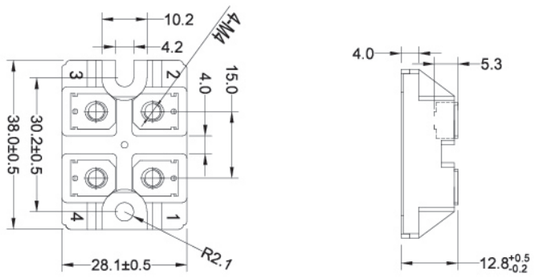

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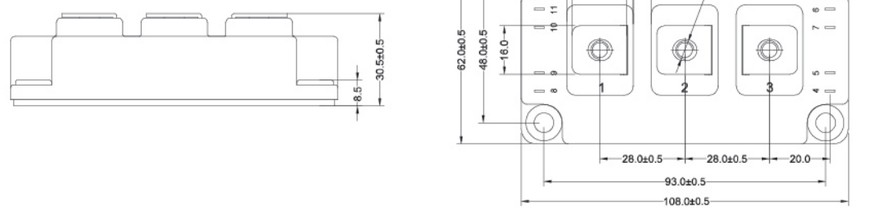

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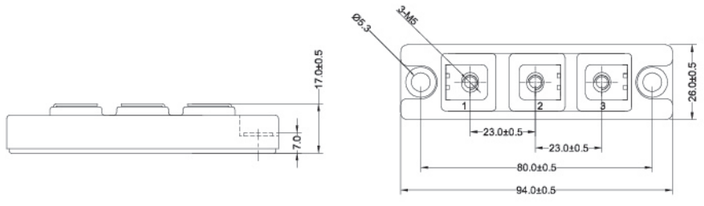

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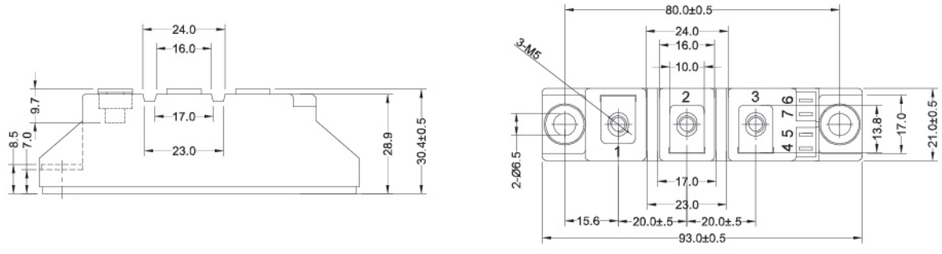

Unit:mm

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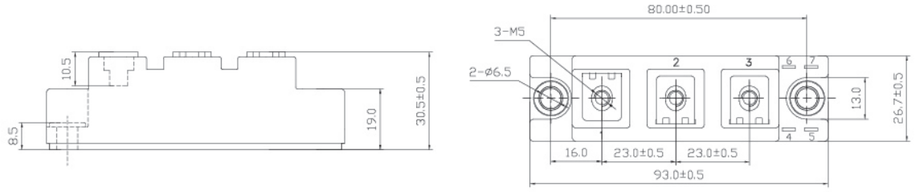

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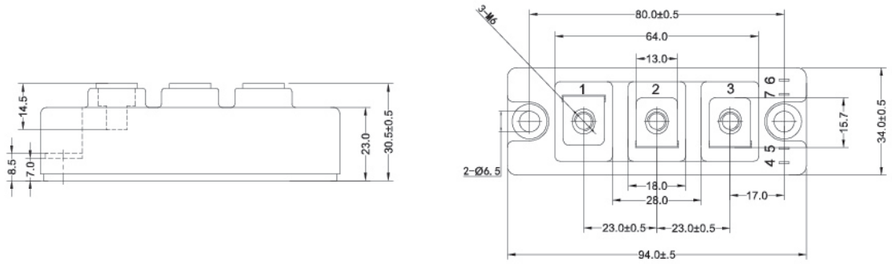

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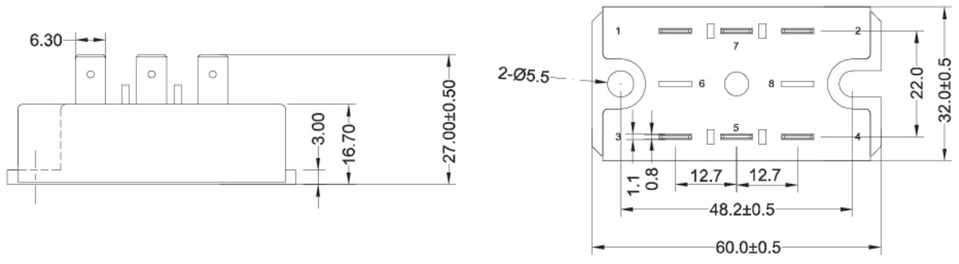

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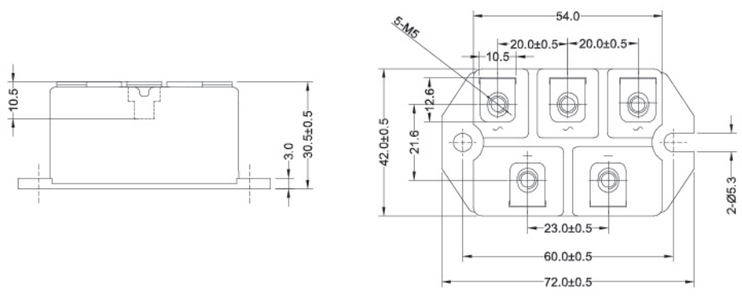

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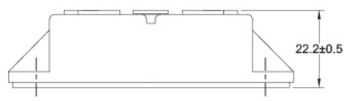

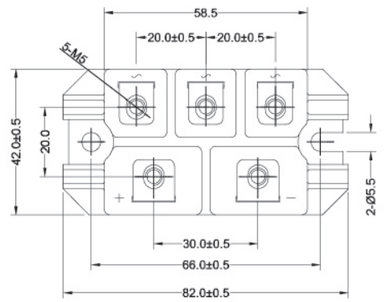

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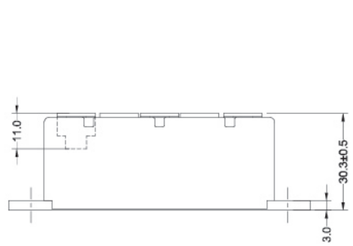

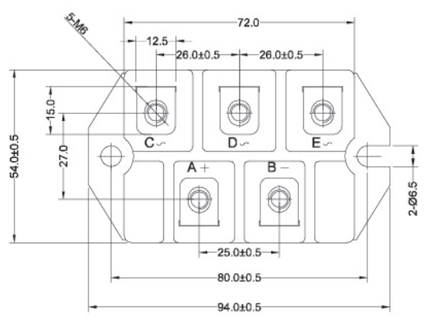

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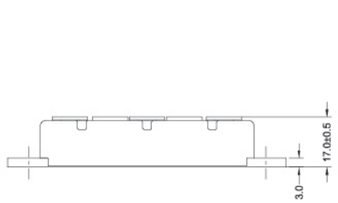
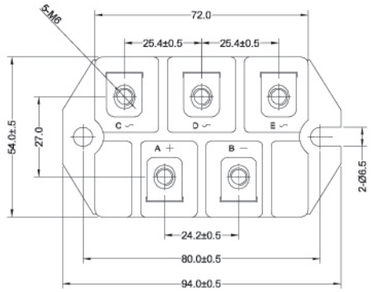
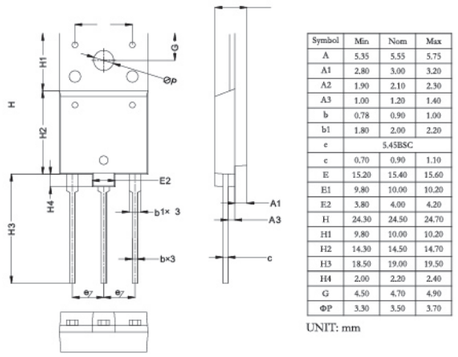




Unit:mm

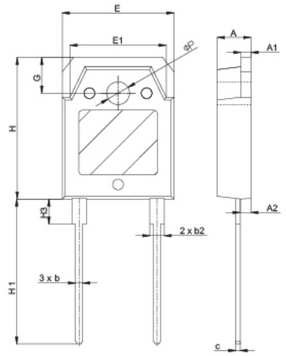
TO-3PF



Symbol	Min	Nom	Max
A	5.35	5.55	5.75
A1	2.80	3.00	3.20
A2	1.90	2.10	2.30
A3	1.00	1.20	1.40
b	0.78	0.90	1.00
b1	1.80	2.00	2.20
e		5.45BSC	
c	0.70	0.90	1.10
E	15.20	15.40	15.60
E1	9.80	10.00	10.20
E2	3.80	4.00	4.20
H	24.30	24.50	24.70
H1	9.80	10.00	10.20
H2	14.30	14.50	14.70
H3	18.50	19.00	19.50
H4	2.00	2.20	2.40
G	4.50	4.70	4.90
ΦP	3.30	3.50	3.70

UNIT: mm

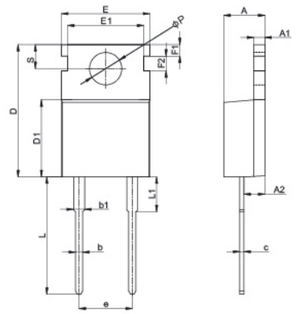
TO-3PB-2L



Symbol	Min	Nom	Max
A	4.60	4.75	4.85
A1	1.30	1.50	1.70
A2	2.20	2.40	2.60
b	0.80	1.00	1.20
b1	2.90	3.10	3.30
b2	1.80	2.00	2.20
c	0.50	0.60	0.70
e		10.90BSC	
E	15.20	15.60	16.00
E1	13.20	13.45	13.70
H	19.80	20.00	20.20
H1	19.40	19.80	20.00
H3	2.90	3.10	3.30
G	4.80	5.00	5.20
ΦP	3.00	3.20	3.40

UNIT: mm

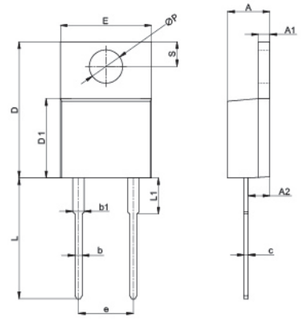
TO-220B-2L



Symbol	Min	Nom	Max
A	4.35	4.50	4.65
A1	1.25	1.30	1.35
A2	2.30	2.40	2.50
b	0.70	0.80	0.90
b1	1.17	1.27	1.37
c	0.45	0.50	0.55
e		5.08BSC	
E	9.80	9.90	10.20
E1	8.60	8.70	8.80
D	15.50	15.70	15.90
D1	9.00	9.20	9.40
L	12.80	13.10	13.40
L1	2.80	3.00	3.20
ΦP	3.50	3.60	3.70
S	2.70	2.80	2.90
F1	1.10	1.30	1.50
F2	1.50	1.70	1.90

UNIT: mm

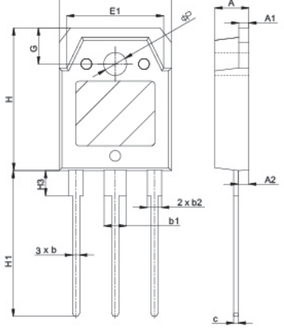
TO-220C-2L



Symbol	Min	Nom	Max
A	4.30	4.50	4.70
A1	1.20	1.30	1.40
A2	2.30	2.40	2.50
b	0.60	0.80	1.00
b1	1.10	1.30	1.50
c	0.40	0.50	0.60
e		5.08BSC	
E	9.80	10.00	10.20
D	15.50	15.70	15.90
D1	9.00	9.20	9.40
L	12.50	13.00	13.50
L1	2.80	3.00	3.20
ΦP	3.40	3.60	3.80
S	2.60	2.80	3.00

UNIT: mm

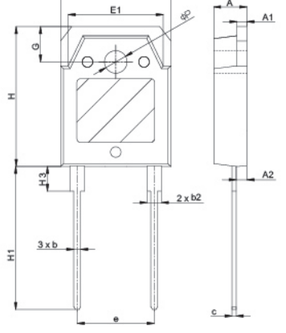
TO-3PB-3L



Symbol	Min	Nom	Max
A	4.60	4.75	4.85
A1	1.30	1.50	1.70
A2	2.20	2.40	2.60
b	0.80	1.00	1.20
b1	2.90	3.10	3.30
b2	1.80	2.00	2.20
c	0.50	0.60	0.70
e		5.45BSC	
E	15.20	15.60	16.00
E1	13.20	13.45	13.70
H	19.80	20.00	20.20
H1	19.40	19.80	20.00
H3	2.90	3.10	3.30
G	4.80	5.00	5.20
ΦP	3.00	3.20	3.40

UNIT: mm

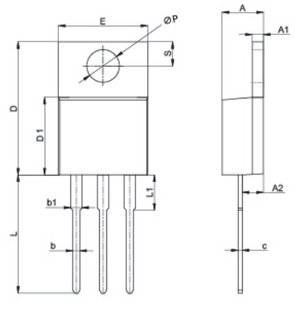
TO-3PN-2L



Symbol	Min	Nom	Max
A	4.60	4.75	4.85
A1	1.30	1.50	1.70
A2	1.20	1.40	1.60
b	0.80	1.00	1.20
b2	1.80	2.00	2.20
c	0.50	0.60	0.70
e		10.90BSC	
E	15.20	15.60	16.00
E1	13.20	13.45	13.70
H	19.20	19.70	20.20
H1	20.00	20.25	20.50
H3	3.20	3.50	3.80
G	4.80	5.00	5.20
ΦP	3.00	3.20	3.40

UNIT: mm

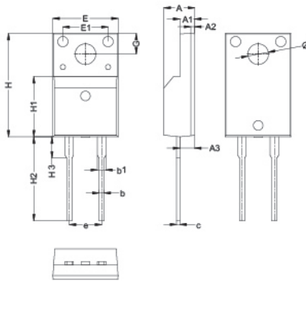
TO-220C-3L



Symbol	Min	Nom	Max
A	4.30	4.50	4.70
A1	1.20	1.30	1.40
A2	2.30	2.40	2.50
b	0.60	0.80	1.00
b1	1.10	1.30	1.50
c	0.40	0.50	0.60
e		2.54BSC	
E	9.80	10.00	10.20
D	15.50	15.70	15.90
D1	9.00	9.20	9.40
L	12.50	13.00	13.50
L1	2.80	3.00	3.20
ΦP	3.40	3.60	3.80
S	2.60	2.80	3.00

UNIT: mm

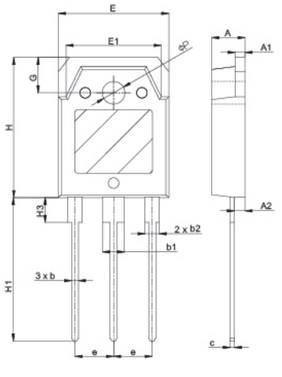
TO-220F



Symbol	Min	Nom	Max
A	4.55	4.75	4.95
A1	2.40	2.60	2.80
A2	0.40	0.60	0.80
A3	2.10	2.30	2.50
b	0.60	0.80	1.00
b1	1.10	1.30	1.50
e		5.00BSC	
c	0.42	0.50	0.58
E	9.90	10.10	10.30
E1	0.68	0.70	0.72
H	15.80	16.00	16.20
H1	9.10	9.30	9.50
H2	12.50	13.00	13.50
H3	3.10	3.30	3.50
G	3.00	3.20	3.40
ΦP	3.00	3.20	3.40

UNIT: mm

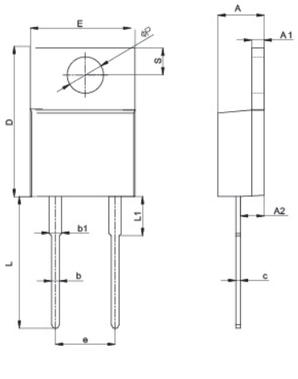
TO-3PN-3L



Symbol	Min	Nom	Max
A	4.60	4.75	4.85
A1	1.30	1.50	1.70
A2	1.20	1.40	1.60
b	0.80	1.00	1.20
b1	2.90	3.10	3.30
b2	1.80	2.00	2.20
c	0.50	0.60	0.70
e		5.45BSC	
E	15.20	15.60	16.00
E1	13.20	13.45	13.70
H	19.20	19.70	20.20
H1	20.00	20.25	20.50
H3	3.20	3.50	3.80
G	4.80	5.00	5.20
ΦP	3.00	3.20	3.40

UNIT: mm

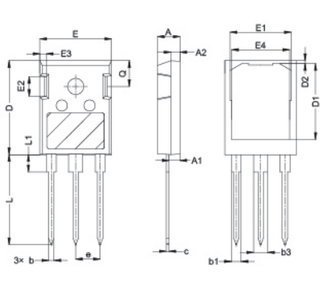
TO-220A-2L



Symbol	Min	Nom	Max
A	4.37	4.60	4.90
A1	1.07	1.27	1.47
A2	2.49	2.69	2.89
b	0.61	0.81	1.01
b1	1.17	1.37	1.57
c	0.30	0.48	0.66
e		5.08BSC	
E	9.86	10.01	10.40
D	14.64	15.02	15.40
L	13.00	13.54	14.08
L1	3.40	3.95	4.90
ΦP	3.64	3.84	4.04
S	2.54	2.74	2.94

UNIT: mm

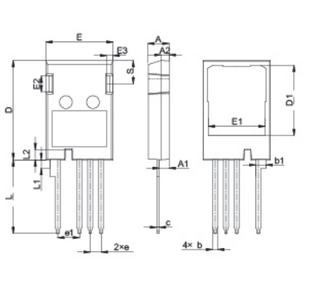
TO-247 Plus-3L



Symbol	Min	Nom	Max
A	4.83	5.02	5.21
A1	2.29	2.42	2.54
A2	1.91	2.04	2.16
b	1.07	1.20	1.33
b1	1.91	2.16	2.41
b3	2.87	3.13	3.38
c	0.55	0.62	0.68
e		5.44BSC	
D	20.80	20.95	21.10
D1	16.25	16.95	17.65
D2	0.50	0.65	0.80
E	15.75	15.94	16.13
E1	13.10	13.63	14.15
E2	3.68	4.39	5.10
E3	1.00	1.45	1.90
E4	12.38	12.91	13.43
L	19.81	20.07	20.32
L1	3.70	3.85	4.00
Q	5.49	5.75	6.00

UNIT: mm

TO-247 Plus-4L

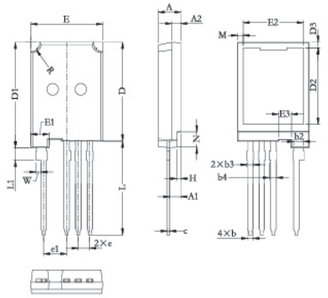


Symbol	Min	Nom	Max
A	4.83	5.02	5.21
A1	2.29	2.42	2.54
A2	1.91	2.04	2.16
b	1.07	1.20	1.33
b1	2.39	2.54	2.69
c	0.55	0.62	0.68
e		2.54BSC	
e1		5.08BSC	
E	15.75	15.94	16.13
E1	12.38	12.91	13.43
E2	3.68	4.39	5.10
E3	1.00	1.14	1.90
D	23.30	23.45	23.60
D1	16.25	17.10	17.65
L	17.31	17.57	17.82
*L1	3.97	4.17	4.37
L2	2.35	2.50	2.65
S	5.49	5.75	6.00

UNIT: mm

Unit:mm

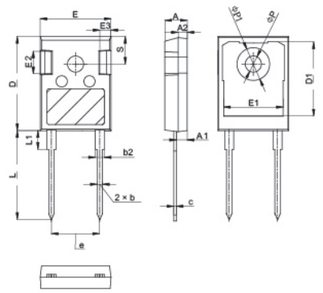
TO-247 Plus-C4L



Symbol	Min	Nom	Max
A	4.90	5.00	5.10
A1	2.31	2.41	2.51
A2	1.90	2.00	2.10
H	0.80	0.90	1.00
L	19.80	19.92	20.10
L1	2.55	2.70	2.85
e		2.54BSC	
e1		5.08BSC	
E	15.70	15.80	15.90
E2	13.10	13.26	13.50
E3	2.58	2.68	2.78
D	20.90	21.00	21.10
D1	22.30	22.40	22.50
D2	15.95	16.25	16.55
D3	1.00	1.17	1.35
M	0.97	1.27	1.57
N	3.24	3.34	3.44
R	1.90	2.00	2.00
b	1.16	-	1.29
b2	2.16	-	2.29
b3	1.16	-	1.45
b4	1.16	-	1.65
W	0.90	1.00	1.10

UNIT: mm

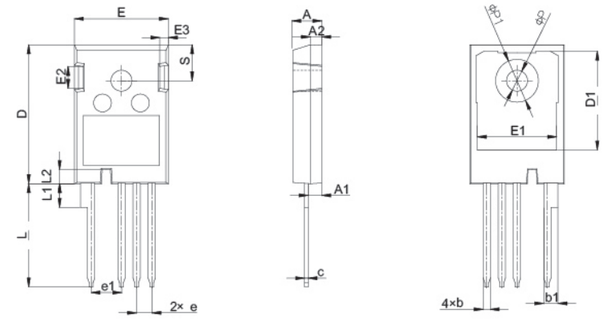
TO-247-2L



Symbol	Min	Nom	Max
A	4.80	5.00	5.21
A1	2.21	2.41	2.61
A2	1.85	2.00	2.16
b	1.07	1.23	1.36
b2	1.90	2.05	2.41
c	0.50	0.60	0.75
e		10.88BSC	
E	15.50	15.80	16.13
E1	12.38	13.30	13.60
E2	3.68	-	5.20
E3	1.00	-	2.70
D	20.70	21.00	21.30
D1	16.25	-	17.65
L	19.60	19.91	20.32
L1	-	-	4.40
ΦP	3.40	3.60	3.80
ΦP1	-	-	7.30
S		6.15BSC	

UNIT: mm

TO-247-4L



Symbol	Min	Nom	Max
A	4.83	5.02	5.21
A1	2.29	2.42	2.54
A2	1.91	2.04	2.16
b	1.07	1.34	1.60
b1	2.39	2.67	2.94
c	0.55	0.62	0.68
e		2.54BSC	
e1		5.08BSC	
E	15.75	15.94	16.13
E1	12.38	12.91	13.43
E2	3.68	4.39	5.10
E3	1.00	1.14	1.90
D	23.30	23.45	23.60
D1	16.25	17.10	17.65
L	17.31	17.57	17.82
L1	3.97	4.17	4.37
L2	2.35	2.50	2.65
ΦP	3.51	3.58	3.65
ΦP1	-	-	7.18
S	6.04	6.17	6.30

UNIT: mm

TO-247-3L

Symbol	Min	Nom	Max
A	4.80	5.00	5.21
A1	2.21	2.41	2.61
A2	1.85	2.00	2.16
b	1.07	1.23	1.36
b2	1.90	2.05	2.41
b4	2.87	3.05	3.38
c	0.50	0.60	0.75
e		5.44BSC	
E	15.50	15.80	16.13
E1	12.38	13.30	13.60
E2	3.68	-	5.20
E3	1.00	-	2.70
D	20.70	21.00	21.30
D1	16.25	-	17.65
L	19.60	19.91	20.32
L1	-	-	4.40
ΦP	3.40	3.60	3.80
ΦP1	-	-	7.30
S		6.15BSC	

UNIT: mm

TO-247-H3L

Symbol	Min	Nom	Max
A	4.9	5.0	5.1
A1	2.31	2.41	2.51
A2	1.9	2.0	2.1
u	0	-	0.15
b2	1.96	-	2.06
b4	1.96	-	2.06
b6	-	-	1.90
b7	-	-	2.30
c	0.59	-	0.66
D	20.90	21	21.10
D1	16.25	16.55	16.85
D2	1.05	1.20	1.35
E	15.70	15.80	15.90
E1	13.10	13.30	13.50
E2	4.90	5.00	5.10
E3	2.40	2.50	2.60
e	5.34	5.44	5.54
H	2.14	2.24	2.34
H1	3.50	3.60	3.70
K	3.40	-	-
L	19.80	19.92	20.10
L1	3.95	4.13	4.30
L2	0.55	0.60	0.65
M	0.35	-	0.95
P	3.50	3.60	3.70
P1	7.00	-	7.40
P2	2.40	2.50	2.60
Q	5.60	-	6.00
S	6.05	6.15	6.25
T	9.80	-	10.20
U	6.00	-	6.40

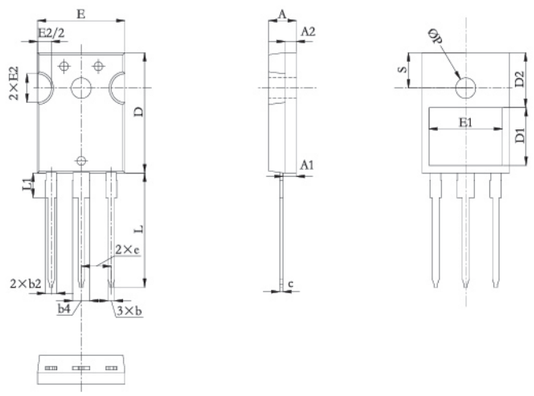
UNIT: mm

TO-247 LP-4L

SYM	MILLIMETERS	
	MIN	MAX
A	4.83	5.21
A1	2.29	2.54
A2	1.91	2.16
b	1.10	1.30
b1	0.65	0.79
b2	1.10	1.25
b3	1.34	1.44
b4	0.65	0.74
c	0.55	0.68
c1	0.55	0.65
D	20.80	21.10
D1	16.25	17.65
D2	0.95	1.25
E	15.75	16.13
E1	13.10	14.15
E2	4.32	5.10
E3	1.00	1.90
E4	12.38	13.43
e1	5.08 BSC	
e2	2.79 BSC	
e3	2.54 BSC	
L	19.72	20.32
L1	3.97	4.37
øP	3.51	3.65
Q	5.49	6.00
S	6.04	6.30
T	17.5° REF.	

UNIT: mm

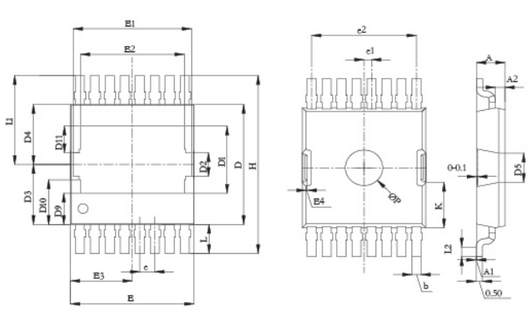
TO-247-S3L



Symbol	Min	Max
A	4.90	5.10
A1	2.31	2.51
A2	1.90	2.10
b	1.16	1.26
b2	1.96	2.12
b4	2.96	3.06
c	0.59	0.66
D	20.90	21.10
D1	10.10	
D2	9.38	9.78
E	15.75	15.90
E1	13.3BSC	
E2	4.90	5.10
e	5.44BSC	
L	19.80	20.10
L1	-	4.30
P	3.50	3.70
S	6.05	6.35

UNIT: mm

TOLT



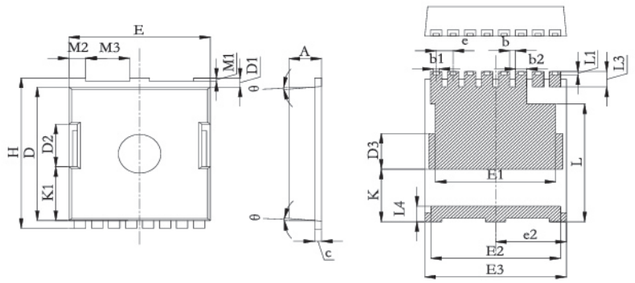
Symbol	Min	Max
A	2.20	2.35
A1	0.01	0.11
A2	0.56	0.96
b	0.60	0.85
b1	0.60	0.80
c	0.45	0.65
c1	0.45	0.60
D	10.00	10.30
D1	5.47	5.87
D2	1.80	2.20
D3	4.85	5.25
D4	5.00	5.13
D5	2.08	2.48
D9	2.42	2.82
D10	3.85	4.25
D11	2.04	2.44

UNIT: mm

Symbol	Min	Max
E	9.70	10.10
E1	9.26	9.66
E2	8.10	8.50
E3	4.75	5.15
E4	0.20	0.60
e	1.20BSC	
e1	0.60BSC	
e2	8.40BSC	
H	14.80	15.20
K	3.71	4.11
L	2.25	2.65
L1	7.30	7.70
L2	1.30	1.70
R	0.07	-
P	2.90	3.10
θ	4°	10°

Unit:mm

TOLL



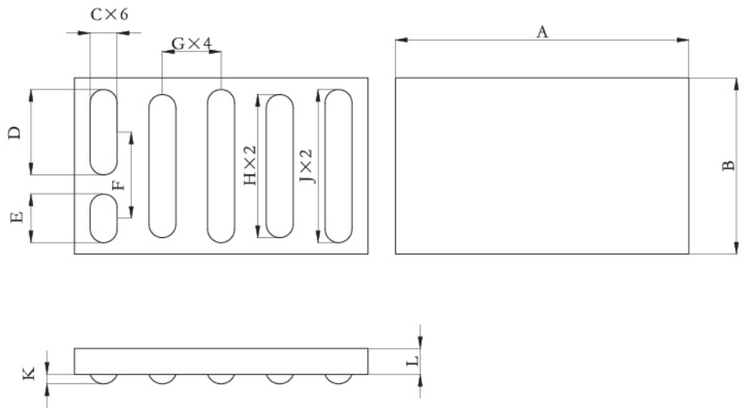
Symbol	Min	Max
A	2.20	2.40
b	0.30	0.50
b1	0.35	0.55
b2	0.70	0.90
e	0.40	0.60
D	10.28	10.58
D1	0.60	0.80
D2	(3.30)	
D3	(2.77)	
E	9.70	10.10
E1	(8.50)	
E2	(8.50)	
E3	(9.46)	
e	1.10	1.30

UNIT: mm

Symbol	Min	Max
H	11.48	11.88
K	(4.08)	
K1	(4.17)	
L	(9.13)	
L1	0.13	0.33
L2	0.50	0.70
L3	1.10	1.30
L4	1.10	1.30
M	(4.23)	
M1	0.16	0.36
M2	1.10	1.30
M3	3.00	3.20
θ	4°	10°
e2	4.20	4.40

UNIT: mm

WLCSP 4.15X4.4



Symbol	Min	Max
A	2475	2525
B	1475	1525
C	210	250
D	707	747
E	394	434
F	724	744
G	500 BSC	
H	1199	1239
J	1284	1324
K	70	90
L	205	235

UNIT: mm

Unit:mm