

Rectifier Diode

W0646WC060 to W0646WC150

The data sheet on the subsequent pages of this document is a scanned copy of existing data for this product.

(Rating Report 87NR1 Issue 1)

This data reflects the old part number for this product which is: SW02-15CXC300. This part number must **NOT** be used for ordering purposes – please use the ordering particulars detailed below.

The limitations of this data are as follows:

Device no longer available for grades 02 & 04 (200V & 400V V_{RRM})

No reverse recovery information available

Please use the following link to view an up to date outline drawing for this device

[Outline W1](#)

Where any information on the product matrix page differs from that in the following data, the product matrix must be considered correct

An electronic data sheet for this product is presently in preparation.

For further information on this product, please contact your local ASM or distributor.

Alternatively, please contact Westcode as detailed below.

Ordering Particulars			
W0646	WC	◆◆	0
Fixed Type Code	Fixed Outline Code	Voltage code $V_{DRM}/100$ 06-15	Fixed Code
Typical Order Code: W0646WC060, 14mm clamp height, 600V V_{RRM}			

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

WESTCODE
An  IXYS Company

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

www.westcode.com

www.ixys.com

Westcode Semiconductors Ltd
Langley Park Way, Langley Park,
Chippenham, Wiltshire, SN15 1GE.
Tel: +44 (0)1249 444524
Fax: +44 (0)1249 659448
E-mail: 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

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, 3-letter or letter/digit/letter combination) added to their generic code are not necessarily subject to the conditions and limits contained in this report.

QUALITY EVALUATION LABORATORY

Rating Report: 87NR1

Date: 25th March, 1987

Pages: 10

Diode Type SW02-15CXC300

Written by:

mhw Dunlop

Checked:

mhw

Approved:

B.L.H.

This diode consists of a diffused 24 mm diameter silicon slice mounted in a cold weld capsule housing. This Rating Report supersedes Report No. 79NR17.

Ratings

Voltage Grades	:	02-15
V_{RSM}	:	300-1600V
V_{RRM}	:	200-1500V
$I_{F(AV)}$: Single Phase; 50 Hz, 180° half sinewave;		
Double side cooled $T_{HS} = 55^{\circ}C, 100^{\circ}C$	:	647A, 483A
Single side cooled $T_{HS} = 100^{\circ}C$	:	297A
I_F (rms) max.)	:	1170A
) Double side cooled $T_{HS} = 25^{\circ}C$		
I_F max.)	:	1010A
I_{FSM} : $t = 10ms$ half sinewave; T_J (initial) = $180^{\circ}C$;		
$V_{RM} = 0.6 V_{RRM}^{(Max)}$	:	5500A
I_{FSM} ; $t = 10ms$ half sinewave; T_J (initial) = $180^{\circ}C$; $V_{RM} \leq 10V$	:	6050A
I^2t : $t = 10ms$; T_J (initial) = $180^{\circ}C$; $V_{RM} = 0.6 V_{RRM}^{(Max)}$	:	151000 A^2SECS
I^2t : $t = 10ms$; T_J (initial) = $180^{\circ}C$; $V_{RM} \leq 10V$	:	183000 A^2SECS
I^2t : $t = 3ms$; T_J (initial) = $180^{\circ}C$; $V_{RM} \leq 10V$	:	135000 A^2SECS
T_{HS} Operating range	:	-40 to $+180^{\circ}C$
T_{stg} ; Non-operating	:	-40 to $+200^{\circ}C$

Characteristics

(Maximum values unless stated otherwise)

$V_O : T_J = 180^\circ\text{C}$	:	0.95V
$r_s : T_J = 180^\circ\text{C}$	:	0.75mohms
$V_{FM} : I_{FM} = 1517\text{A } T_{VJ} = 180^\circ\text{C}$	:	2.09V
$R_{th}(\text{J-HS})$ Double side cooled	:	0.09°C/W
Single side cooled	:	0.18°C/W
$I_{RRM} : T_J = 180^\circ\text{C } V_{RM} = V_{RRM(\text{Max})}$	:	15mA
$Q_{rr} : I_{TM} = dI/dt =$	:	
$V_{RM} = T_{VJ} =$	:	
Mounting Force	:	330-550Kgf
Outline drawing	:	100A241
Jedec Outline No.	:	D0200AA

CONTENTS

	<u>Page</u>
Ratings	1
Characteristics	2
Contents	3
Voltage Ratings	4
Dissipation and Heatsink Temperature vs Mean Current	5 & 6
Limit Forward Voltage Characteristic	7
Transient Thermal Impedance Characteristic	8
Surge Current and I^2t vs Duration of Surge	9
Outline Drawing	10

Changes to Rating Report No. 79NR17

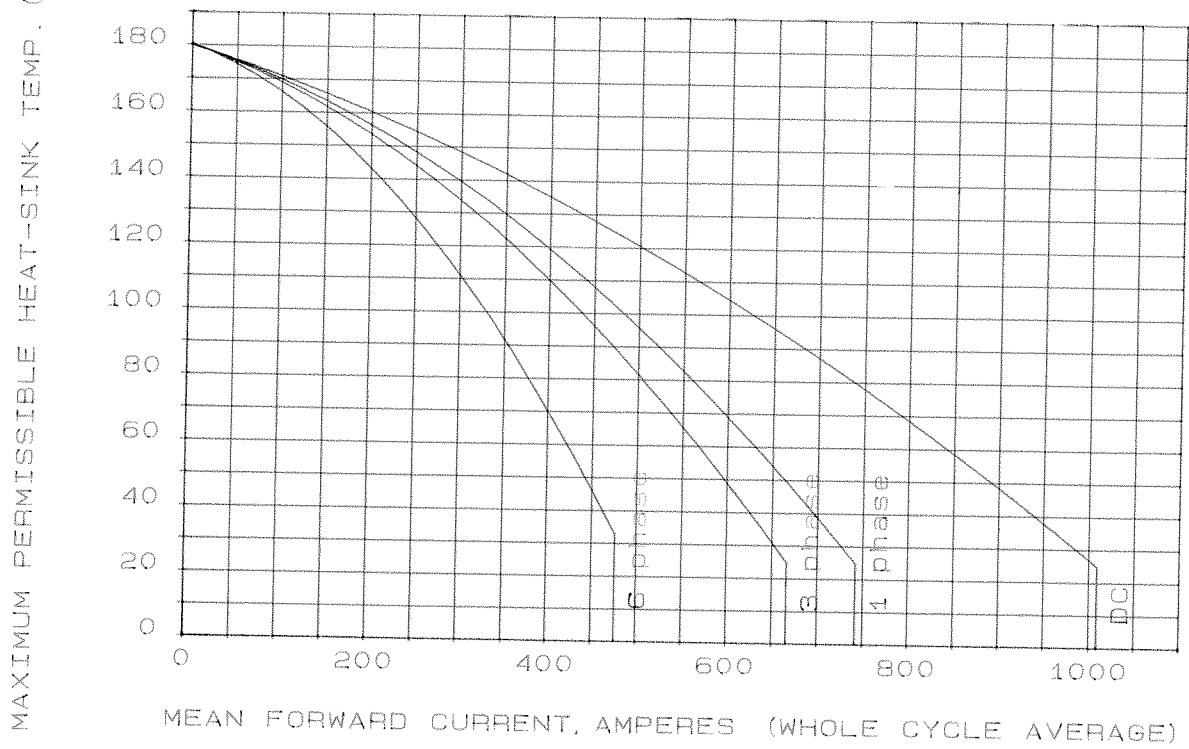
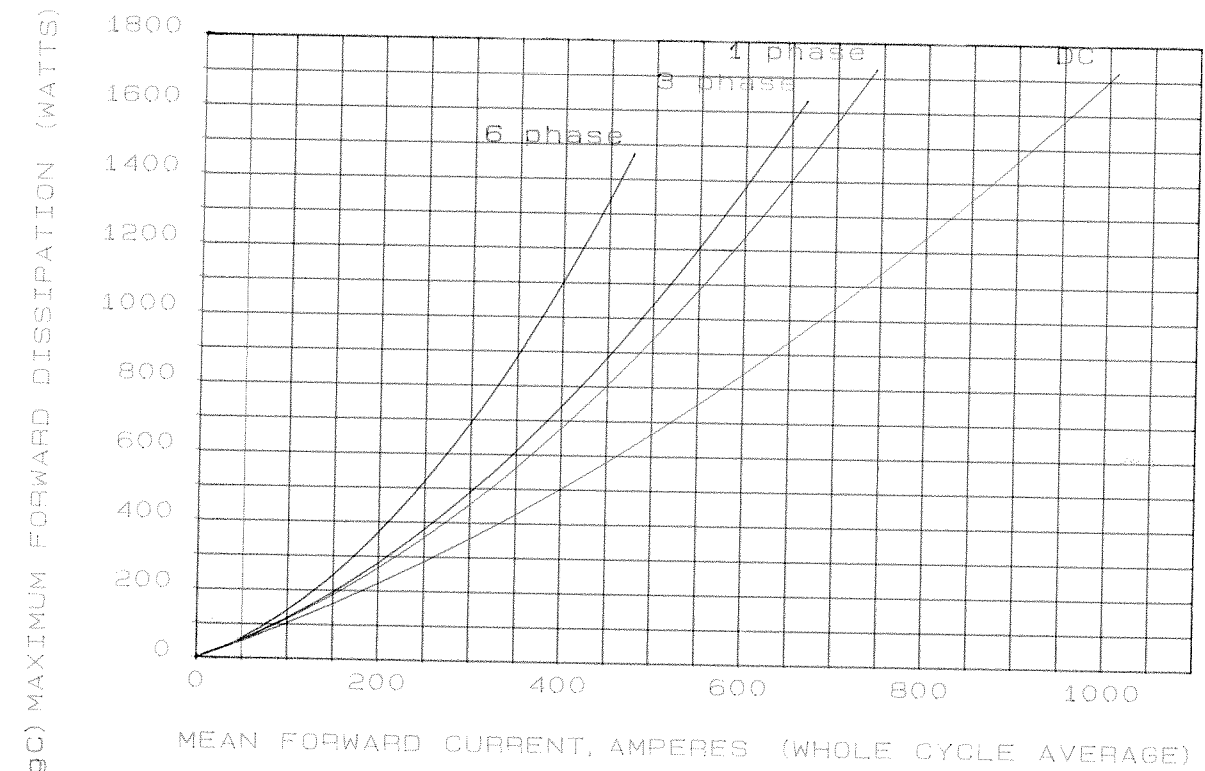
- P1 : V_{RWM} omitted
 T_{HS} (MIN) reduced to -40°C
 I^2t ($V_{RM} = 0.6 V_{RRM}$ (MAX)) corrected to $151000\text{A}^2\text{S}$
- P2 : V_{FM} changed to 2.09V
 JEDEC outline No. added
- P4 : V_{RWM} omitted
- P5-8 : Redrawn

Voltage Ratings

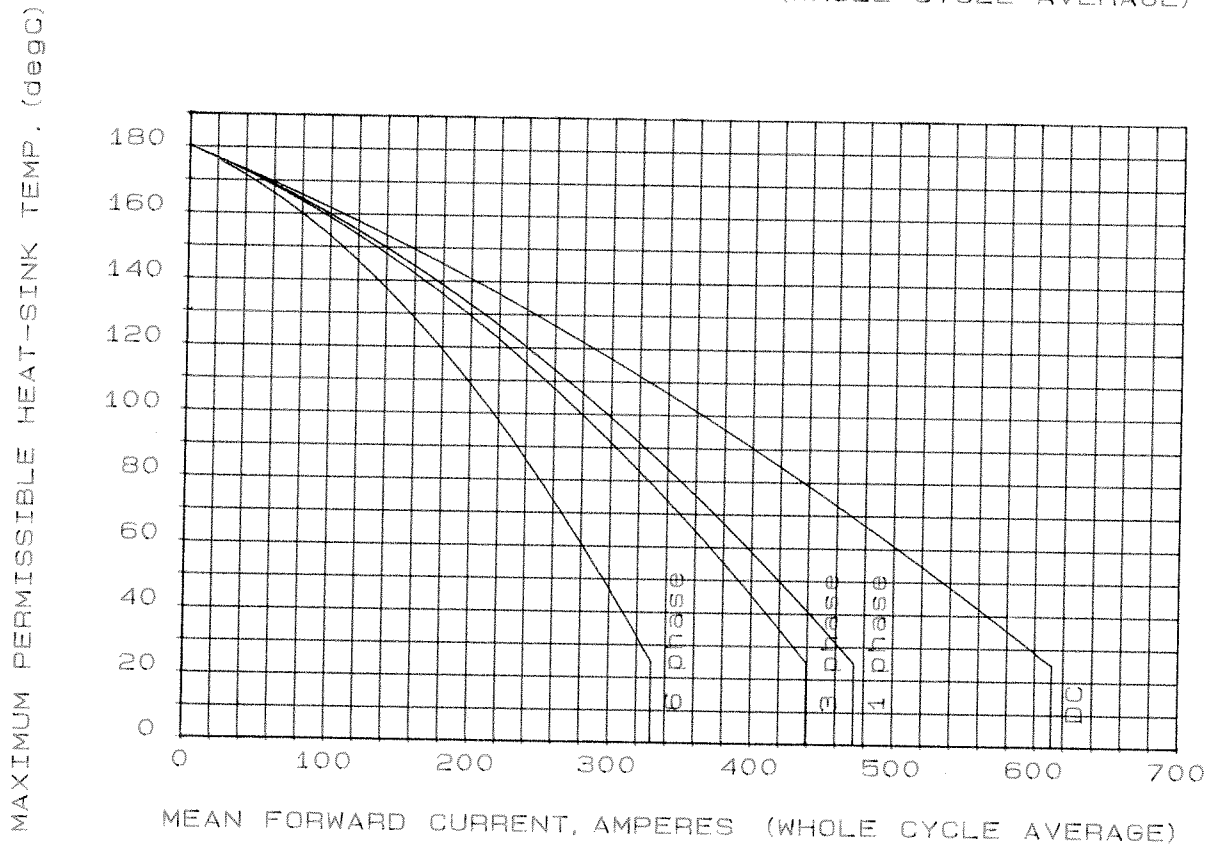
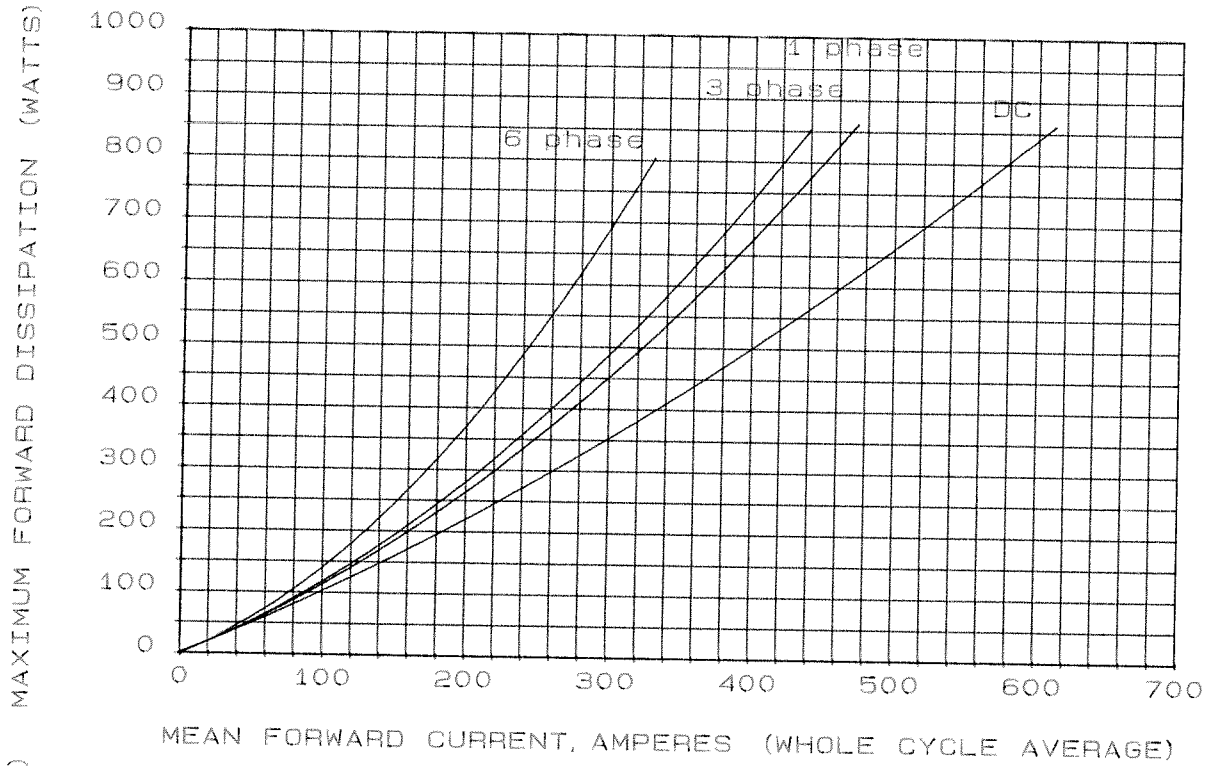
Voltage Class SW	V _{RRM}	V _{RSM} V
02	200	300
04	400	500
06	600	700
08	800	900
10	1000	1100
12	1200	1300
14	1400	1500
15	1500	1600

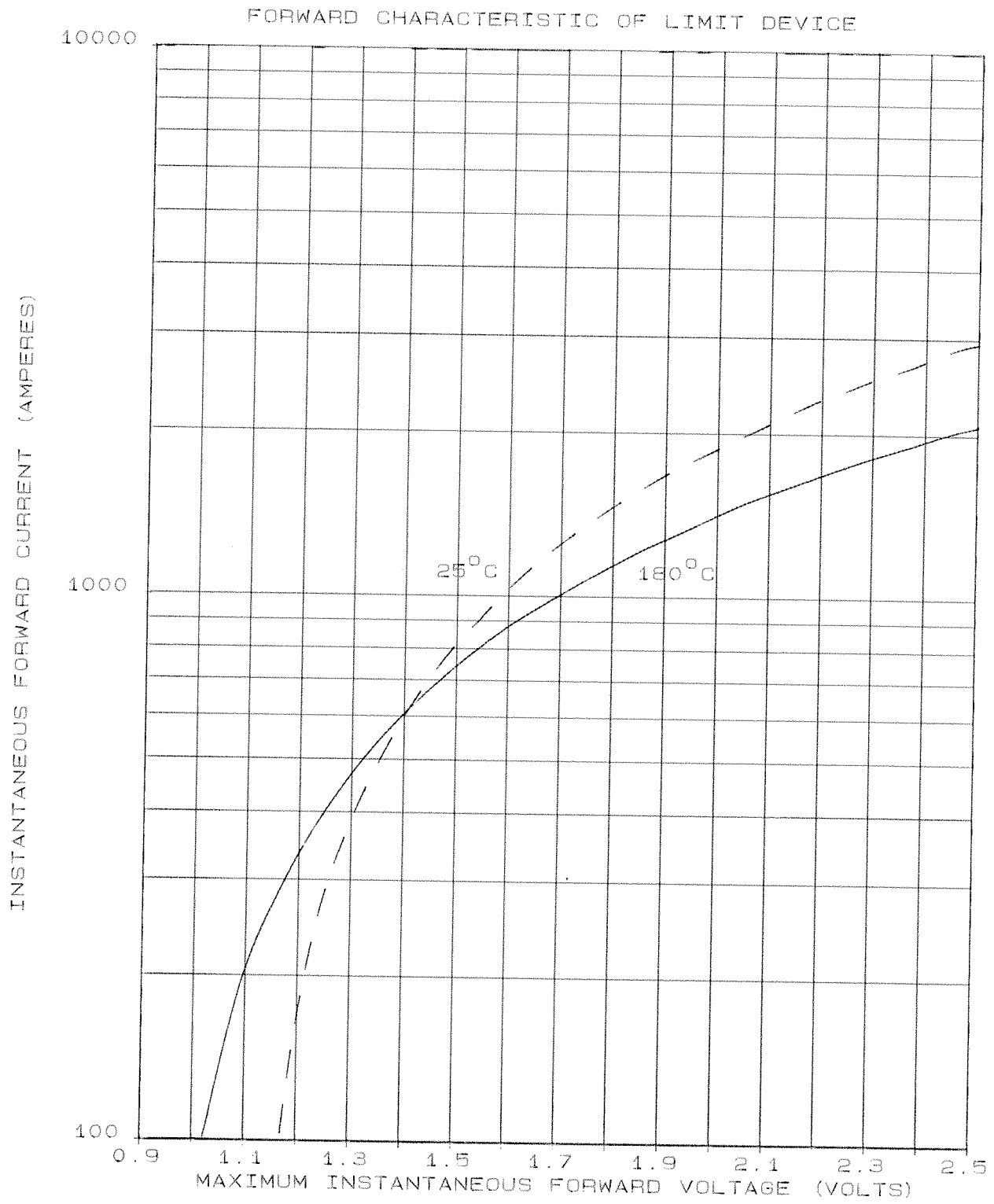
This report is applicable to higher or lower voltage grades when supply has been agreed by Sales/Production.

DOUBLE SIDE COOLED

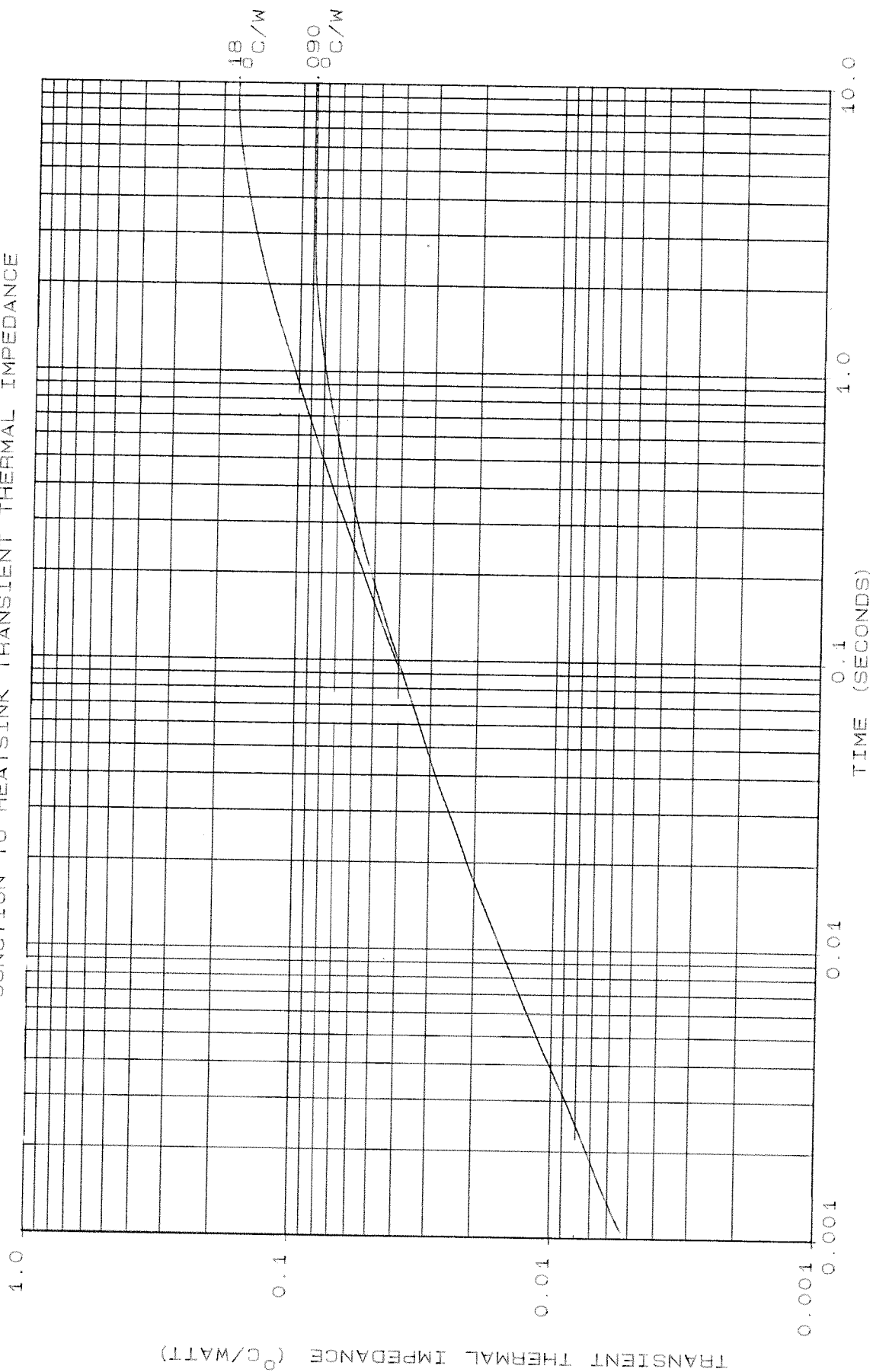


SINGLE SIDE COOLED

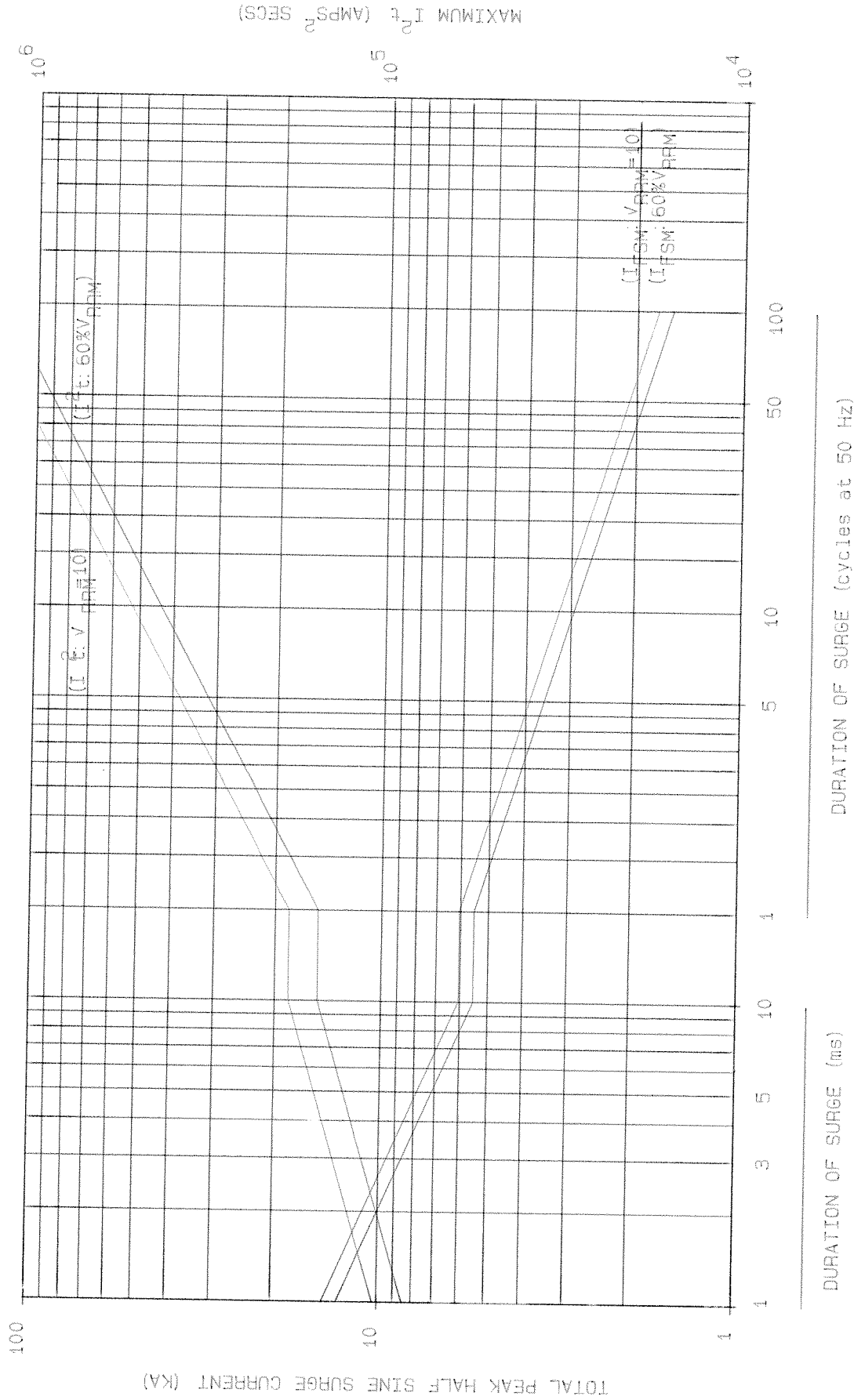




JUNCTION TO HEATSINK TRANSIENT THERMAL IMPEDANCE



MAXIMUM NON REPETITIVE SURGE CURRENT AT INITIAL JUNCTION TEMPERATURE 180°C

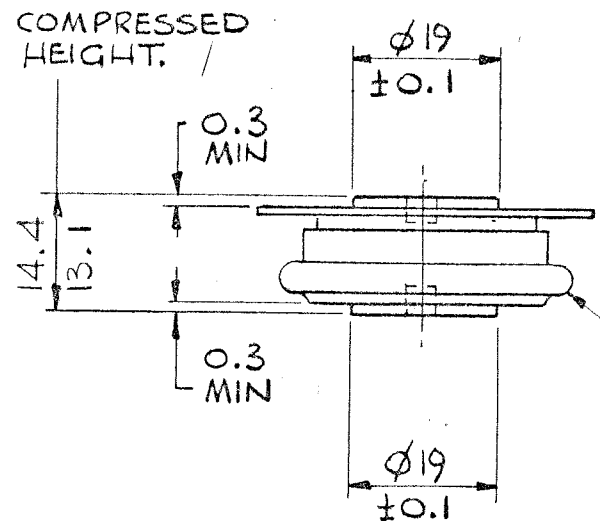
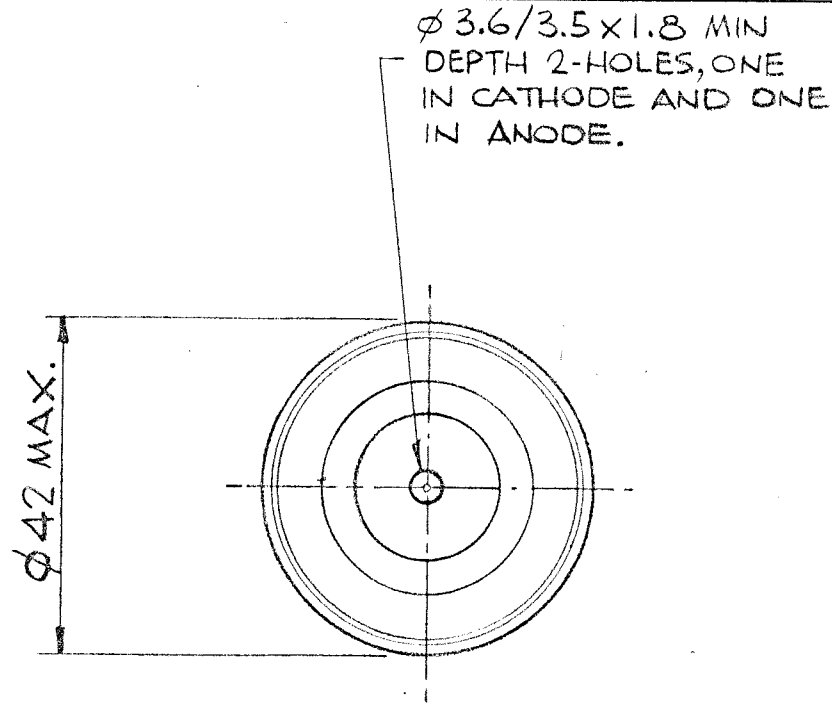


SCALE	1/1
DRN	<i>[Signature]</i>
CHKD	<i>[Signature]</i>
APPD	
A	
S	NI

INTERNATIONAL OUTLINE No. **DO-200AA.**
 WEIGHT. **70 GRAMS.** - 10 -
 FINISH. **NICKEL PLATE.**
 DEVICE MARKING INCLUDES MONOGRAM, TYPE No., SPEC. No. AND POLARITY SYMBOL.
 DEVICE MOUNTING: CLAMPING FORCE TO BE APPLIED ON Φ OF LOCATION HOLES AND BE EVENLY DISTRIBUTED OVER AREA OF CONTACT. FLAT TOL ON SURFACES TO WHICH DEVICE IS CLAMPED TO BE 0.04 WIDE.
 CLAMPING FORCE = 330 - 550 kgf.

CXC300	TYPE NUMBER
CXC320	CXC170
CXC380	CXC174
CXC400	

G.A. DRG. No. **159B100H100-H110. 102B213.**



THE INFORMATION CONTAINED IN THIS DRAWING IS SUPPLIED IN CONFIDENCE AND IS PROTECTED BY COPYRIGHT. THE INFORMATION MAY NOT BE DISCLOSED EXCEPT WITH THE WRITTEN PERMISSION OF AND IN MANNER PERMITTED BY THE PROPRIETORS. WESTINGHOUSE BRAKE AND SIGNAL CO. LTD.

ISS	REVISIONS	WESTINGHOUSE BRAKE AND SIGNAL CO. LTD. CHIPPENHAM, WILTSHIRE, SN15 1JD, ENGLAND.
1	10.9.76 P118	
2	REDRAWN: 15.2 / 14 WAS 15.2/12.5. Ø19 WAS Ø29. P30.4 18.5.78	
3	CLAMPING FORCE WAS 500-1200 kgf. 7.9.78	
4	11.9.78 Ø42 WAS Ø43 14.35/13.08 WAS 15.2 / 14. CLAMP FORCE WAS 400-700 kgf.	
5	19.9.78 14.4 / 13.1 WAS 14.35/13.08	
6	30.10.78 M670 TYPE N° ADDED	
7	17.9.79 M773 550 kgf WAS 700 kgf.	

WESTCODE® SEMICONDUCTORS
THIRD ANGLE PROJECTION
DIMNS. IN MILLIMETRES
DRG. No. 100A 241