

# Pulse Thyristor

## Type Y500CNC250

### Absolute Maximum Ratings

	<b>VOLTAGE RATINGS</b>	<b>MAXIMUM LIMITS</b>	<b>UNITS</b>
V <sub>DRM</sub>	Repetitive peak off-state voltage, (note 1)	2500	V
V <sub>DSM</sub>	Non-repetitive peak off-state voltage, (note 1)	2500	V
V <sub>R RM</sub>	Repetitive peak reverse voltage, (note 1)	2000	V
V <sub>R SM</sub>	Non-repetitive peak reverse voltage, (note 1)	2100	V
V <sub>DC</sub>	Permanent dc voltage	1500	V

	<b>OTHER RATINGS</b>	<b>MAXIMUM LIMITS</b>	<b>UNITS</b>
I <sub>TM</sub>	Maximum pulse current, (note 2)	50	kA
I <sup>2</sup> t	Load limit integral, (note 2)	312.5×10 <sup>3</sup>	A <sup>2</sup> s
I <sub>T(AV)M</sub>	Maximum average on-state current. T <sub>sink</sub> =85°C, (note 3)	480	A
(di/dt) <sub>cr</sub>	Critical rate of rise of on-state current (non-repetitive), (Note 4)	11	kA/μs
V <sub>RGM</sub>	Peak reverse gate voltage	18	V
T <sub>J op</sub>	Operating temperature range	-40 to +125	°C
T <sub>stg</sub>	Storage temperature range	-40 to +150	°C

Notes:-

- 1) V<sub>GK</sub>=-2V
- 2) T<sub>J</sub>=125°C, half-sinewave, t<sub>p(max)</sub>=250μs
- 3) Double side cooled, single phase; 50Hz, 180° half-sinewave.

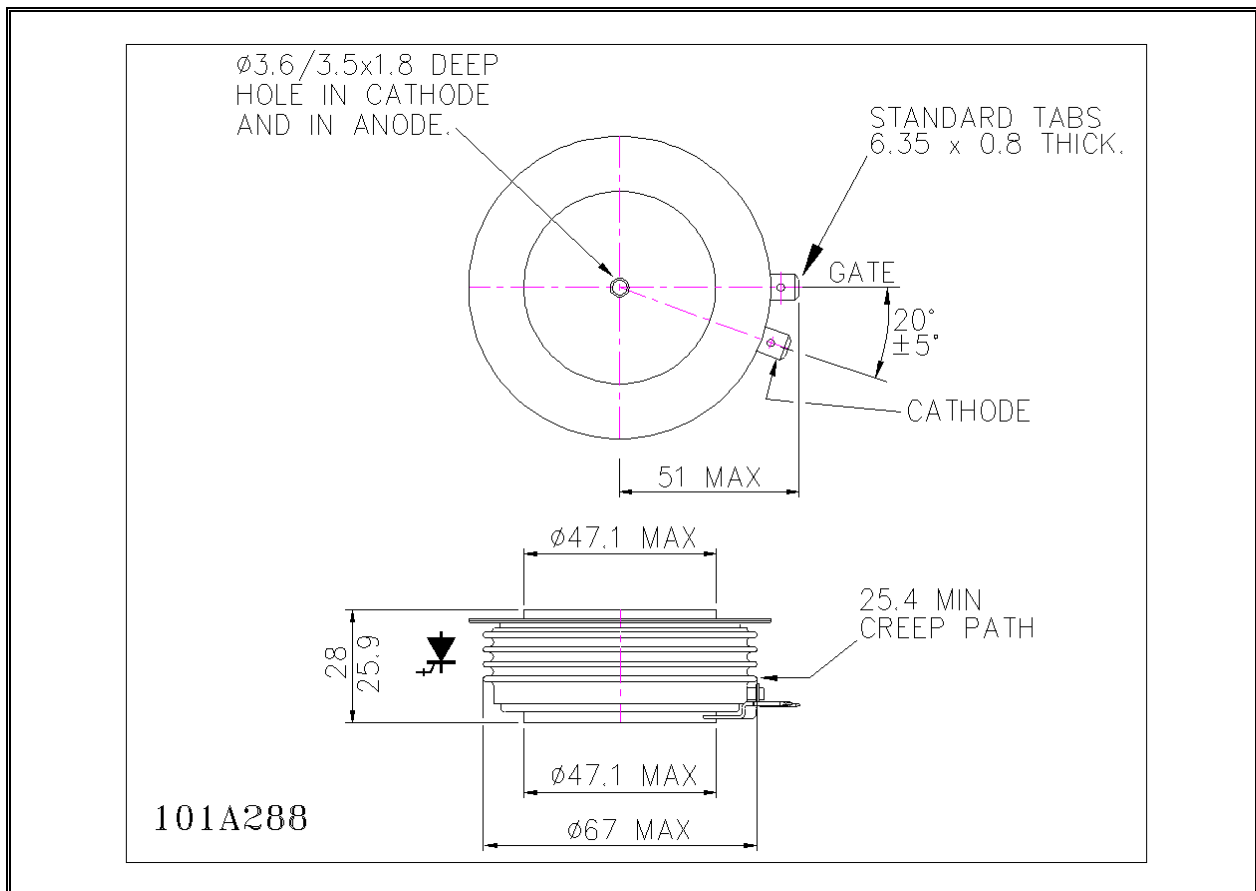
**Characteristics**

	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	-	$V_D=1500V, I_{TM}=25kA, di/dt=5500A/\mu s,$	$\mu$ s
$t_{gt}$	Turn-on time	-	1.0	-	$I_{FG}=50A, di_G/dt=100A/\mu s, T_j=25^\circ C.$	
$R_{thJK}$	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)			
<b>Y500C</b>	<b>NC</b>	<b>◆◆</b>	<b>0</b>
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.

**IXYS Semiconductor GmbH**  
Edisonstraße 15  
D-68623 Lampertheim  
Tel: +49 6206 503-0  
Fax: +49 6206 503-627  
E-mail: [marcom@ixys.de](mailto:marcom@ixys.de)



**IXYS UK Westcode Ltd**  
Langley Park Way, Langley Park,  
Chippenham, Wiltshire, SN15 1GE.  
Tel: +44 (0)1249 444524  
Fax: +44 (0)1249 659448  
E-mail: [sales@ixysuk.com](mailto:sales@ixysuk.com)

**IXYS Corporation**  
1590 Buckeye Drive  
Milpitas CA 95035-7418  
Tel: +1 (408) 457 9000  
Fax: +1 (408) 496 0670  
E-mail: [sales@ixys.net](mailto:sales@ixys.net)

[www.ixysuk.com](http://www.ixysuk.com)

[www.ixys.com](http://www.ixys.com)

**IXYS Long Beach**  
IXYS Long Beach, Inc  
2500 Mira Mar Ave, Long Beach  
CA 90815  
Tel: +1 (562) 296 6584  
Fax: +1 (562) 296 6585  
E-mail: [service@ixyslongbeach.com](mailto:service@ixyslongbeach.com)

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