

Thyristor & Diode Modules

March 2013 – Issue 4

IXYS UK's range of isolated base pressure contact thyristor and diode modules, designed to industry standard outlines is perfect for all your needs.

Available in 7 standard configurations, all devices offer full pressure contact construction for maximum reliability and performance at rated current. These products have a V_{RRM}/V_{DRM} between 1200V to 3600V and are available as dual thyristor, dual diode or thyristor/diode options. Single diode/single thyristor options are also available.

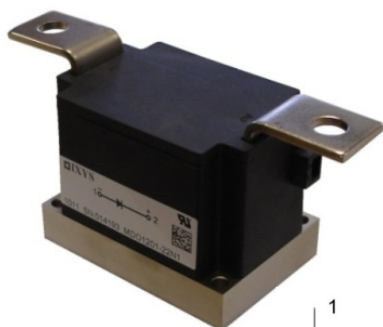
Introducing the new io7 diode/thyristor module range

These modules are available with average currents up to 1080A and voltage ratings up to 3600V. Included in this range is the reverse MCR configuration of dual thyristor module, specifically designed for ease of mounting two modules as an AC switch

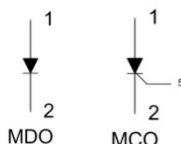
Other configurations are available on request. Please consult the Chippenham factory for more information.

Features and benefits

- V_{RRM}/V_{DRM} up to 3600V
- Electrically isolated baseplate
- Industry standard package
- UL recognition
- Simplifies mechanical design
- Rapid assembly
- Full pressure contact construction



2 configuration of single diode/thyristor available

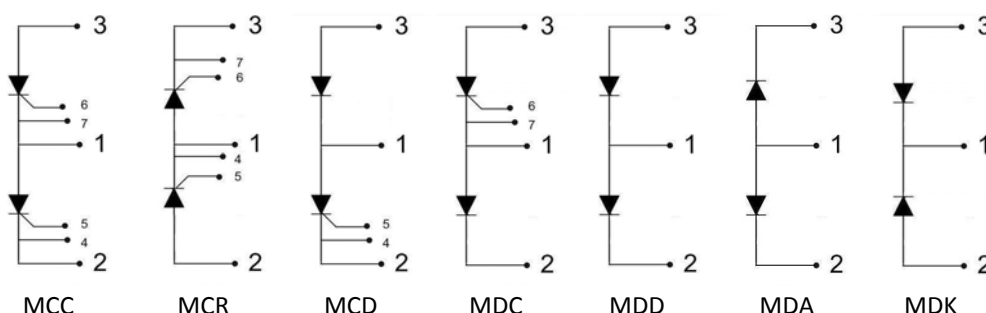


Applications



- Soft starts
- Industrial drives
- Wind power converters
- Welding
- Front end rectifiers

Configurations



New Module Range

Our new range of thyristor and diode modules expands on our current selection, with improved thermal and surge ratings. The dual thyristor and diode modules are also available in an MCR reverse configuration for ease of mounting two modules as an AC switch



Dual Thyristor Modules

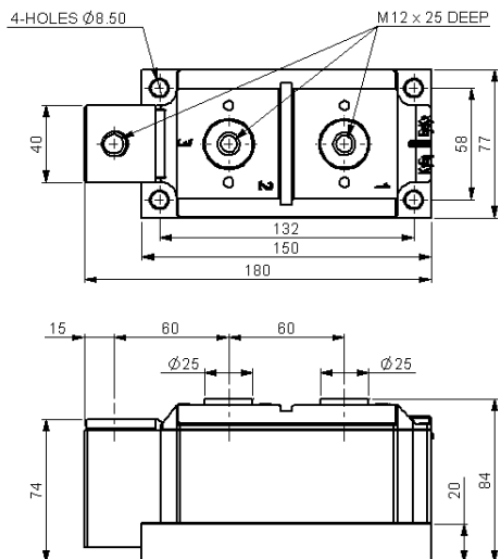
Part No.	V_{RRM} V_{DRM}	I_{TAV}	@ T_C	I_{TRMS}	I_{TSM} 125°C 10ms	V_{T0}	r_T	T_{VJM}	R_{thJC} per Die	R_{thCH} per Die	Fig. No.
	V	A	°C	A	A	V	mΩ	°C	K/W	K/W	
MCC500-xxi o7	3000-3600	500	85	1181	18000	1.079	0.422	125	0.0500	0.0160	W88
MCR500-xxi o7	3000-3600	500	85	1181	18000	1.079	0.422	125	0.0500	0.0160	W88
MCC580-28i o7	2800	581	85	1372	21000	0.926	0.313	125	0.0500	0.0160	W88
MCR580-28i o7	2800	581	85	1372	21000	0.926	0.313	125	0.0500	0.0160	W88
MCC650-24i o7	2400	646	85	1542	24500	0.874	0.227	125	0.0500	0.0160	W88
MCR650-24i o7	2400	646	85	1542	24500	0.874	0.227	125	0.0500	0.0160	W88
MCC720-xxi o7	1400-1800	719	85	1633	28000	0.823	0.241	125	0.0500	0.0160	W88
MCR720-xxi o7	1400-1800	719	85	1633	28000	0.823	0.241	125	0.0500	0.0160	W88

Dual Diode Modules

Part No.	V_{RRM}	I_{FAV}	@ T_C	I_{FRMS}	I_{FSM} 150°C 10ms	V_{T0}	r_T	T_{VJM}	R_{thJC} per die	R_{thCK} per die	Fig. No.
	V	A	°C	A	A	V	mΩ	°C	K/W	K/W	
MDD1080-xxN7	1800-2800	1080	85	2235	32000	0.782	0.157	150	0.0500	0.0160	W88
MDA1080-xxN7	1800-2800	1080	85	2235	32000	0.782	0.157	150	0.0500	0.0160	W88
MDK1080-xxN7	1800-2800	1080	85	2235	32000	0.782	0.157	150	0.0500	0.0160	W88

Thyristor/Diode Modules

Part No.	V_{RRM} V_{DRM}	I_{TAV}	@ T_C	I_{TRMS}	I_{TSM} 125°C 10ms	V_{T0}	r_T	T_{VJM}	R_{thJC} per Die	R_{thCH} per Die	Fig. No.
	V	A	°C	A	A	V	mΩ	°C	K/W	K/W	
MCD500-xxi o7	3000-3600	500	85	1181	18000	1.079	0.422	125	0.05	0.0160	W88
MDC500-xxi o7	3000-3600	500	85	1181	18000	1.079	0.422	125	0.05	0.0160	W88
MCD580-28i o7	2800	581	85	1372	21000	0.926	0.313	125	0.05	0.0160	W88
MDC580-28i o7	2800	581	85	1372	21000	0.926	0.313	125	0.05	0.0160	W88
MCD650-24i o7	2400	646	85	1542	24500	0.874	0.227	125	0.05	0.0160	W88
MDC650-24i o7	2400	646	85	1542	24500	0.874	0.227	125	0.05	0.0160	W88
MCD720-xxi o7	1400-1800	719	85	1633	28000	0.823	0.241	125	0.05	0.0160	W88
MDC720-xxi o7	1400-1800	719	85	1633	28000	0.823	0.241	125	0.05	0.0160	W88



xx in part number indicates voltage grade – $V_{RRM}/V_{DRM} \div 100$

W88 – 150A124

Water Cooled Modules

IXYS UK's range of water cooled modules feature a direct cooled base, with no extra interface to the die allowing for more efficient cooling, giving an enhanced average current rating

Dual Thyristor Modules

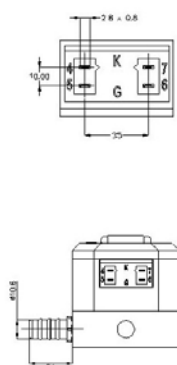
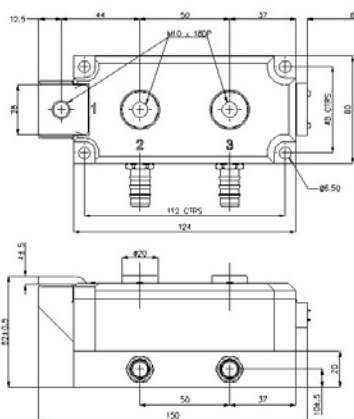
Part No.	V _{RRM} V _{DRM}	I _{TAV}	@ T _C	I _{TRMS}	I _{TSM} 125°C 10ms	V _{TO}	r _T	T _{VJM}	R _{thjw} per Die	Fig. No.
	V	A	°C	A	A	V	mΩ	°C	K/W	
MCA600-22io1W	2200	600	40	1116	16500	0.880	0.460	125	0.0900	W64
MCC600-22io1W	2200	600	40	1116	16500	0.880	0.460	125	0.0900	W64
MCK600-22io1W	2200	600	40	1116	16500	0.880	0.460	125	0.0900	W64
MCC700-xxio1W	1400-1800	700	42	1331	16500	0.850	0.270	125	0.0900	W64
MCA700-xxio1W	1400-1800	700	42	1331	16500	0.850	0.270	125	0.0900	W64
MCK700-xxio1W	1400-1800	700	42	1331	16500	0.850	0.270	125	0.0900	W64

Dual Diode Modules

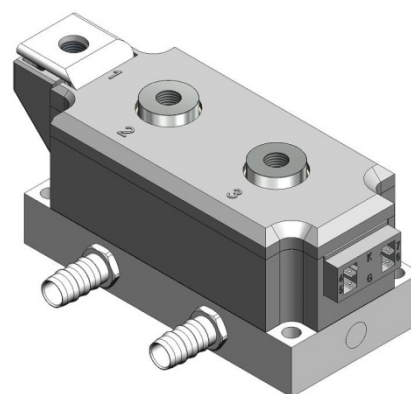
Part No.	V _{RRM}	I _{FAV}	@ T _C	I _{FRMS}	I _{FSM} 150°C 10ms	V _{TO}	r _T	T _{VJM}	R _{thjw} per Die	Fig. No.
	V	A	°C	A	A	V	mΩ	°C	K/W	
MDD950-xxN1W	1400-2200	950	45	1773	21800	0.750	0.200	150	0.0900	W64
MDA950-xxN1W	1400-2200	950	45	1773	21800	0.750	0.200	150	0.0900	W64
MDK950-xxN1W	1400-2200	950	45	1773	21800	0.750	0.200	150	0.0900	W64

Thyristor/Diode Modules

Part No.	V _{RRM} V _{DRM}	I _{TAV}	@ T _C	I _{TRMS}	I _{TSM} 125°C 10ms	V _{TO}	r _T	T _{VJM}	R _{thjw} per Die	Fig. No.
	V	A	°C	A	A	V	mΩ	°C	K/W	
MCD600-22io1W	2200	600	40	1116	16500	0.880	0.460	125	0.0900	W64
MDC600-22io1W	2200	600	40	1116	16500	0.880	0.460	125	0.0900	W64
MCD700-xxio1W	1400-1800	700	42	1331	16500	0.850	0.270	125	0.0900	W64
MDC700-xxio1W	1400-1800	700	42	1331	16500	0.850	0.270	125	0.0900	W64



W64 – 150A113



Certificate FM26085

IXYS UK Westcode Ltd's BS EN ISO9001 quality system is registered by BSI

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