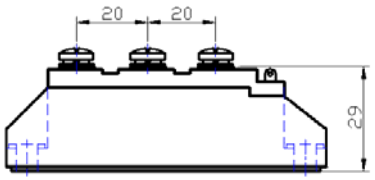
GUERTE®

Single-phase Thyristor/Diode Module
MTC/MFC 90A

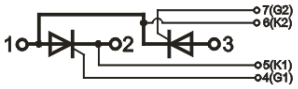
Feature

- International standard pack
- Isolation voltage 2500V～



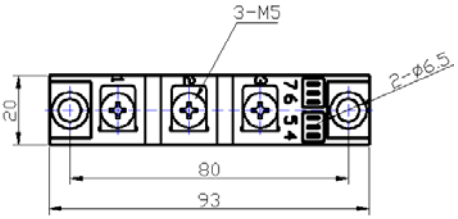
Application

- All types of rectifier
- AC/DC motor control
- Heater control
- Light dimmer
- Frequency convertor



MTC

MFC



■Maximum value

Symbol	Item	Ratings		Unit
		MTC90 -12 MFC90 -12	MTC90 -16 MFC90 -16	
V_{RRM}	Repetitive Peak Reverse Voltage	1200	1600	V
V_{RSM}	Non-Repetitive Peak Reverse Voltage	1300	1700	V
V_{DRM}	Repetitive Peak off-State Voltage	1200	1600	V

Symbol	Item	Conditions	Ratings	Unit
$I_{T(AV)}$, $I_{F(AV)}$	Average On-State Current	single-sided heat dissipation, 180°sine half-wave, 50Hz,T_C:85℃	90	A
$I_{T(RMS)}$, $I_{F(RMS)}$	R.M.S. On-State Current	single-sided heat dissipation, 180°sine half-wave, 50Hz,T_C:85℃	141	A
I_{TSM}, I_{FSM}	Surge On-State Current	t=10ms, 50Hz,Sin，Tjm	2000	A
I^2t	I^2t	V_R = 0.6V_{RRM}，Tjm	20000	A^2S
P_{GM}	Peak Gate Power Dissipation		10	W
$P_{G(AV)}$	Average Gate Power Dissipation		3	W
di/dt	Critical Rate of Rise of On-State Current	I_{GM}=1.5A, t_r≤0.5μs, Tj=25℃	150	A/μs
V_{ISO}	Isolation Breakdown voltage(R.M.S)	AC one minute	2500	V
Tj	Operating Junction Temperature		-40 to +125	℃
Tjm	Rated junction temperature		125	℃
Tstg	Storage Temperature		-40 to +125	℃
Md	Mounting torque（copper plate） M6		4	N·m
	Mounting torque（terminal）M5		4	N·m
W_t	Weight		120	g

■ Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I_{DRM}	Repetitive Peak Off-State Current	V_D=V_{DRM}, sine half wave,Tjm	10	mA
I_{RRM}	Repetitive Peak Reverse Current	V_R=V_{RRM}, sine half wave,Tjm	10	mA
V_{TM} / V_{FM}	Peak On-State Voltage	I_{TM} / I_{FM} =270A, Tj=25℃	1.6/1.3	V
V_{GT}	Gate Trigger Voltage	Tj=25℃,I_T=1A,V_D=12V	0.7-1.5	V
I_{GT}	Gate Trigger Current	Tj=25℃,I_T=1A,V_D=12V	20-100	mA
V_{GD}	Non-trigger Gate Voltage	Tj=125℃,V_D=2/3V_{DRM}	0.25	V
I_{GD}	Non-trigger Gate Current	Tj=125℃,V_D=2/3V_{DRM}	10	mA
dv/dt	Critical Rate of Rise of Off - State Voltage	Tj=125℃, V_D=2/3V_{DRM}	500	V/μs
I_H	Holding Current	Tj=25℃	20-100	mA
I_L	Lutching Current	Tj=25℃	100-400	mA
Rth(j-c)	Thermal Impedance	Single-sided heat dissipation, sine half-wave	0.28	℃/W