

Prospective Data

## Pulse Thyristor

### Type Y5002NC250

#### 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)	$312.5 \times 10^3$	$A^2s$
$I_{T(AV)M}$	Maximum average on-state current. $T_{sink}=85^\circ C$ , (note 3)	700	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.

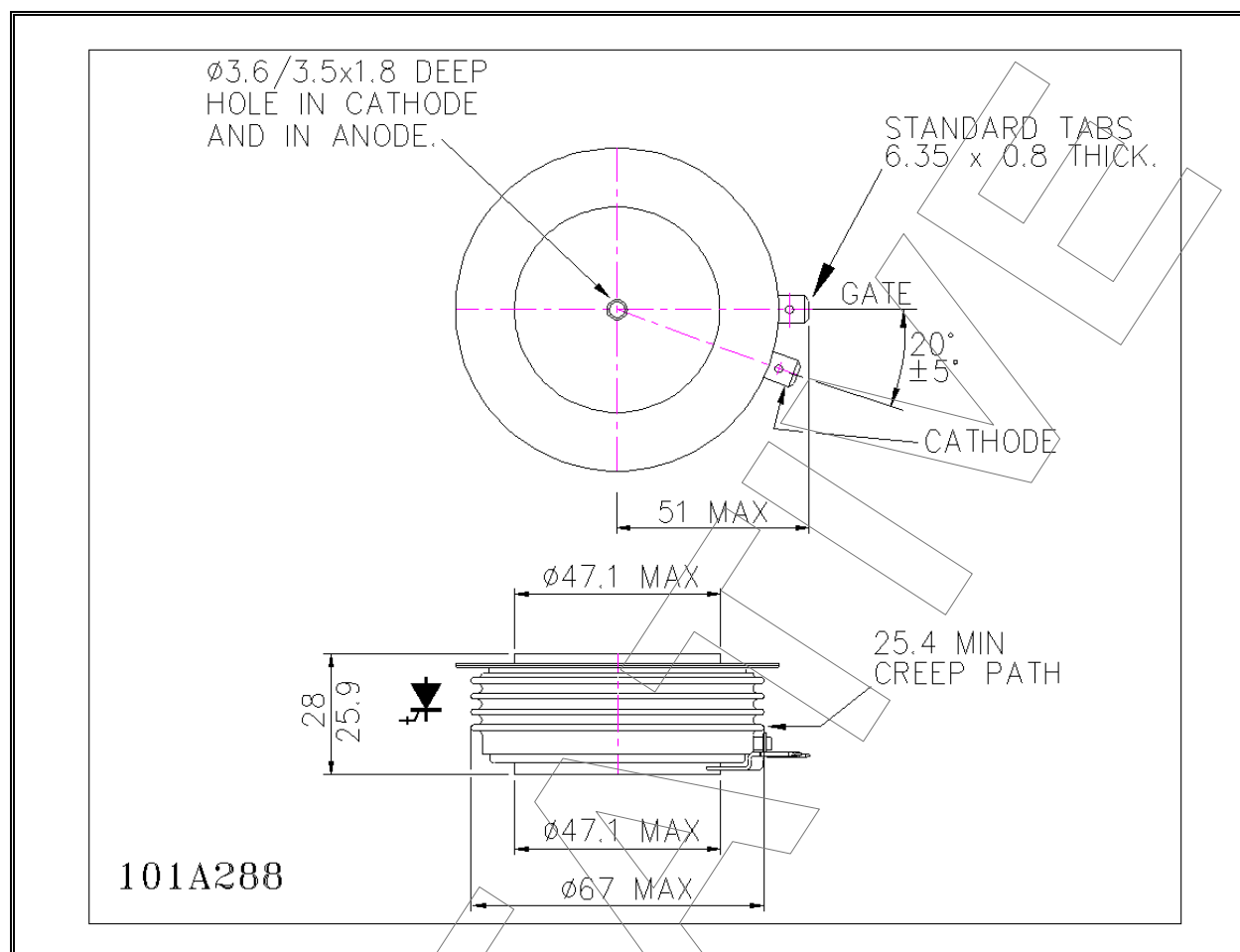
**Characteristics**

	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	-	-	80	$di_G/dt=100A/\mu s$ , $T_j=25^\circ C$	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)

Y5002	NC	♦♦	0
Fixed Type Code	Fixed Outline Code	Fixed Voltage Code V <sub>DRM</sub> /100 25	Fixed code

Typical order code: Y5002NC250 – 2500V V<sub>DRM</sub>, 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 Corporation**  
3540 Bassett Street  
Santa Clara CA 95054 USA  
Tel: +1 (408) 982 0700  
Fax: +1 (408) 496 0670  
E-mail: [sales@ixys.net](mailto:sales@ixys.net)

**WESTCODE**  
An IXYS Company

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

**Westcode Semiconductors Ltd**  
PO Box 57 Chippenham  
Wiltshire SN15 1JL  
Tel: +44 (0)1249 444524  
Fax: +44 (0)1249 659448  
E-mail: [WSL.sales@westcode.com](mailto:WSL.sales@westcode.com)

**Westcode Semiconductors Inc**  
3270 Cherry Avenue  
Long Beach CA 90807 USA  
Tel: +1 (562) 595 6971  
Fax: +1 (562) 595 8182  
E-mail: [WSI.sales@westcode.com](mailto:WSI.sales@westcode.com)

The information contained herein is confidential and is protected by Copyright. The information may not be used or disclosed except with the written permission of and in the manner permitted by the proprietors Westcode Semiconductors Ltd.

© Westcode Semiconductors Ltd.

In the interest of product improvement, Westcode reserves the right to change specifications at any time without prior notice.

Devices with a suffix code (2-letter or letter/digit/letter combination) added to their generic code are not necessarily subject to the conditions and limits contained in this report.