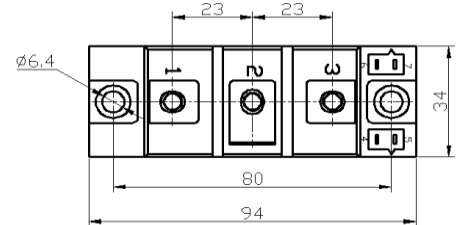
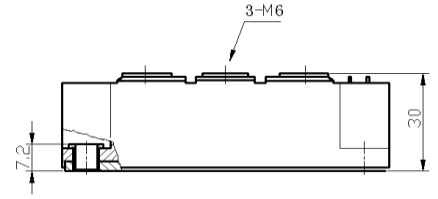
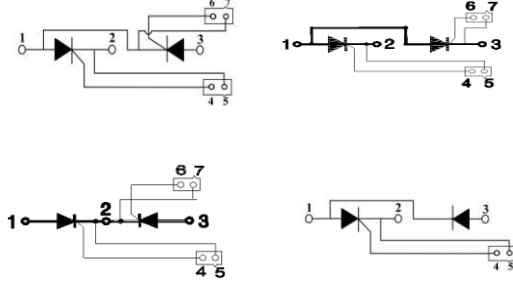


## Feature

- International standard package
- Isolation voltage 2500V ~

## Application

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



### ■ Maximum value

Symbol	Parameter	Rating		Unit
		MTC200 -12 MTA200 - 12 MTK200 -12 MFC200 -12	MTC200 -16 MTA200 - 16 MTK200 -16 MFC200 -16	
$V_{RRM}$	Repetitive peak reverse voltage	1200	1600	V
$V_{RSM}$	Non-repetitive peak reverse voltage	1300	1700	V
$V_{DRM}$	Off-state Repetitive peak voltage	1200	1600	V

Symbol	Item	Conditions	Ratings	Unit
$I_{T(AV)}, I_{F(AV)}$	Thyristor: on-state average current	Single side heat dissipation, 180°sine half wave, 50Hz, $T_C=85^\circ\text{C}$	200	A
	Diode: average forward current	Single side heat dissipation, 180°sine half wave, 50Hz, $T_C=100^\circ\text{C}$		
$I_{T(RMS)}, I_{F(RMS)}$	Thyristor: square root current	Single side heat dissipation, 180°sine half wave, 50Hz, $T_C=85^\circ\text{C}$	314	A
	Diode: forward square root current	Single side heat dissipation, 180°sine half wave, 50Hz, $T_C=100^\circ\text{C}$		
$I_{ISM}, I_{FSM}$	Forward surge current	Thyristor: $t=10\text{ms}$ , 50Hz, Sin , $T_{vj}=45^\circ\text{C}$	5800	A
		Diode: $t=10\text{ms}$ , 50Hz, Sin , $T_{vj}=45^\circ\text{C}$	7500	A
$I^2t$	$I^2t$ value	Thyristor: $V_R = 0.6V_{RRM}$ , $T_{vj}=45^\circ\text{C}$	168200	$\text{A}^2\text{S}$
		Diode: $V_R = 0.6V_{RRM}$ , $T_{vj}=45^\circ\text{C}$	281250	$\text{A}^2\text{S}$
$P_{GM}$	Peak gate power		10	W
$P_{G(AV)}$	Average gate power		3	W
di/dt	On-state current critical rise rate	$I_{GM}=1.5\text{A}$ , $t_f \leq 0.5\mu\text{s}$ , $T_j=25^\circ\text{C}$	150	$\text{A}/\mu\text{s}$
$V_{ISO}$	Isolation voltage	AC one minute	2500	V
$T_j$	Operating junction temperature		-40 to +125	$^\circ\text{C}$
$T_{jm}$	Rated junction temperature	Thyristor:	125	$^\circ\text{C}$
		Diode:	150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-40 to +125	$^\circ\text{C}$
$M_d$	Mounting torque(copper plate) M6		$5 \pm 15\%$	N·m

	Mounting torque(connection terminal)M6		5 ± 15%	N·m
$W_t$	Weight		220	g

■ Electrical characteristics

Symbol	Parameter	Test condition	Rating	Unit
$I_{DRM}$	Peak off-state repetitive current	$V_D=V_{DRM}$ , sine half wave, $T_{jm}$	30	mA
$I_{RRM}$	Peak reverse repetitive current	Thyristor: $V_R=V_{RRM}$ , sine half wave, $T_{jm}$	30	mA
		Diode: $V_R=V_{RRM}$ , sine half wave, $T_{jm}$	9	mA
$V_{TM}, V_{FM}$	Thyristor: on-state peak voltage	$I_{TM}=60A, T_j=25^\circ C$	1.7	V
	Diode: Peak forward voltage	$I_{FM}=600A, T_j=25^\circ C$	1.2	V
$V_{GT}$	Gate trigger voltage	$T_j=25^\circ C, I_T=1A, V_D=12V$	0.7-1.8	V
$I_{GT}$	Gate trigger current	$T_j=25^\circ C, I_T=1A, V_D=12V$	20-150	mA
$V_{GD}$	Gate non-trigger voltage	$T_j=125^\circ C, V_D=2/3V_{DRM}$	0.25	V
$I_{GD}$	Gate non-trigger current	$T_j=125^\circ C, V_D=2/3V_{DRM}$	10	mA
dv/dt	On-state voltage critical rise rate	$T_j=125^\circ C, V_D=2/3V_{DRM}$	500	V/ $\mu s$
$I_H$	Holding current	$T_j=25^\circ C$	20-150	mA
$I_L$	Latching current	$T_j=25^\circ C$	100-400	mA
$R_{th(j-c)}$	Thermal resistance (junction-case)	Thyristor: Single-side heat dissipation, sine half wave	0.19	$^\circ C/W$
		Diode: Single-side heat dissipation, sine half wave	0.21	$^\circ C/W$

### Performance Curves

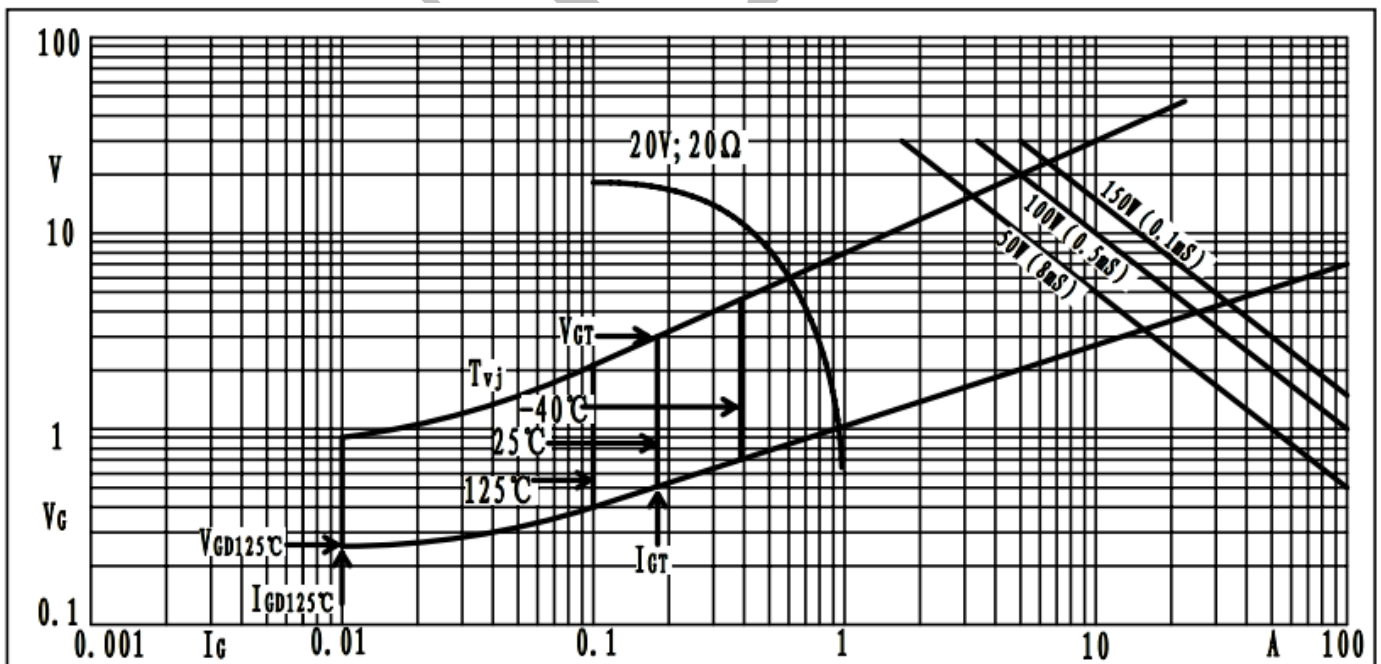


Fig1. Gate trigger characteristics

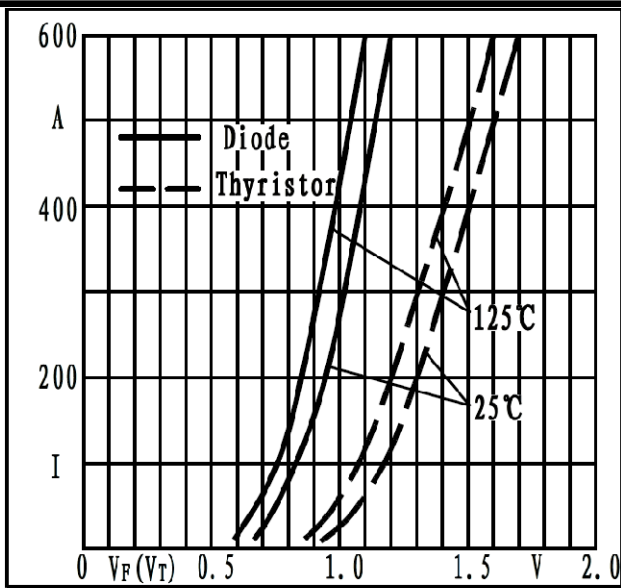


Fig2. Forward characteristics

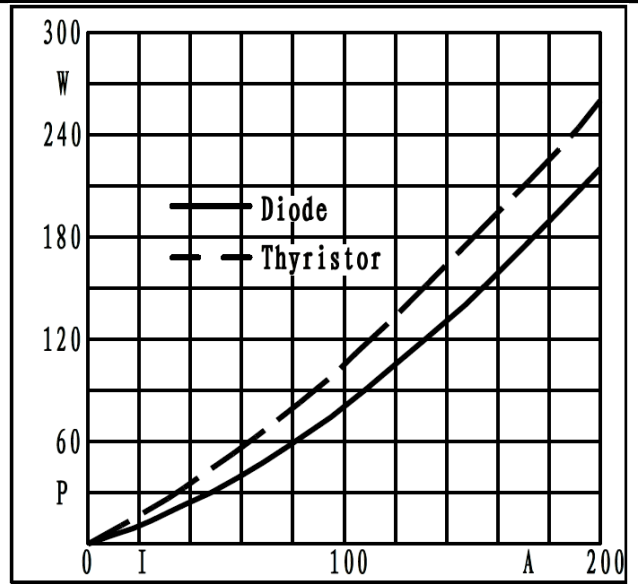


Fig3. Power dissipation

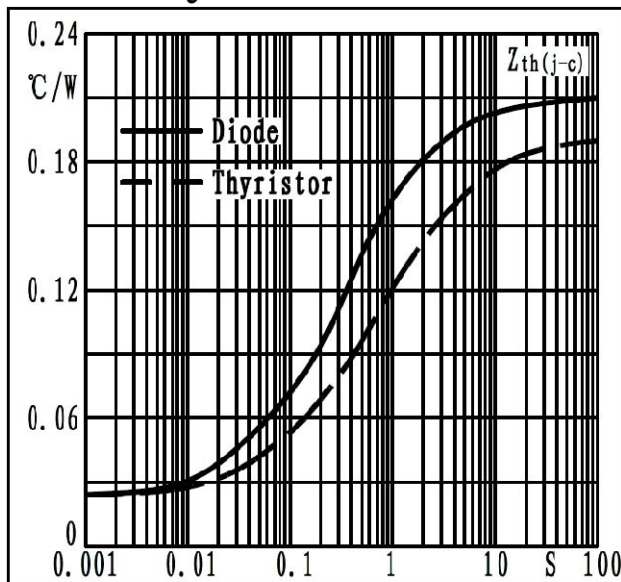


Fig4. Transient thermal impedance

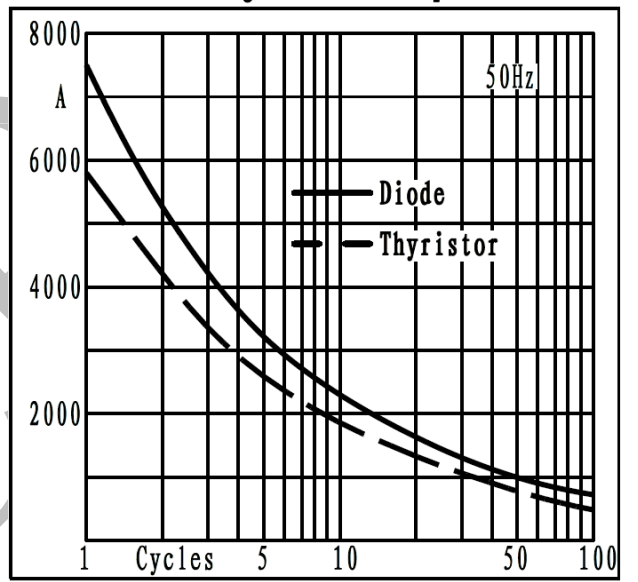


Fig5. Max non-repetitive forward surge current

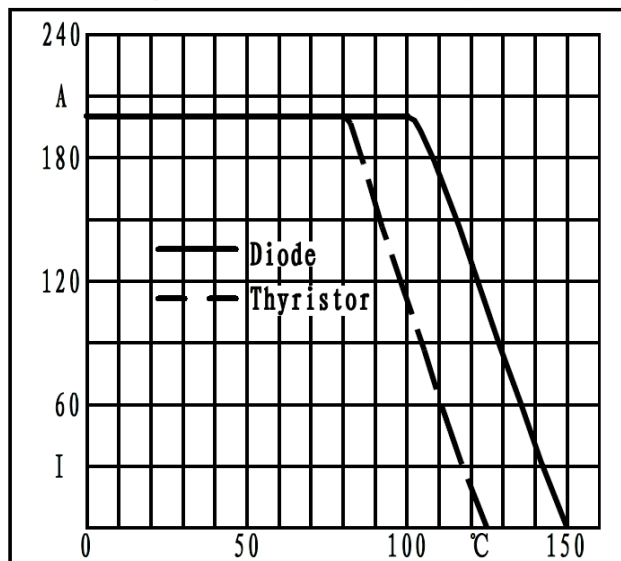


Fig6. Forward current derating curve