

Prospective Data

Anode Shorted Gate Turn-Off Thyristor Types G2500HF250

Absolute Maximum Ratings

	VOLTAGE RATINGS	MAXIMUM LIMITS	UNITS
V _{DRM}	Repetitive peak off-state voltage, (note 1)	2500	V
V _{RSM}	Non-repetitive peak off-state voltage, (note 1)	2500	V
V _{DC-link}	Maximum continuous DC-link voltage	1250	V
V _{RRM}	Repetitive peak reverse voltage	18	V
V _{RSM}	Non-repetitive peak reverse voltage	18	V

	RATINGS	MAXIMUM LIMITS	UNITS
I _{TGQ}	Peak turn-off current, (note 2)	2500	A
L _s	Snubber loop inductance, I _{TM} =I _{TGQ} , (note 2)	200	nH
I _{T(AV)M}	Mean on-state current, T _{sink} =55°C (note 3)	1085	A
I _{T(RMS)}	Nominal RMS on-state current, 25°C (note 3)	2133	A
I _{TSM}	Peak non-repetitive surge current t _p =10ms, (Note 4)	16	kA
I _{TSM2}	Peak non-repetitive surge current t _p =2ms, (Note 4)	21	kA
I ² t	I ² t capacity for fusing t _p =10ms	1.28×10 ⁶	A ² s
di/dt _{cr}	Critical rate of rise of on-state current, (note 5)	500	A/μs
P _{FGM}	Peak forward gate power	120	W
P _{RGM}	Peak reverse gate power	12	kW
I _{FGM}	Peak forward gate current	60	A
V _{RGM}	Peak reverse gate voltage (note 6).	18	V
T _{J op}	Operating temperature range	-40 to +125	°C
T _{stg}	Storage temperature range	-40 to +125	°C

Notes:-

- 1) V_{GK}=-2Volts.
- 2) T_J=125°C, V_D=1250V, V_{DM} ≤ 2500V di_{GQ}/dt=30A/μs, I_{TGQ}=2500A and C_s=6μF.
- 3) Double-side cooled, single phase; 50Hz, 180° half-sinewave.
- 4) T_{J(initial)}=125°C, single phase, 180° sinewave, re-applied voltage V_D=V_R≤10V.
- 5) I_T=3000A repetitive, I_{GM}=25A, di_{GM}/dt=20A/μs. For di/dt>500A/μs please consult the factory.
- 6) May exceed this value during turn-off avalanche period.

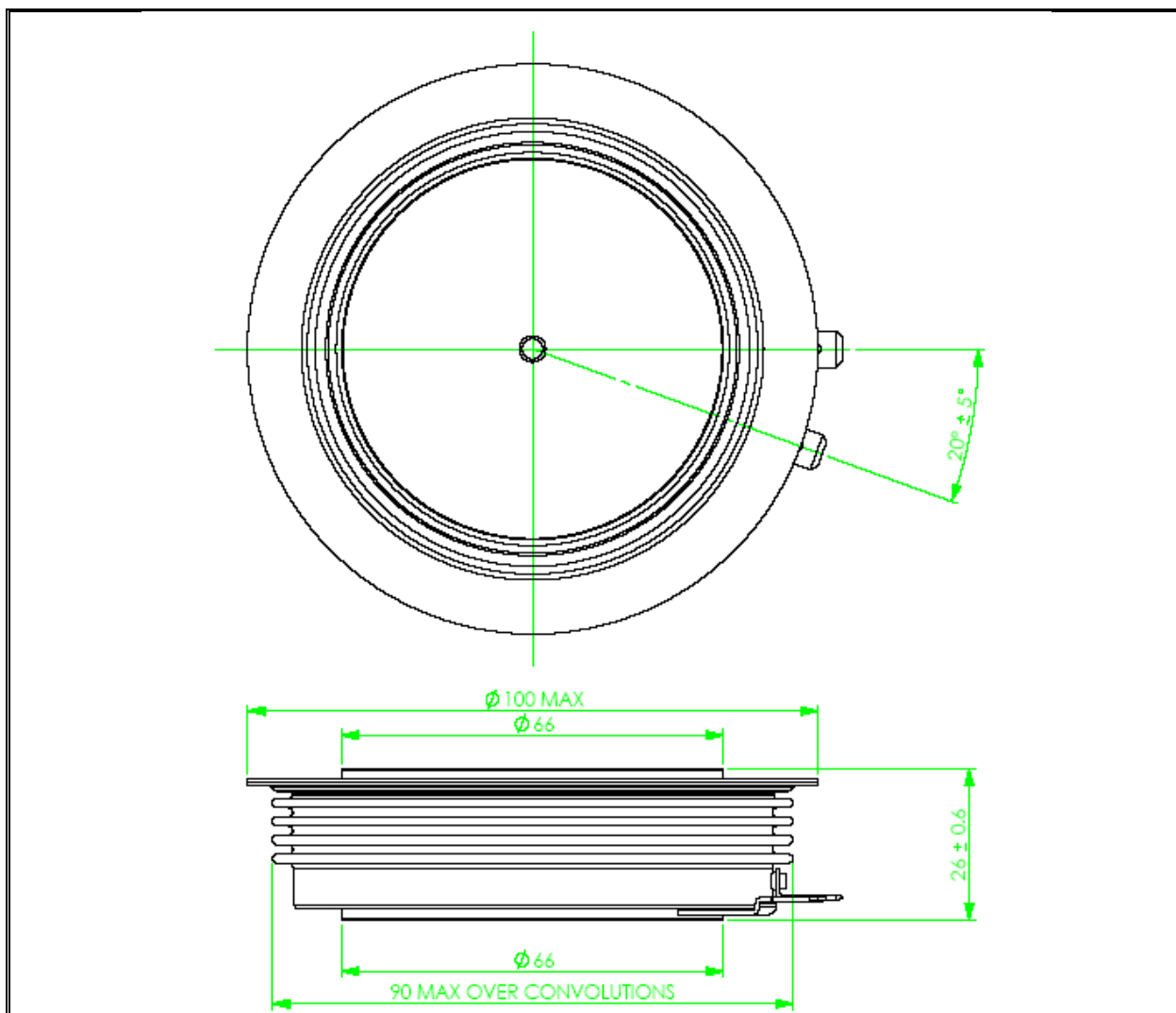
Characteristics

	Parameter	MIN	TYP	MAX	TEST CONDITIONS	UNITS
V_{TM}	Maximum peak on-state voltage	-	-	3.1	$I_G=5A, I_T=2500A$	V
I_L	Latching current	-	40	-	$T_J=25^\circ C$	A
I_H	Holding current.	-	40	-	$T_J=25^\circ C$	A
dv/dt_{cr}	Critical rate of rise of off-state voltage	1000	-	-	$V_D=3000V, V_{GR}=-2V$	V/ μs
I_{DRM}	Peak off state current	-	-	60	Rated $V_{DRM}, V_{GR}=-2V$	mA
I_{RRM}	Peak reverse current	-	-	20	$V_{RR}=18V$	mA
I_{GKM}	Peak negative gate leakage current	-	-	20	$V_{GR}=-18V$	mA
V_{GT}	Gate trigger voltage	-	1.0	-	$T_J=-40^\circ C$	V
		-	0.8	1.0	$T_J=25^\circ C \quad V_D=25V, R_L=25m\Omega$	V
		-	0.6	-	$T_J=125^\circ C$	V
I_{GT}	Gate trigger current	-	8	-	$T_J=-40^\circ C$	A
		-	-	5	$T_J=25^\circ C \quad V_D=25V, R_L=25m\Omega$	A
		50	-	1	$T_J=125^\circ C$	mA
t_d	Delay time	-	0.7	2	$V_D=1250V, I_{TQG}=2500A, di_T/dt=200A/\mu s,$ $I_{GM}=30A, di_G/dt=20A/\mu s, C_S=6\mu F, R_S=5\Omega$	μs
t_{gt}	Turn-on time	-	3	5		μs
E_{on}	Turn-on energy	-	-	0.5		J
t_f	Fall time	-	2	-	$V_{DM}=2500V, I_{TQG}=2500A, di_{GQ}/dt=30A/\mu s,$ $V_{GR}=-16V, C_S=6\mu F$	μs
t_s	Storage time	-	-	26		μs
t_{gq}	Turn-off time	-	-	30		μs
I_{GQM}	Peak turn-off gate current	-	680	-		A
Q_{GQ}	Turn-off gate charge	-	9	-		mC
t_{tail}	Tail time	-	10	-		μs
E_{off}	Turn-off energy	-	-	3.2		J
R_{thJK}	Thermal resistance junction to sink	-	20	-	Double side cooled	K/kW
		-	44	-	Cathode side cooled	K/kW
		-	37	-	Anode side cooled	K/kW
F	Mounting force	21	-	26	(see note 2)	kN
W_t	Weight	-	0.8	-		kg

Notes:-

- 1) Unless otherwise indicated $T_J=125^\circ C$.
- 2) For other clamping forces, consult factory.

Outline Drawing & Ordering Information



ORDERING INFORMATION

(Please quote 10 digit code as below)

G2500 Fixed Type code	HF Outline code	25 Voltage code $V_{DRM}/100$	0 Fixed code
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