

Rectifier Diode

W2416NC160 to W2416NC250

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

(Rating Report 90NR26 Issue 1)

This data reflects the old part number for this product which is: SW16-25CXC950. 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:
No reverse recovery information available

Please use the following link to view an up to date outline drawing for this device
[Outline W5](#)

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			
W2416	NC	◆◆	0
Fixed Type Code	Fixed Outline Code	Voltage code $V_{RRM}/100$ 16-25	Fixed Code
Typical Order Code: W2416NC160, 27.7mm clamp height, 1600V 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

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

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 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: 90NR26

Date: 16th October, 1990

Pages: 10

Diode Type SW16-25CXC950

Written by: M. Baker

Checked: *BH*

Approved: *Baker*

This diode consists of a diffused 50 mm diameter silicon slice mounted in a cold weld capsule housing.

This report supersedes Rating Report No. 87NR19 and 79NR3

Ratings

Voltage Grades	: 16-25
V_{RSM}	: 1700-2600V
V_{RRM}	: 1600-2500V
$I_F(AV)$: Single Phase; 50 Hz, 180° half sinewave;	
Double side cooled $T_{HS} = 55^{\circ}C, 100^{\circ}C$	: 2420A, 1700A
Single side cooled $T_{HS} = 100^{\circ}C$	: 1060A
I_F (rms) max.)	: 4430A
Double side cooled $T_{HS} = 25^{\circ}C$	
I_F max.)	: 3920A
I_{FSM} : $t = 10ms$ half sinewave; T_J (initial) = $160^{\circ}C$;	
$V_{RM} = 0.6 V_{RRM(Max)}$	: 25,500A
I_{FSM} ; $t = 10ms$ half sinewave; T_J (initial) = $160^{\circ}C$; $V_{RM} \leq 10V$	: 28,050A
I^2t : $t = 10ms$; T_J (initial) = $160^{\circ}C$; $V_{RM} = 0.6 V_{RRM(Max)}$	: $3.25 \times 10^6 A^2 SECS$
I^2t : $t = 10ms$; T_J (initial) = $160^{\circ}C$; $V_{RM} \leq 10V$	: $3.92 \times 10^6 A^2 SECS$
I^2t : $t = 3ms$; T_J (initial) = $160^{\circ}C$; $V_{RM} \leq 10V$	: $2.85 \times 10^6 A^2 SECS$
T_{HS} Operating range	: -55 to $+160^{\circ}C$
T_{stg} ; Non-operating	: -55 to $+200^{\circ}C$

Characteristics

(Maximum values unless stated otherwise)

V_O :	$T_J = 160^\circ\text{C}$	:	0.78V
r_s :	$T_J = 160^\circ\text{C}$	:	0.2 mohms
COLD			
A :	$T_J = 25^\circ\text{C}$	:	0.7221466
B :	$T_J = 25^\circ\text{C}$	:	4.237709E-2
C :	$T_J = 25^\circ\text{C}$	:	9.3865E-5
D :	$T_J = 25^\circ\text{C}$	:	6.631216E-4
HOT			
A :	(Constant)	:	0.3308959
B :	(B x ln i)	:	7.534859E-2
C :	(C x i)	:	2.019828E-4
D :	(D x $\sqrt{i}$)	:	-2.857053E-3
V_{FM} :	$I_{FM} = 4500A$ $T_{VJ} = 160^\circ\text{C}$	:	1.68V
R_{th} (J-HS) double side cooled		:	0.022 K/W
single side cooled		:	0.044 K/W
I_{RRM} :	$T_J = 160^\circ\text{C}$ $V_{RM} = V_{RRM}(\text{Max})$	:	50 mA
Q_{RA} :	$I_{TM} =$ $T_{VJ} =$	:	
T_{th} :	$V_{RM} =$ $T_{VJ} =$	:	
Mounting Force		:	1900-2600 Kg.F
Outline Drawing		:	100A249
JEDEC Outline No.		:	DO-200AC

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

Change to Rating Report No. 87NR19

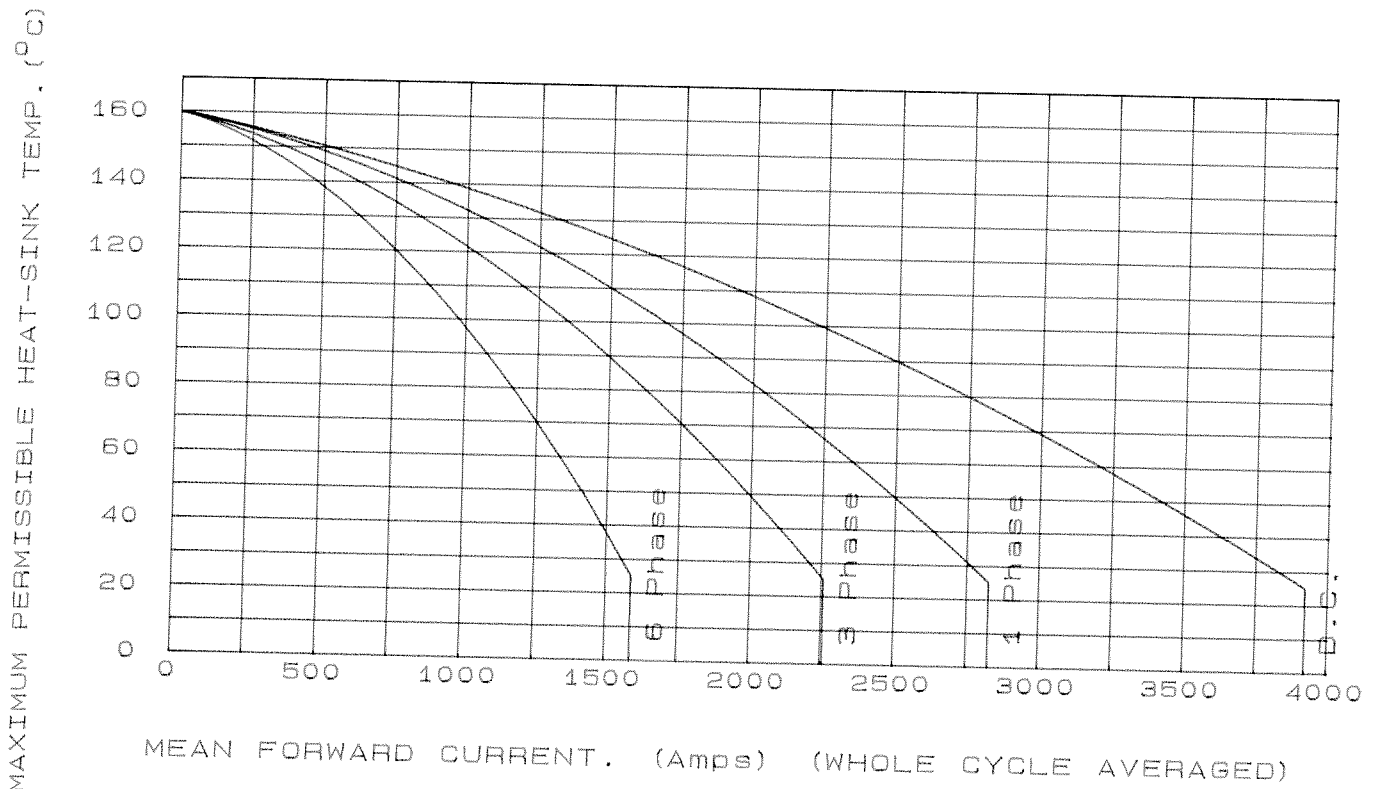
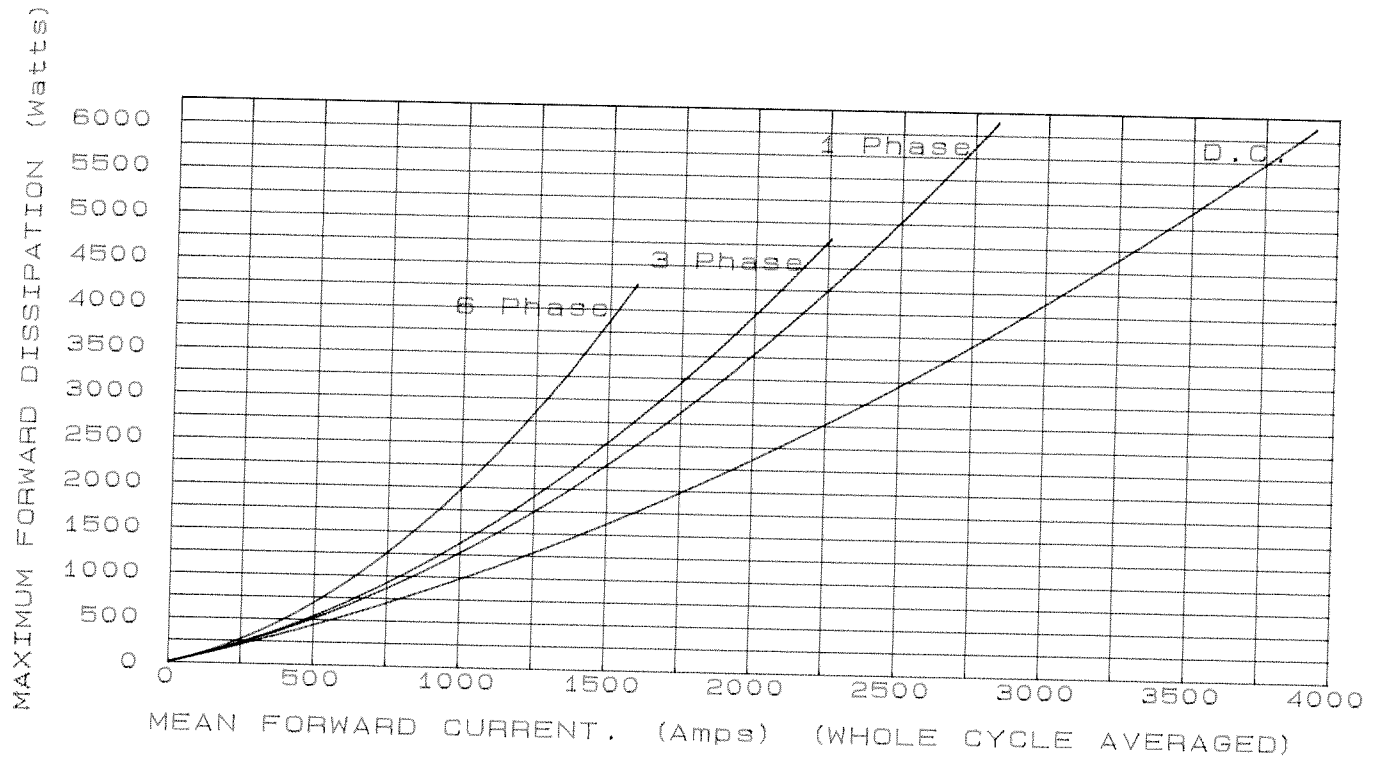
- P1 : Voltage Grade, V_{RSM} , V_{RRM} , $I_F(AV)$, $I_F(rms)$ max and I_F max.
- P2 : R_{th} (J-HS) and ABCD Co-efficients
- P4 : Voltage Class, V_{RRM} and V_{RSM}
- P5 : Re-drawn
- P6 : Re-drawn
- P8 : Re-drawn

Voltage Ratings

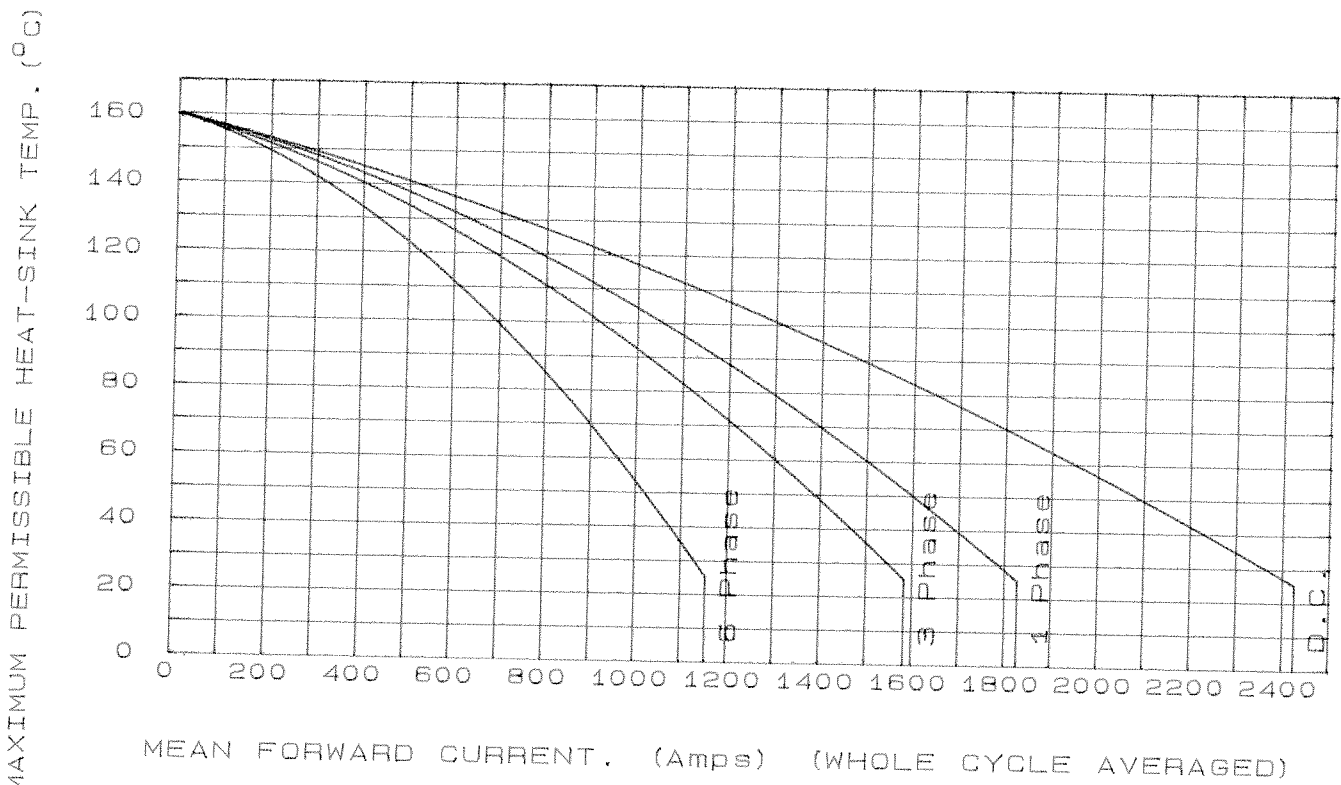
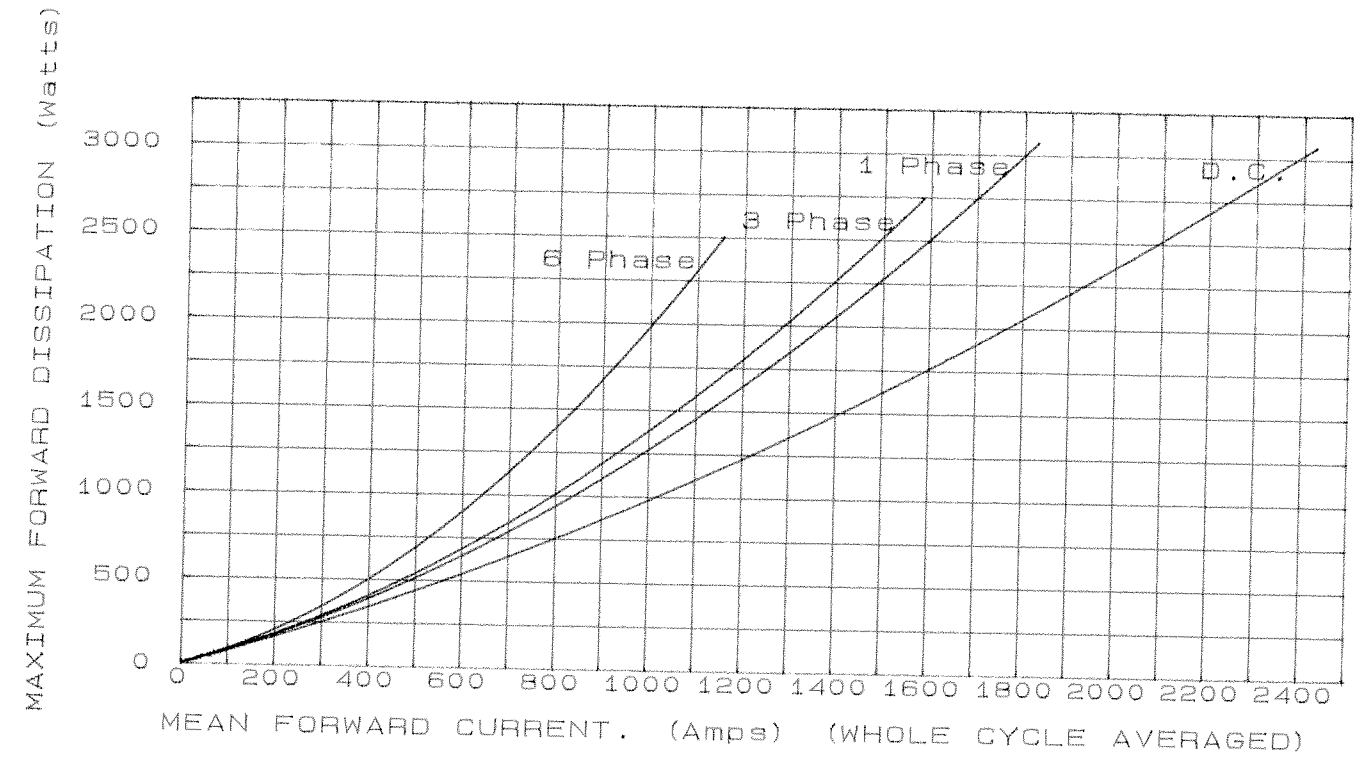
Voltage Class	V_{RRM} V	V_{RSM} V
16	1600	1700
18	1800	1900
20	2000	2100
22	2200	2300
24	2400	2500
25	2500	2600

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

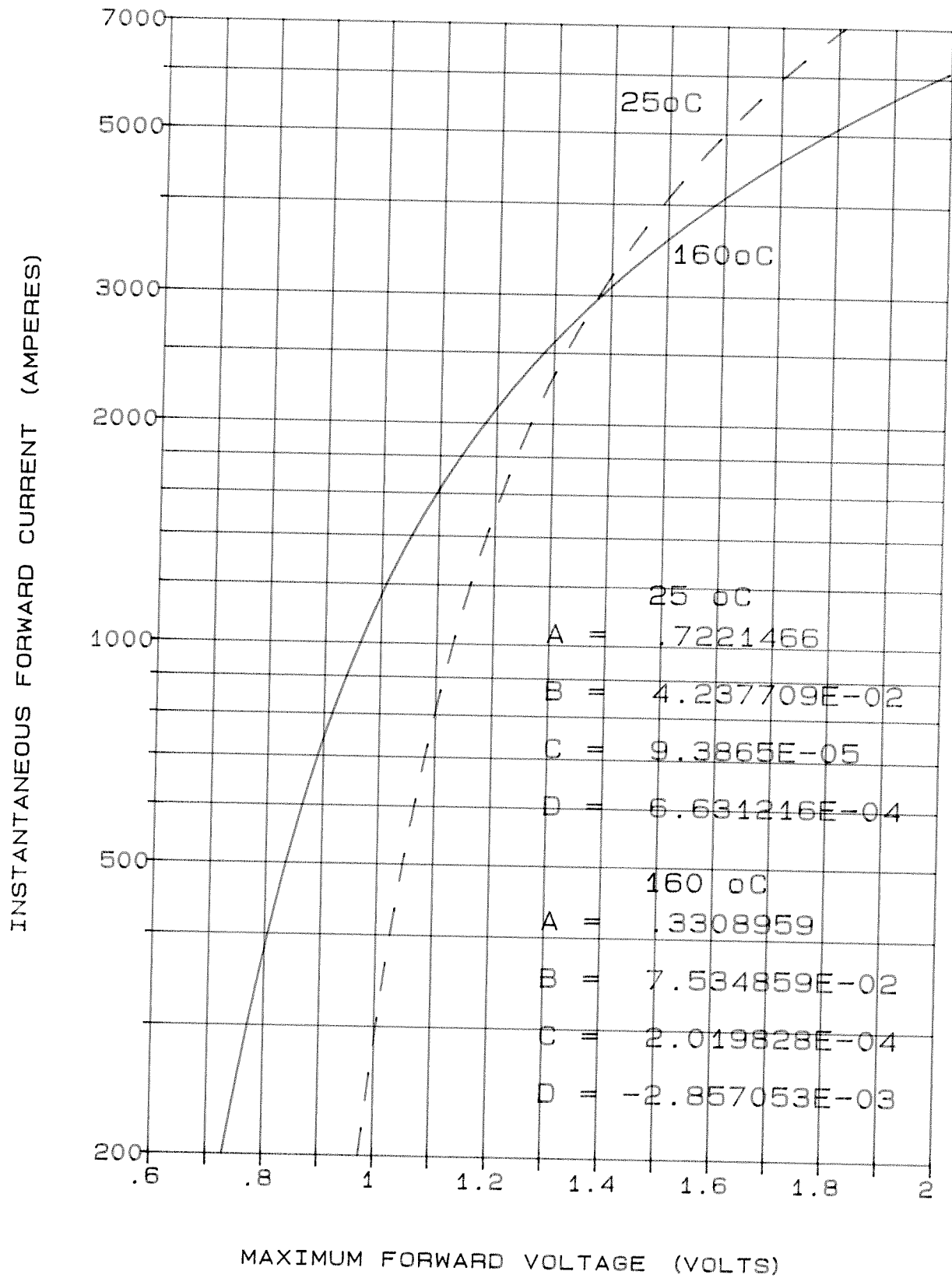
DOUBLE SIDE COOLED



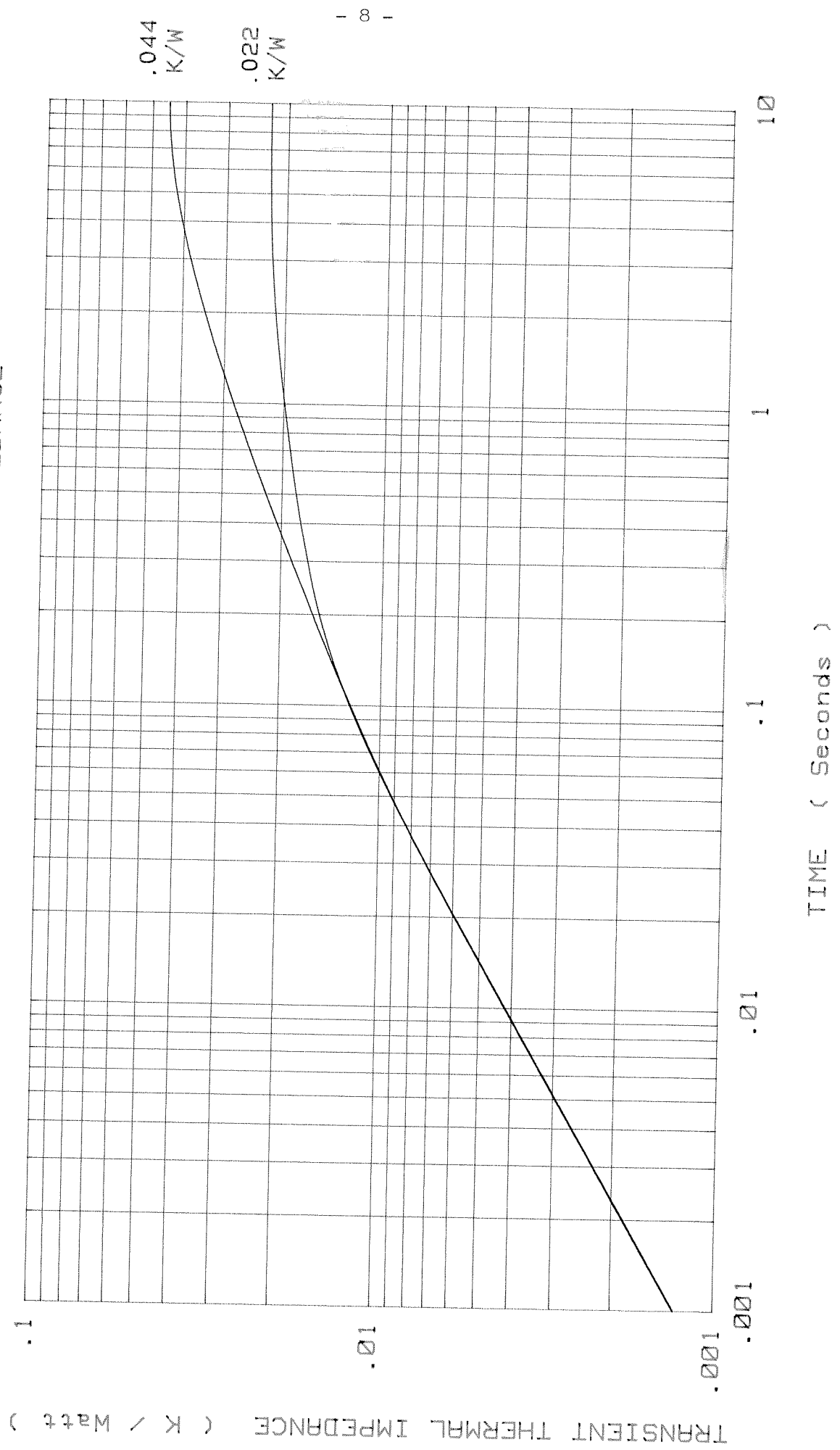
SINGLE SIDE COOLED



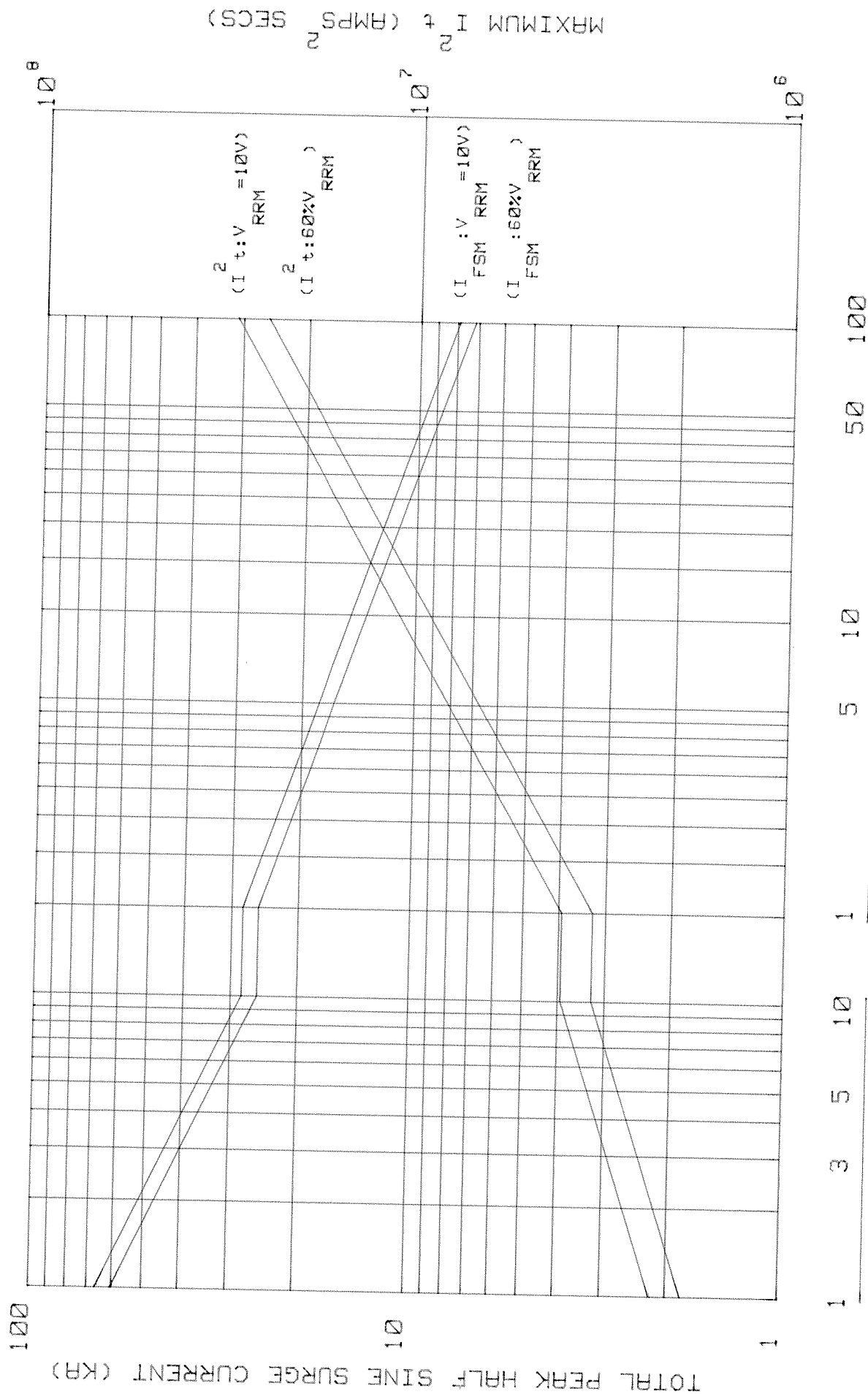
FORWARD CHARACTERISTIC OF LIMIT DEVICE



JUNCTION TO SINK TRANSIENT THERMAL IMPEDANCE



MAXIMUM NON REPETITIVE SURGE CURRENT AT INITIAL JUNCTION TEMPERATURE 160° C



DURATION OF SURGE (ms)

DURATION OF SURGE (cycles at 50 Hz)

INTERNATIONAL OUTLINE No. DO-200AC

G.A. DWG No. 159B100H301-H310

WEIGHT. 480 GRAMS

- 10 -

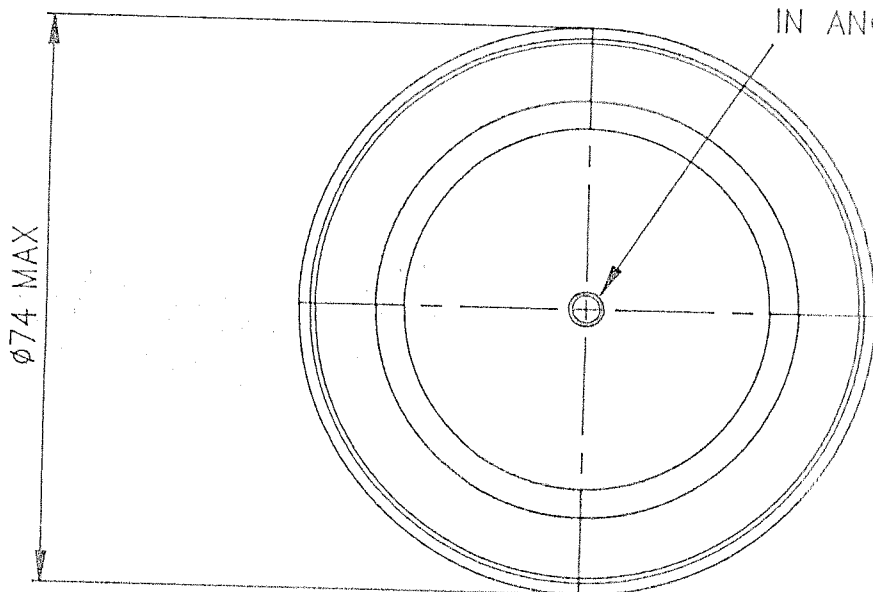
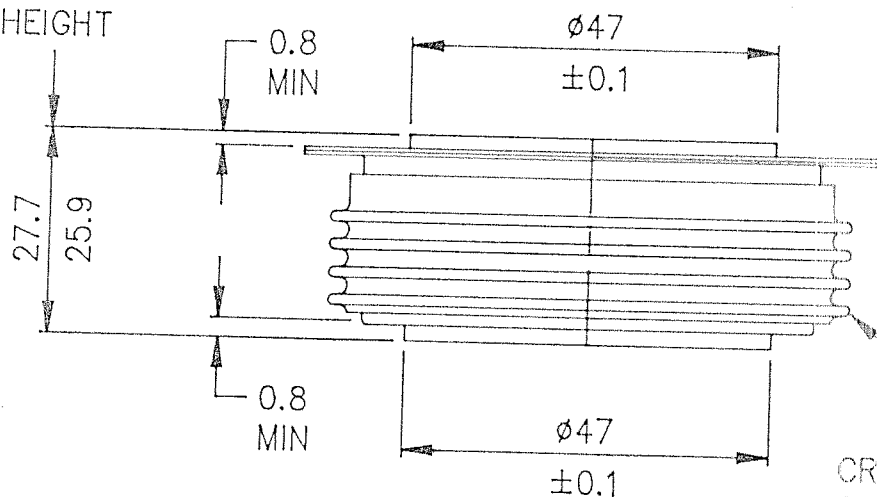
FINISH. NICKEL PLATE

DEVICE MOUNTING: CLAMPING FORCE TO BE APPLIED ON
CENTRE LINE 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 = 1900-2600kgf.

TYPE NUMBER

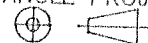
CXC500	CXC990
CXC620	CXC11C
CXC680	CXC14C
CXC815	
CXC820	CXC624
CXC930	CXC824
CXC950	CXC924

$\phi 3.6/3.5 \times 3$ MIN.
DEPTH 2-HOLES, ONE
IN CATHODE AND ONE
IN ANODE.

COMPRESSED
HEIGHT

↑
CREEP PATH OVER
CONVOLUTION = 25.4 MIN.

THIRD ANGLE PROJECTION.



DWG. COMPLIES WITH BS 308.

DIMNS. IN MILLIMETRES.

DWG No.

100A249



WESTCODE SEMICONDUCTORS LTD.,

P.O. BOX 57, CHIPPENHAM, WILTSHIRE, SN15 1JL, ENGLAND.

TEL 0249 654141. TELEX 44751 WESCDE G. TELEFAX 0249 659448.

THE INFORMATION CONTAINED IN THIS DWG IS PROTECTED BY COPYRIGHT. THE INFORMATION MAY NOT BE DISCLOSED EXCEPT WITH THE WRITTEN PERMISSION OF WESTCODE SEMICONDUCTORS LIMITED.

SCALE	1/1	ISS	REVISIONS
DRAWN	HDN	4	11-09-90
			REDRAWN ON CAD