

# Pulse Thyristor

## Type Y500CNC250

### Absolute Maximum Ratings

	VOLTAGE RATINGS	MAXIMUM LIMITS	UNITS
$V_{DRM}$	Repetitive peak off-state voltage, (note 1)	2500	V
$V_{DSM}$	Non-repetitive peak off-state voltage, (note 1)	2500	V
$V_{RRM}$	Repetitive peak reverse voltage, (note 1)	2000	V
$V_{RSM}$	Non-repetitive peak reverse voltage, (note 1)	2100	V
$V_{DC}$	Permanent dc voltage	1500	V

	OTHER RATINGS	MAXIMUM LIMITS	UNITS
$I_{TM}$	Maximum pulse current, (note 2)	50	kA
$I^2t$	Load limit integral, (note 2)	$312.5 \times 10^3$	A <sup>2</sup> s
$I_{T(AV)M}$	Maximum average on-state current. $T_{sink}=85^{\circ}C$ , (note 3)	480	A
$(di/dt)_{cr}$	Critical rate of rise of on-state current (non-repetitive), (Note 4)	11	kA/ $\mu$ s
$V_{RGM}$	Peak reverse gate voltage	18	V
$T_{j op}$	Operating temperature range	-40 to +125	$^{\circ}C$
$T_{stg}$	Storage temperature range	-40 to +150	$^{\circ}C$

### Notes:-

- 1)  $V_{GK}=-2V$
- 2)  $T_j=125^{\circ}C$ , half-sinewave,  $t_{p(max)}=250\mu s$
- 3) Double side cooled, single phase; 50Hz, 180 $^{\circ}$  half-sinewave.

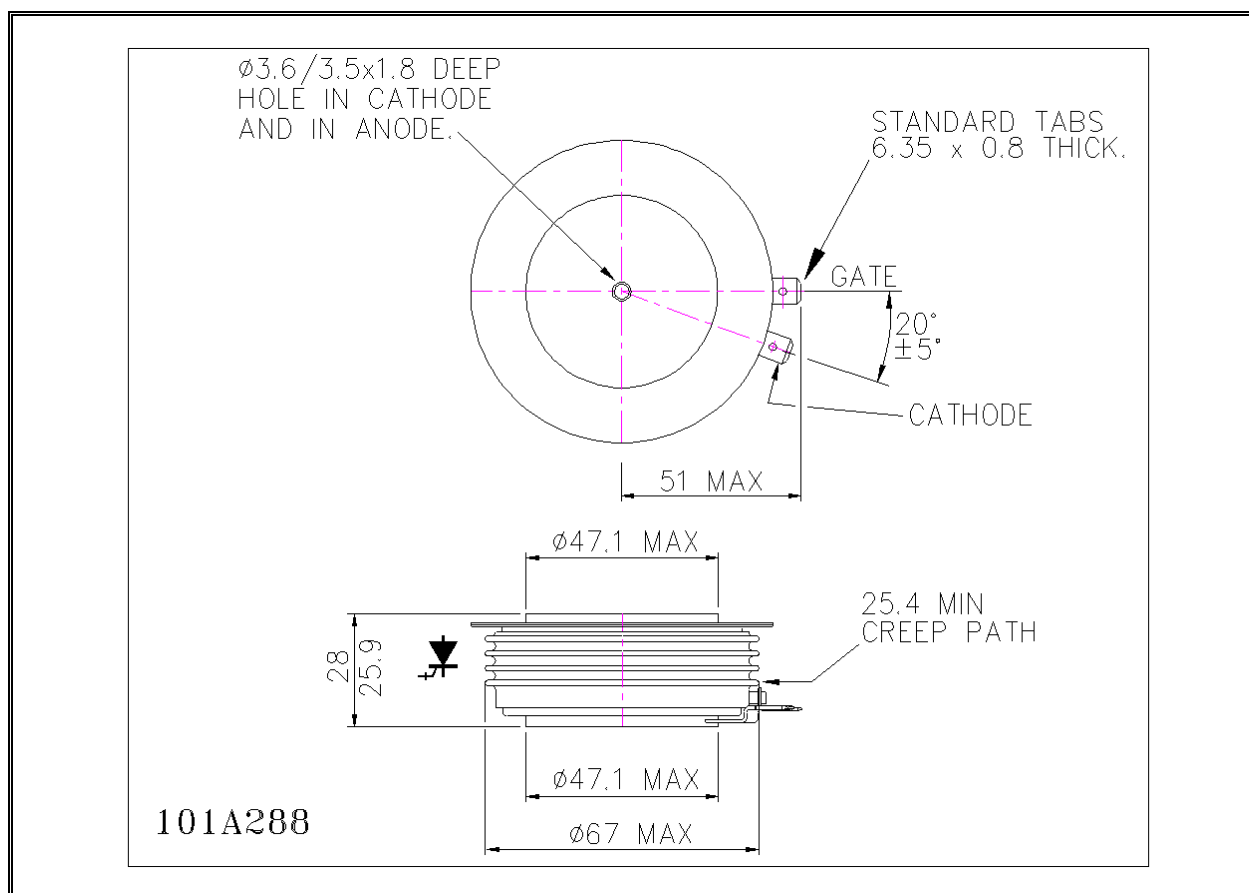
## Characteristics

	PARAMETER	MIN.	TYP.	MAX.	TEST CONDITIONS (Note 1)	UNITS
$V_{TM}$	Maximum peak on-state voltage	-	-	10	$I_G=4A$ , $I_{TM}=10000A$	V
$V_{T0}$	Threshold voltage	-	-	1.755		V
$r_T$	Slope resistance	-	-	1.122		m $\Omega$
$(dv/dt)_{cr}$	Critical rate of rise of off-state voltage	1000	-	-	$V_D=67\% V_{DRM}$ , Linear ramp, $V_{GK}=-2V$	V/ $\mu s$
$I_{DRM}$	Peak off-state current	-	-	100	Rated $V_{DRM}$	mA
$I_{RRM}$	Peak reverse current	-	-	100	Rated $V_{RRM}$	mA
$I_L$	Latching current	-	10	-	$T_j=25^\circ C$	A
$I_H$	Holding current	-	10	-		A
$I_{GT}$	Nominal gate trigger current	-	-	50	$di_G/dt=100A/\mu s$ , $T_j=25^\circ C$	A
$t_{gd}$	Gate controlled turn-on delay time	-	0.9	-	$V_D=1500V$ , $I_{TM}=25kA$ , $di/dt=5500A/\mu s$ , $I_{FG}=50A$ , $di_G/dt=100A/\mu s$ , $T_j=25^\circ C$ .	$\mu s$
$t_{gt}$	Turn-on time	-	1.0	-		
$R_{thJK}$	Thermal resistance, junction to heatsink	-	-	0.027	Double side cooled	K/W
		-	-	0.045	Anode side cooled	K/W
		-	-	0.07	Cathode side cooled	K/W
F	Mounting force	15	-	25		kN
$W_t$	Weight	-	480	-		g

Notes:-

1) Unless otherwise indicated  $T_j=125^\circ C$ .

## Outline Drawing & Ordering Information



### ORDERING INFORMATION

(Please quote 10 digit code as below)

Y500C	NC	♦♦	0
Fixed Type Code	Fixed Outline Code	Fixed Voltage Code $V_{DRM}/100$ 25	Fixed code

Typical order code: Y500CNC250 – 2500V  $V_{DRM}$ , 28mm clamp height capsule.

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