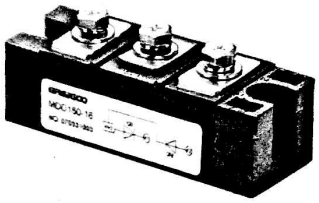
Diode modules(MDC,MDK,MDA,MDX,MD)



Features

- Chips are electrically insulated from bottom plate
- Seal in compliance with international standard
- Pressure type, excellent temperature characteristics and power cycling capability
- 400A below modules are forced air cooling; 500A above modules can select air cooling or water cooling
- Simple installation, convenient maintenance
- Compact size, light weight

Applications

- DC power supply
- AC, DC motor control
- Different kinds of rectifying power supply
- Motor softstarter
- Welding equipment
- Frequency transformer
- Battery charging and discharging

Type and meanings

M □ □ □ □
1 2 3 4 5

1: M for "Module"
2: Letter code for subtype of module
  D: rectifier diode
  Z: fast recovery diode
  T: phase control thyristor
  K: fast turn-off thyristor
  F: D+T
  H: Z+K
  U: ultra fast and soft recovery diode
3: Circuit:
  A: common anode
  C: in series
  K: common cathode
  X: anti-parallel
  Q: single phase bridge
  G: three phase common anode
  S: three phase bridge
  Y: three phase common cathode
  R: in paraller
4: Max avurage current
5: Class according to V_{DRM}, V_{RRM}

Remarks: this part is omitted usually. Its usage is as below: (TD), (DT), (KZ), (ZK) means the sequence of devices in thyristor/diode mixed modules. (NA), (NK), (A), (K) means the bottom of non-isolated module is the anode and cathode of devices. (N) means the bottom plate of modules is common electrode. (AA) means modules are in compliance with low-voltage standard.

Technical parameter

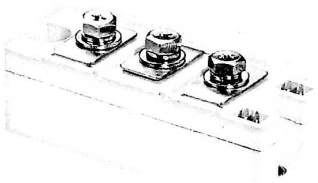
Type	V_{RRM} V	$I_{F(AV)}$ Tc=100℃ A	I_{FSM} KA	I^2t A^2Sx10^4	I_{RRM} mA	$I_{F(RMS)}$ A	V_{FM} /I_{FM} V/A	V_{FO} V	r_F mΩ	R_{jc} ℃/W	T_{jm} ℃	V_{iso} V	Outlines Fig
MDx26	600-1800	26	0.65	0.21	8	41	1.65/80	0.80	9.80	1.300	150	2500	
MDx40	600-1800	40	1.00	0.51	8	63	1.55/120	0.80	5.57	0.900	150	2500	
MDx55	600-1800	55	1.30	0.86	8	86	1.45/170	0.80	3.47	0.700	150	2500	1
MDx70	600-1800	70	1.80	1.65	8	110	1.40/210	0.80	2.50	0.570	150	2500	
MDx90	600-1800	90	2.30	2.69	8	141	1.33/270	0.80	1.70	0.470	150	2500	1
MDx110	600-1800	110	2.60	3.44	8	173	1.45/330	0.80	1.74	0.350	150	2500	2 3
MDx135	600-1800	135	3.90	7.75	12	212	1.38/405	0.80	1.18	0.300	150	2500	
MDx160	600-1800	160	6.00	18.4	12	251	1.56/480	0.80	1.35	0.230	150	2500	4 5
MDx182	600-1800	182	6.40	20.9	12	286	1.43/550	0.80	0.96	0.210	150	2500	
MDx200	600-1800	200	8.00	32.6	12	314	1.38/600	0.75	0.88	0.210	150	2500	
MDx250	600-1800	250	11.0	61.7	20	393	1.43/750	0.75	0.76	0.140	150	2500	6
MDx300	600-1800	300	12.5	79.7	20	471	1.35/900	0.75	0.55	0.130	150	2500	
MDx350	600-1800	350	15.0	115	30	550	1.50/1050	0.75	0.61	0.091	150	2500	7
MDx400	600-1800	400	17.0	147	30	628	1.48/1200	0.75	0.50	0.100	150	2500	
MDx500	600-1800	500	21.0	225	40	785	1.35/1500	0.75	0.32	0.090	150	2500	10
MDx800	600-1800	800	18.0	165	45	1256	1.80/2400	0.75	0.33	0.080	150	2500	12
MDx1000	600-1800	1000	20.0	204	50	1570	1.82/3000	0.75	0.31	0.080	150	2500	
MDx1200	600-1800	1800	20.0	204	50	1884	1.86/3000	0.75	0.26	0.080	150	2500	14

Note: 1. MDx means MDC, MDA, MDK or MD, anyone of them.
2. "*" means water-cooling module.

Remark

- V_{RSM} = V_{RRM}+200V
- The other parameters in the table except V_{fm}, V_{iso} are the tested value under T_{jm}
- $I^2t=I^2_{FSM}{}^{X}t_w/2$; t_w=Sine and half wave current full-bottomed.
  On the condition of 50Hz: $I^2t(10ms)=0.005I^2_{FSM}$ (A^2s)
- When working at 60Hz: $I_{FSM}(8.3ms)=I_{FSM}(10ms)\times 1.066$,
  $I^2t(8.3ms)=I^2t(10ms)\times 0.943$,
- V_{TO}: threshold voltage r_T: slope resistance, only used to calculate the power consumption and rated current under different temperatures

Diode modules(MDC,MDK,MDA,MDX,MD)



Technical parameter

Type	V_{RRM} V	$I_{F(AV)}$ Tc=100℃ A	I_{FSM} KA	I^2t A^2Sx10^4	I_{DRM} mA	$I_{F(RMS)}$ A	V_{FM}/I_{FM} V/A	V_{FO} V	r_F mΩ	R_{jc} ℃/W	T_{jm} ℃	V_{iso} V	Outlines Fig
MDx55	1900-3000	55	1.30	0.86	10	86	1.55/170	0.85	3.76	0.680	150	3600	1
MDx70	1900-3000	70	1.80	1.65	10	110	1.50/210	0.85	2.73	0.550	150	3600	
MDx90	1900-3000	90	2.30	2.69	10	141	1.43/270	0.85	1.88	0.450	150	3600	2
MDx110	1900-300	110	2.60	3.44	12	173	1.55/330	0.85	1.88	0.330	150	3600	3
MDx135	1900-3000	135	3.90	7.75	14	212	1.48/405	0.85	1.45	0.220	150	3600	4
MDx160	1900-3000	160	6.00	18.4	14	251	1.66/480	0.85	1.05	0.210	150	3600	5
MDx182	1900-3000	182	6.40	20.9	14	286	1.53/550	0.85	0.96	0.220	150	3600	
MDx200	1900-3000	200	8.00	32.6	16	314	1.48/600	0.80	0.83	0.130	150	3600	6
MDx250	1900-3000	250	11.0	61.7	25	393	1.53/750	0.80	0.50	0.120	150	3600	
MDx300	1900-3000	300	12.5	79.9	25	471	1.45/900	0.80	0.56	0.110	150	3600	7
MDx350	1900-3000	350	15.0	115	35	550	1.60/1050	0.80	1.30	0.230	150	3600	8
MDx400*	600-1800	400	10.0	510	30	628	1.65/1200	0.75	0.64	0.160	150	2500	9
MDx500*	600-1800	500	12.0	734	40	785	1.65/1500	0.75	0.51	0.130	150	2500	
MDx600*	600-1800	600	15.0	1150	40	942	1.65/1800	0.75	0.42	0.110	150	2500	11
MDx800*	600-1800	800	18.0	1650	40	1256	1.72/2400	0.75	0.34	0.080	150	2500	
MDx1000*	600-1800	1000	18.0	1650	40	1570	1.82/3000	0.75	0.31	0.080	150	2500	13

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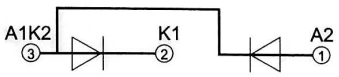
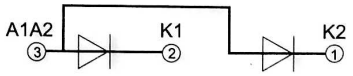
Circuit configurations

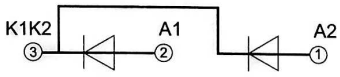
MDC



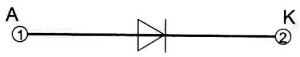
MDA



MDK



MD



Outlines

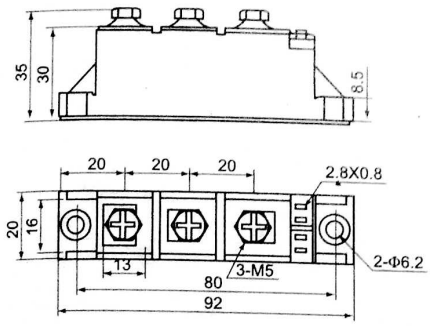


Fig 01

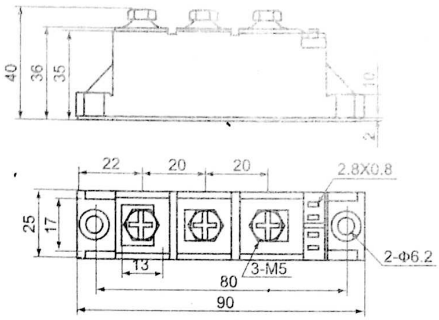


Fig 02

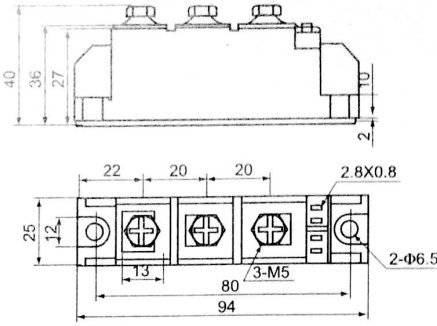


Fig 03

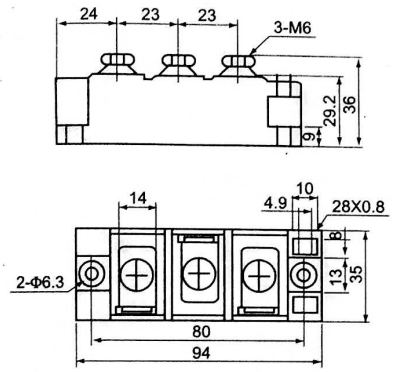


Fig 04

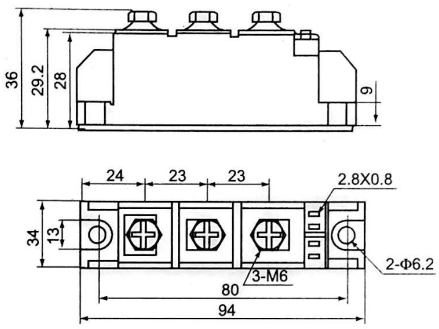


Fig 05

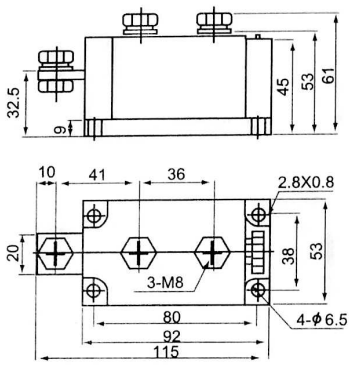


Fig 06

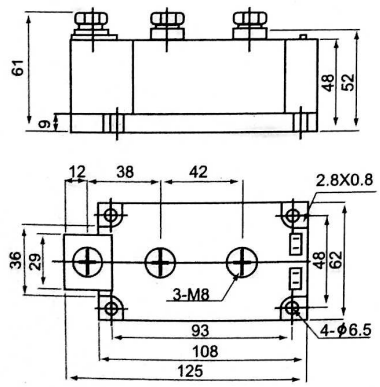


Fig 07

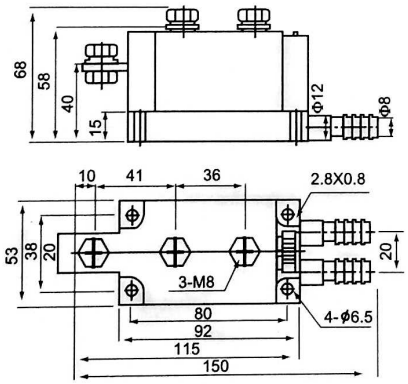


Fig 08

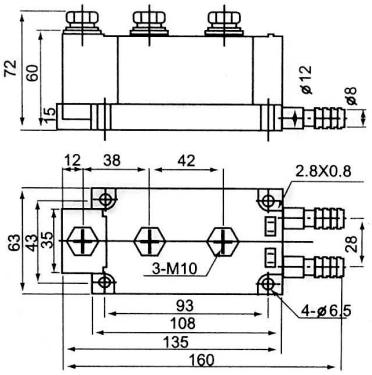


Fig 09

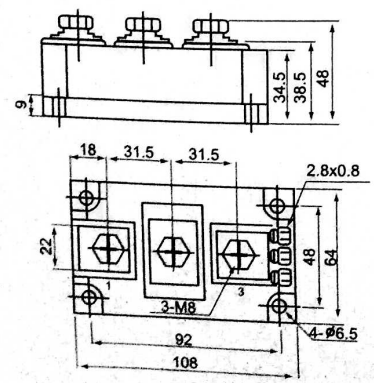


Fig 10

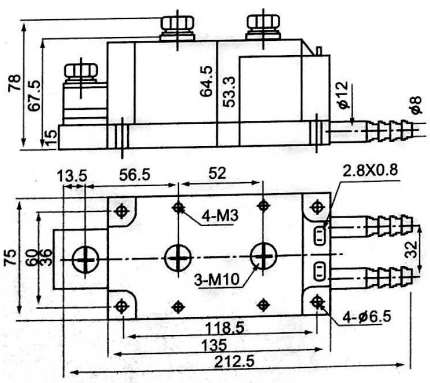


Fig 11

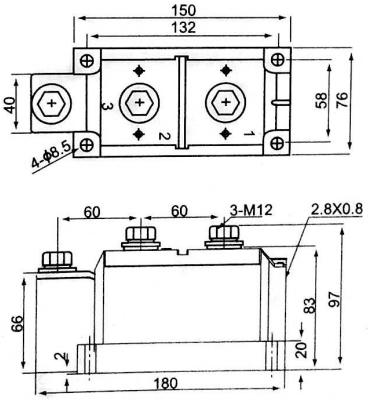


Fig 12