

## Dual Thyristor Modules

TYPE: MTC1000A – 1600V

### Features

- Heat transfer through aluminium nitride ceramic isolated metal baseplate
- Precious metal pressure contacts for high reliability
- Thyristor with amplifying gate

### Typical Applications

- DC motor control
- Temperature control
- Professional light dimming

### Maximum Ratings

Symbol	Condition	Ratings	Unit
$I_{T(AV)}$	Single phase, half wave, sin 180° conduction ; $T_C=85^\circ\text{C}$	1000	A
$I_{TRMS}$	Single phase, half wave, sin 180° conduction ; $T_C=85^\circ\text{C}$	1484	A
$I_{TSM}$	$T_j=125^\circ\text{C}$	30	kA
$I^2t$	$T_j=125^\circ\text{C}$	4300	$\text{kA}^2\text{S}$
$V_{DRM}/V_{RRM}$	$T_j=125^\circ\text{C}$	1600/1600	V
$di/dt$	non-repetitive	100	A/us
$V_{iso}$	A.C.1minute	2500	V
$T_j$		-40 ~ + 125	$^\circ\text{C}$
$T_{stg}$		-40 ~ + 125	$^\circ\text{C}$
W	About	3.6	Kg

### Electrical Characteristics

Symbol	Condition	Ratings	Unit
$I_{DRM} / I_{RRM}$	At $V_{DRM}$ , Single phase, half wave, $T_j=125^\circ\text{C}$	100	mA
$V_{TM}$	On-State Current 3000A, $T_j=125^\circ\text{C}$	1.55	V
$V_{T(TO)}$	$T_j=125^\circ\text{C}$	0.8	V
$r_T$	$T_j=125^\circ\text{C}$	0.09	$\text{m}\Omega$
$R_{K1G1}$		-	$\Omega$
$R_{K2G2}$		-	$\Omega$
$t_{gd}$	$T_j=25^\circ\text{C}; V_D=0.4V_{DRM}; I_{TM}=I_{TAV}$	-	us
$t_q$	$dv_D/dt=50\text{V/us}; T_j=125^\circ\text{C}; I_{TM}=I_{TAV}$	-	us
$I_{GT}/V_{GT}$	$T_j=25^\circ\text{C}, I_T=1\text{A}, V_D=6\text{V}$	200 / 3.0	$\text{mA/V}$
$V_{GD}$	$V_D=67\%V_{DRM}$	0.2	V
DV/DT	$V_D=67\%V_{DRM}$	800	V/us
$I_H$	$T_j=25^\circ\text{C}$	300	mA
$I_L$	$T_j=25^\circ\text{C}$	800	mA
$R_{th(j-c)}$	Thermal resistance Junction to case	0.31	$^\circ\text{C/kW}$
$R_{th(c-h)}$	Thermal resistance case to heatsink	0.20	$^\circ\text{C/kW}$

