

## Prospective Data

# Anode Shorted Gate Turn-Off Thyristor Types G2500HF250

### Absolute Maximum Ratings

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

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

#### Notes:-

- 1) V<sub>GK</sub>=-2Volts.
- 2) T<sub>J</sub>=125°C, V<sub>D</sub>=1250V, V<sub>DM</sub> ≤ 2500V di<sub>GQ</sub>/dt=30A/μs, I<sub>TGQ</sub>=2500A and C<sub>s</sub>=6μF.
- 3) Double-side cooled, single phase; 50Hz, 180° half-sinewave.
- 4) T<sub>J(initial)</sub>=125°C, single phase, 180° sinewave, re-applied voltage V<sub>D</sub>=V<sub>R</sub>≤10V.
- 5) I<sub>T</sub>=3000A repetitive, I<sub>GM</sub>=25A, di<sub>GM</sub>/dt=20A/μs. For di/dt>500A/μs please consult the factory.
- 6) May exceed this value during turn-off avalanche period.

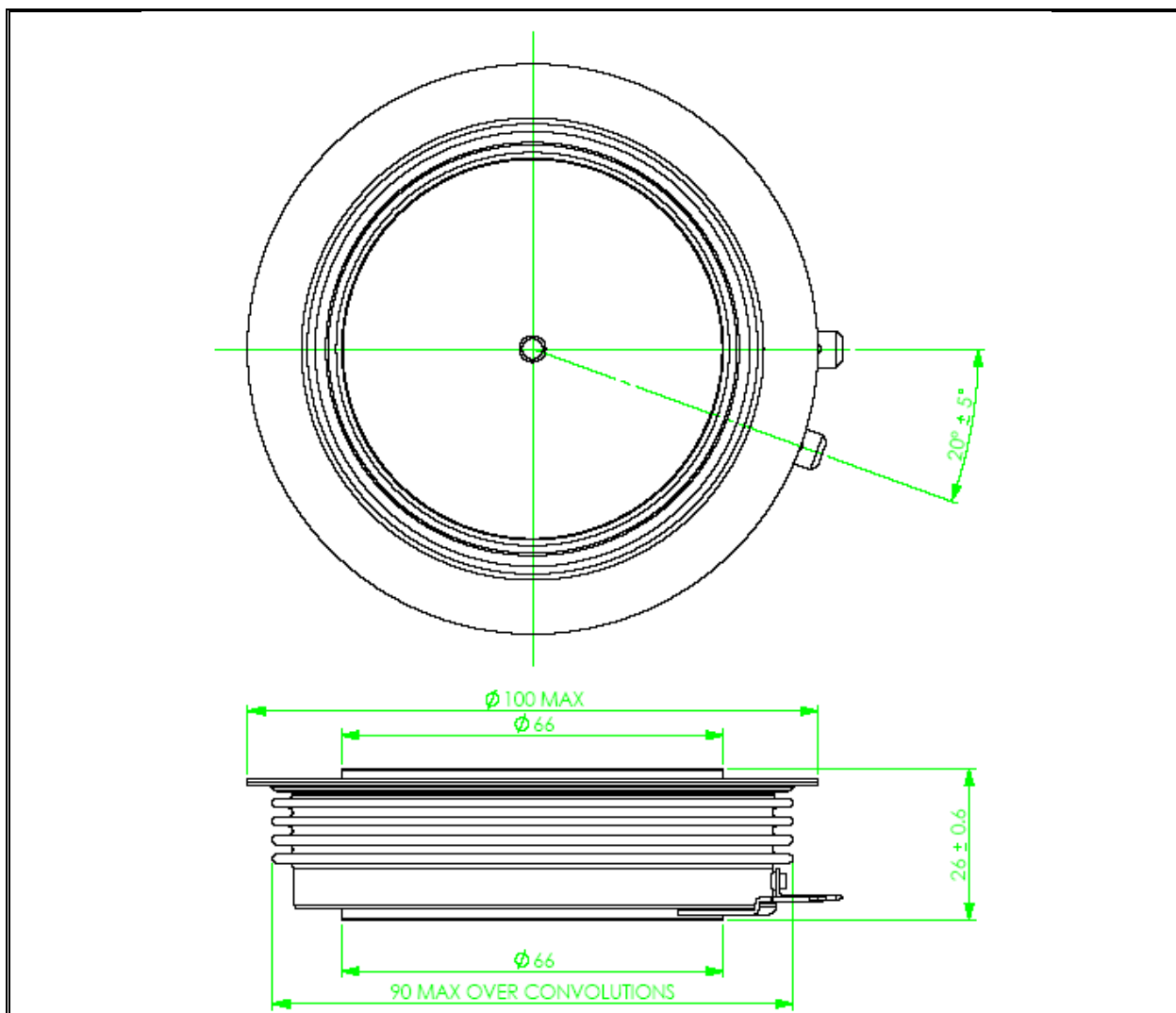
**Characteristics**

	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/ $\mu s$
$I_{DRM}$	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	$T_j=25^\circ C, V_D=25V, R_L=25m\Omega$	V
		-	0.6	-	$T_j=125^\circ C$	V
$I_{GT}$	Gate trigger current	-	8	-	$T_j=-40^\circ C$	A
		-	-	5	$T_j=25^\circ C, V_D=25V, R_L=25m\Omega$	A
		50	-	1	$T_j=125^\circ C$	mA
$t_d$	Delay time	-	0.7	2	$V_D=1250V, I_{T_{GQ}}=2500A, di_T/dt=200A/\mu s, I_{GM}=30A, di_G/dt=20A/\mu s, C_S=6\mu F, R_S=5\Omega$	$\mu s$
$t_{gt}$	Turn-on time	-	3	5		$\mu s$
$E_{on}$	Turn-on energy	-	-	0.5		J
$t_f$	Fall time	-	2	-	$V_{DM}=2500V, I_{T_{GQ}}=2500A, di_{GQ}/dt=30A/\mu s, V_{GR}=-16V, C_S=6\mu F$	$\mu s$
$t_s$	Storage time	-	-	26		$\mu s$
$t_{gq}$	Turn-off time	-	-	30		$\mu s$
$I_{GQM}$	Peak turn-off gate current	-	680	-		A
$Q_{GQ}$	Turn-off gate charge	-	9	-		mC
$t_{tail}$	Tail time	-	10	-		$\mu s$
$E_{off}$	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)

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

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