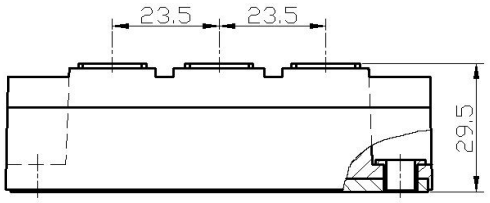
GUERTE®

Diode Module
MDC/MDA/MDK 160A

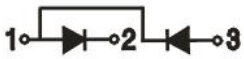
Feature

- International standard package
- Low forward voltage drop
- Isolation voltage 2500V～

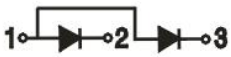


Application

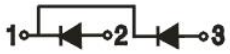
- Various rectifier power
- AC/DC motor control
- Heater control
- Frequency converters



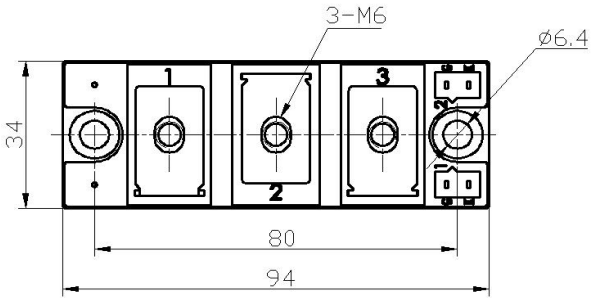
MDC



MDA



MDK



■ Maximum value

Symbol	Parameter	Rating		Unit
		MDC160-12 MDA160-12 MDK160-12	MDC160-16 MDA160-16 MDK160-16	
V_{RRM}	Reverse repetitive peak voltage	1200	1600	V
V_{RSM}	Reverse non-repetitive peak voltage	1300	1700	V

Symbol	Parameter	Test condition	Rating	Unit
$I_{F(AV)}$	Forward average current	Single-side heat dissipation, 180° sine half wave, 50Hz, T_C:100℃	160	A
$I_{F(RMS)}$	Forward square root current	Single-side heat dissipation, 180° sine half wave,50Hz, T_C:100℃	251	A
I_{FSM}	Forward surge current	t=10ms, 50Hz,Sin, Tvj=45℃	6000	A
I^2t	I^2t value	$V_R = 0.6V_{RRM}$, Tvj=45℃	180000	A^2S
V_{ISO}	Isolation voltage	AC one minute	2500	V
Tj	Operating junction temperature		-40 to +150	℃
Tjm	Rated junction temperature		150	℃
Tstg	Storage temperature		-40 to +125	℃
Rth(j-c)	Thermal resistance(junction-case)	Single-side heat dissipation, sine half wave	0.23	℃/W
Md	Mounting torque(copper plate) M6		5±15%	N·m
	Mounting torque(terminal) M6		5±15%	N·m
W_t	Weight		220	g

■ Electrical characteristics

Symbol	Parameter	Test condition	Rating			Unit
			Min.	Typical	Max	
I_{RRM}	Reverse repetitive peak current	V_{RRM}, sine half wave,Tjm	—	—	10	mA
V_{FM}	Forward peak voltage	I_{FM}=480A, Tj=25℃	—	1.1	1.2	V

Performance Curves

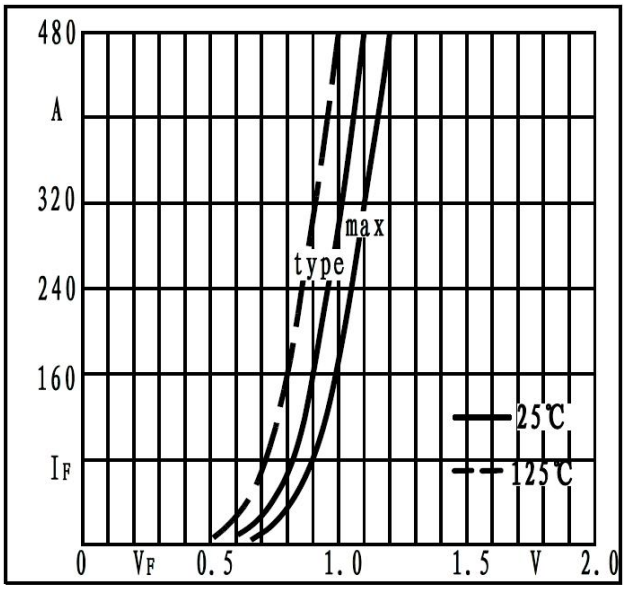


Fig1. Forward characteristics

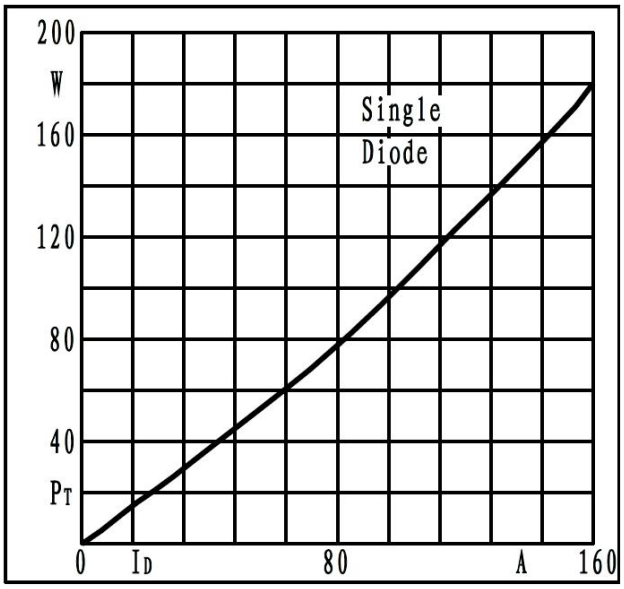


Fig2. Power dissipation

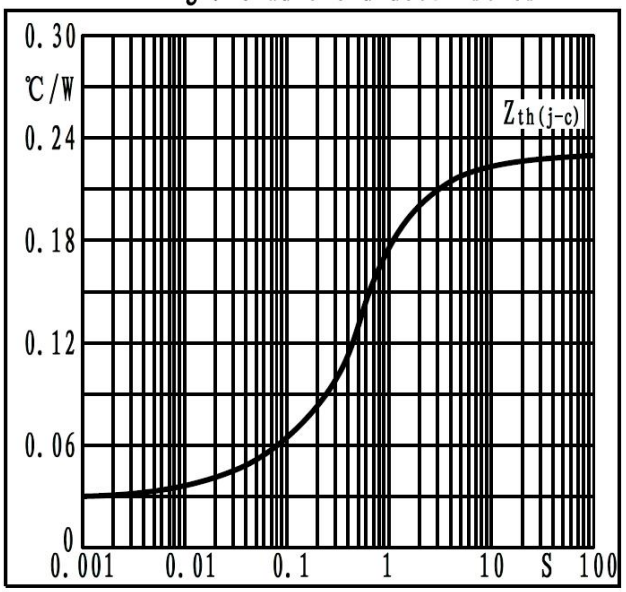


Fig3. Transient thermal impedance

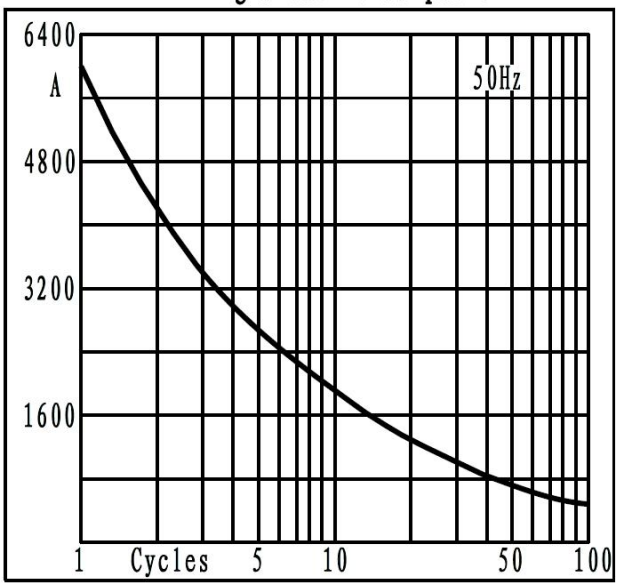


Fig4. Max non-repetitive forward surge current

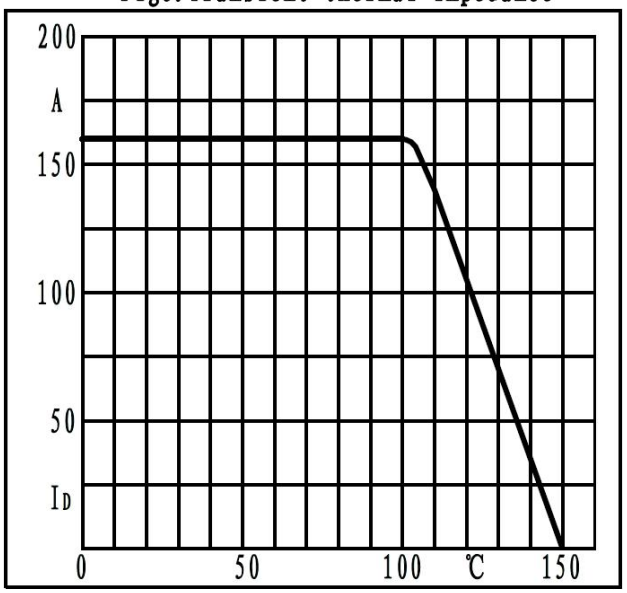


Fig5. Forward current derating curve