

Rectifier Diode

W1294NC500 to W1294NC600

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

(Rating Report 90NR15 Issue 1)

This data reflects the old part number for this product which is: SW46-56CXC500. 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

Device no longer available for grades 46 & 48 (4600V & 4800V V_{RRM})

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			
W1294	NC	◆◆	0
Fixed Type Code	Fixed Outline Code	Voltage code $V_{RRM}/100$ 50-60	Fixed Code
Typical Order Code: W1294NC560, 27.7mm clamp height, 5600V V_{RRM}			

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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: 90NR15

Date: 18th October, 1990

Pages: 10

Diode Type SW46-58CXC500

Written by: M. Baker

Checked: *BH*

Approved: *Baker H.*

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

This report supersedes Rating Report No. 87NR7

Ratings

Voltage Grades	:	46-58
V_{RSM}	:	4700-5900V
V_{RRM}	:	4600-5800V
$I_{F(AV)}$: Single Phase; 50 Hz, 180° half sinewave;		
Double side cooled $T_{HS} = 55^{\circ}C, 100^{\circ}C$	:	1295A, 880A
Single side cooled $T_{HS} = 100^{\circ}C$	:	550A
I_F (rms) max.)	:	2400A
Double side cooled $T_{HS} = 25^{\circ}C$		
I_F max.)	:	2160A
I_{FSM} : $t = 10ms$ half sinewave; T_J (initial) = $150^{\circ}C$;		
$V_{RM} = 0.6 V_{RRM}(Max)$	:	10000A
I_{FSM} ; $t = 10ms$ half sinewave; T_J (initial = $150^{\circ}C$; $V_{RM} \leq 10V$	:	11000A
I^2t : $t = 10ms$; T_J (initial) = $150^{\circ}C$; $V_{RM} = 0.6 V_{RRM}(Max)$	:	$0.50 \times 10^6 A^2 SECS$
I^2t : $t = 10ms$; T_J (initial) = $150^{\circ}C$; $V_{RM} \leq 10V$	:	$0.605 \times 10^6 A^2 SECS$
I^2t : $t = 3ms$; T_J (initial) = $150^{\circ}C$; $V_{RM} \leq 10V$	:	$0.446 \times 10^6 A^2 SECS$
T_{HS} Operating range	:	-55 to $+150^{\circ}C$
T_{stg} ; Non-operating	:	-55 to $+190^{\circ}C$

Characteristics

(Maximum values unless stated otherwise)

V_O :	$T_J = 150^\circ\text{C}$	:	1.15V
r_s :	$T_J = 150^\circ\text{C}$	:	0.684 mohms
COLD			
A :	$T_J = 25^\circ\text{C}$	:	0.4953157
B :	$T_J = 25^\circ\text{C}$	:	0.1718904
C :	$T_J = 25^\circ\text{C}$	:	5.476163E-4
D :	$T_J = 25^\circ\text{C}$	:	-1.617772E-2
HOT			
A :	(Constant)	:	0.4418539
B :	$(B \times \ln i)$	:	0.163405
C :	$(C \times i)$	:	8.040707E-4
D :	$(D \times \sqrt{i})$	:	-1.709135E-2
V_{FM} :	$I_{FM} = 2340A$ $T_{VJ} = 150^\circ\text{C}$	:	2.75V
R_{th} (J-HS) double side cooled		:	0.022 K/W
single side cooled		:	0.044 K/W
I_{RRM} :	$T_J = 150^\circ\text{C}$ $V_{RM} = V_{RRM}(\text{Max})$	:	70mA
Q_{RA} :	$I_{TM} =$ $T_{VJ} =$	:	
θ_{JA} :	$V_{RM} =$ $T_{VJ} =$	:	
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

Changes to Rating Report No. 87NR7

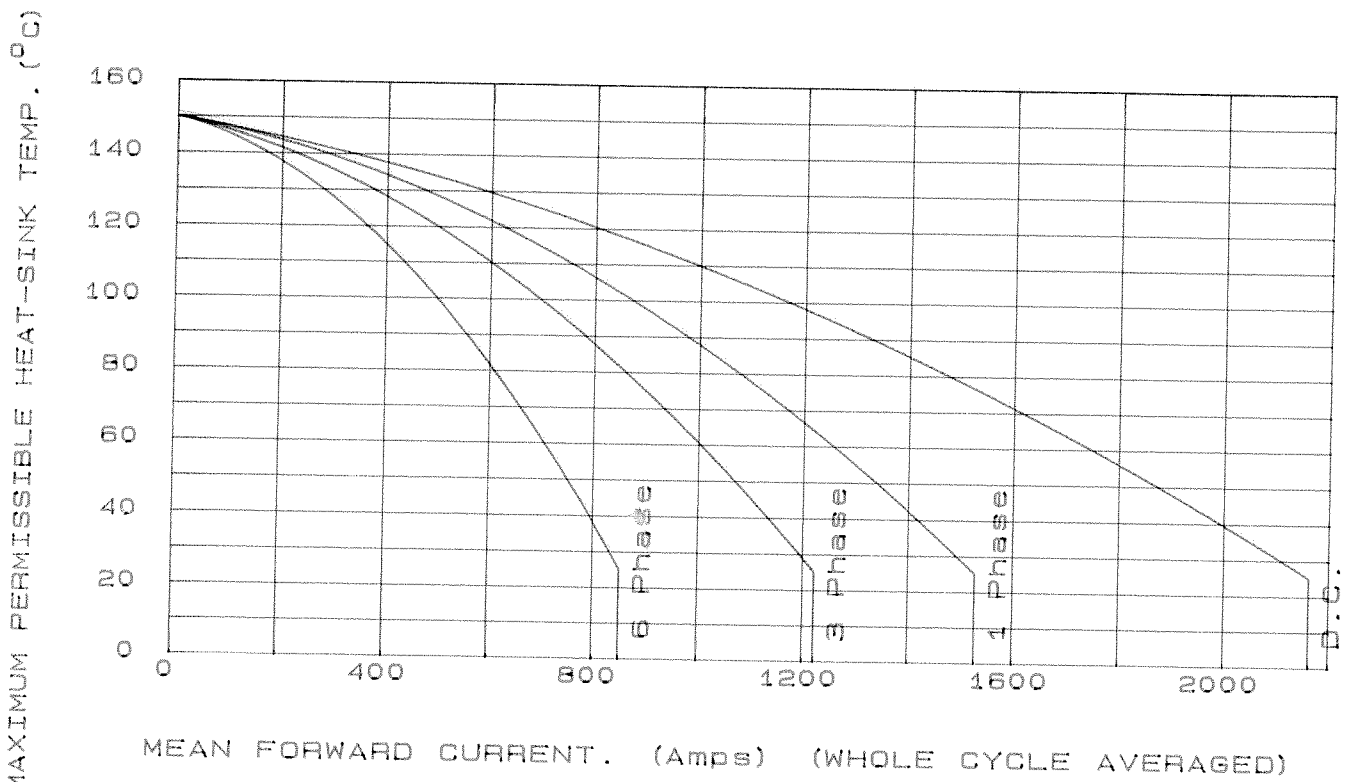
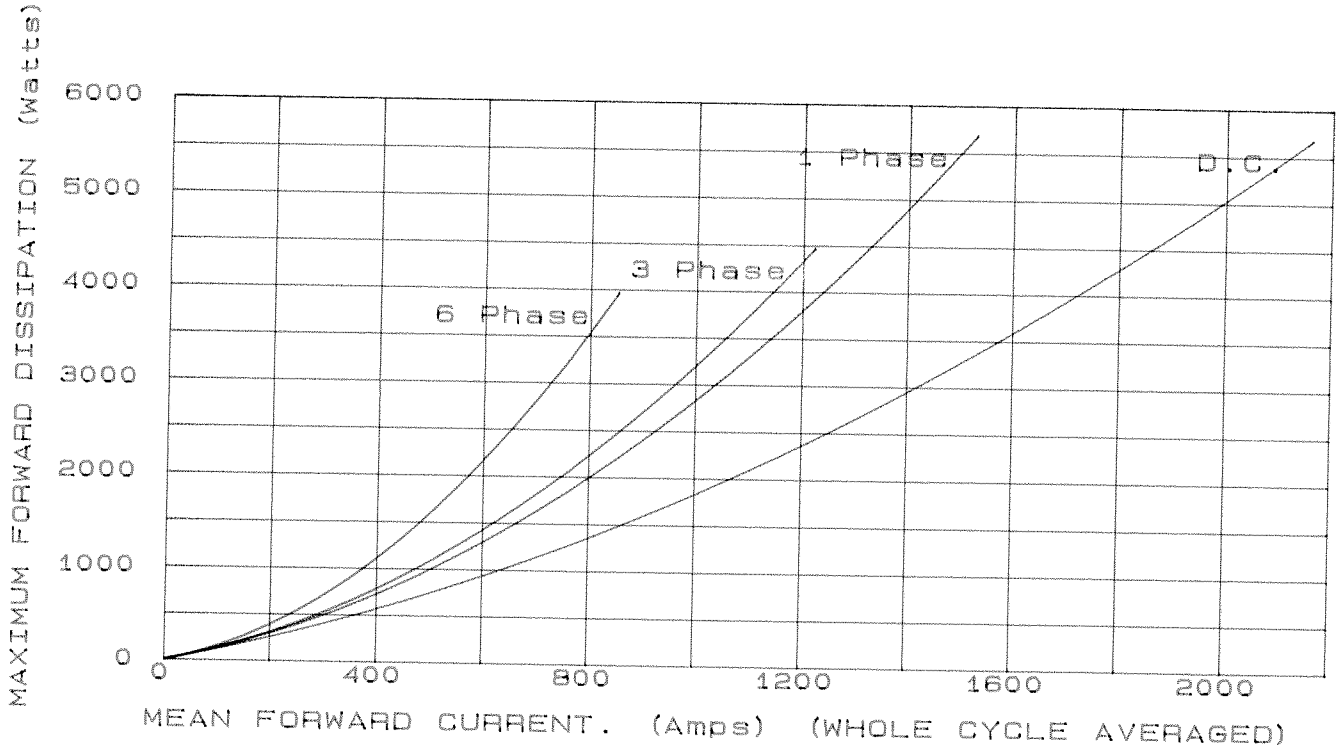
- P1 : $I_{F(AV)}$, I_F (rms) max, I_F max, T_{HS} and T_{stg}
- P2 : R_{th} (J-HS) ABCD co-efficients included
- P5 : Redrawn
- P6 : Redrawn
- P8 : Redrawn

Voltage Ratings

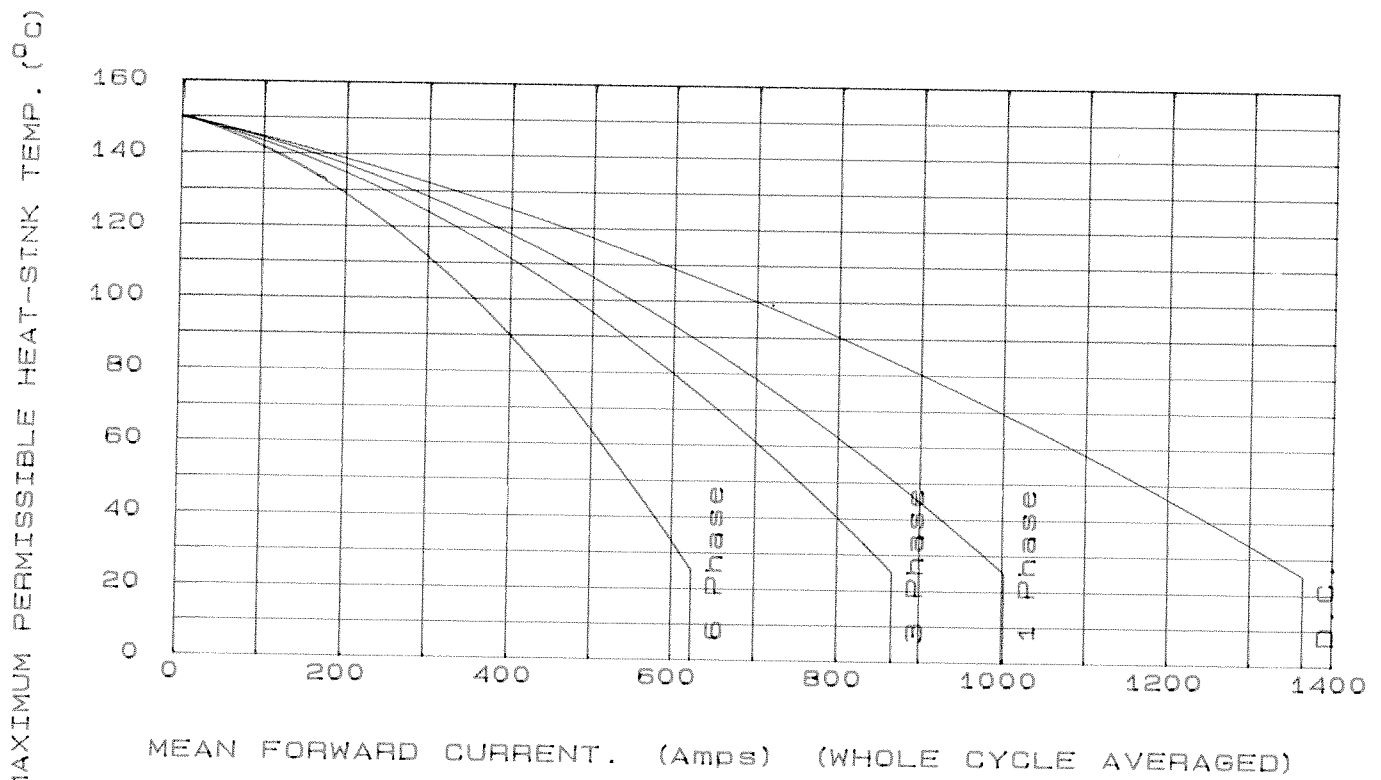
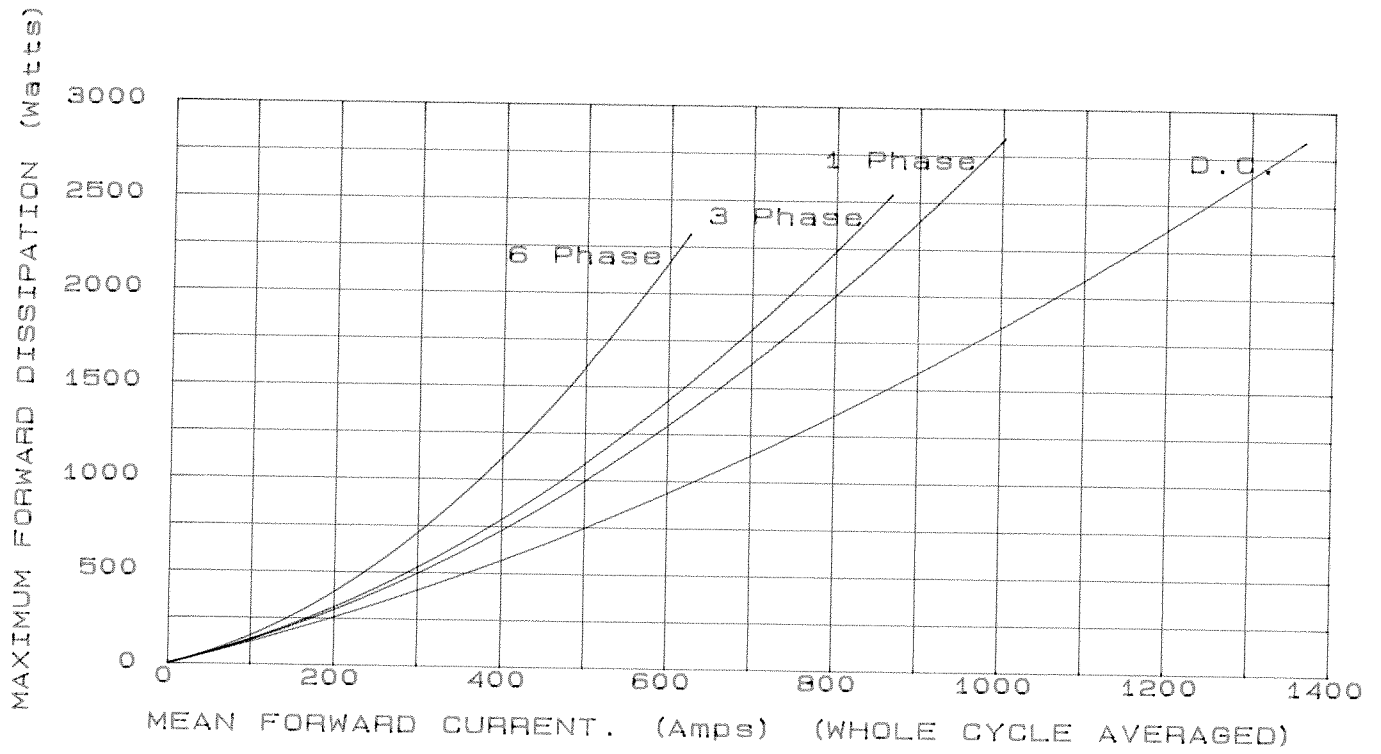
Voltage Class	V_{RRM} V	V_{RSM} V
46	4600	4700
48	4800	4900
50	5000	5100
52	5200	5300
54	5400	5500
56	5600	5700
58	5800	5900

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

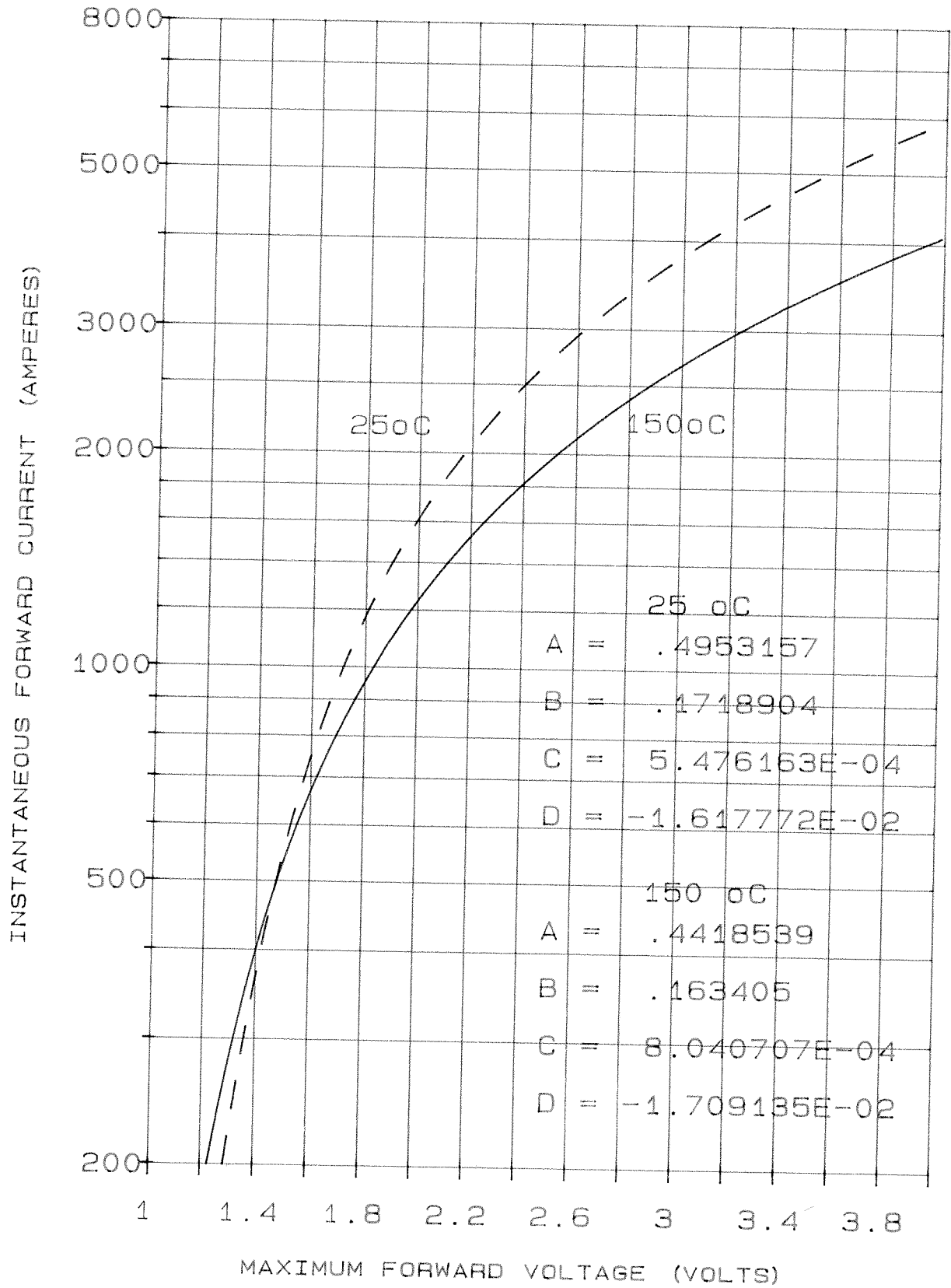
DOUBLE SIDE COOLED



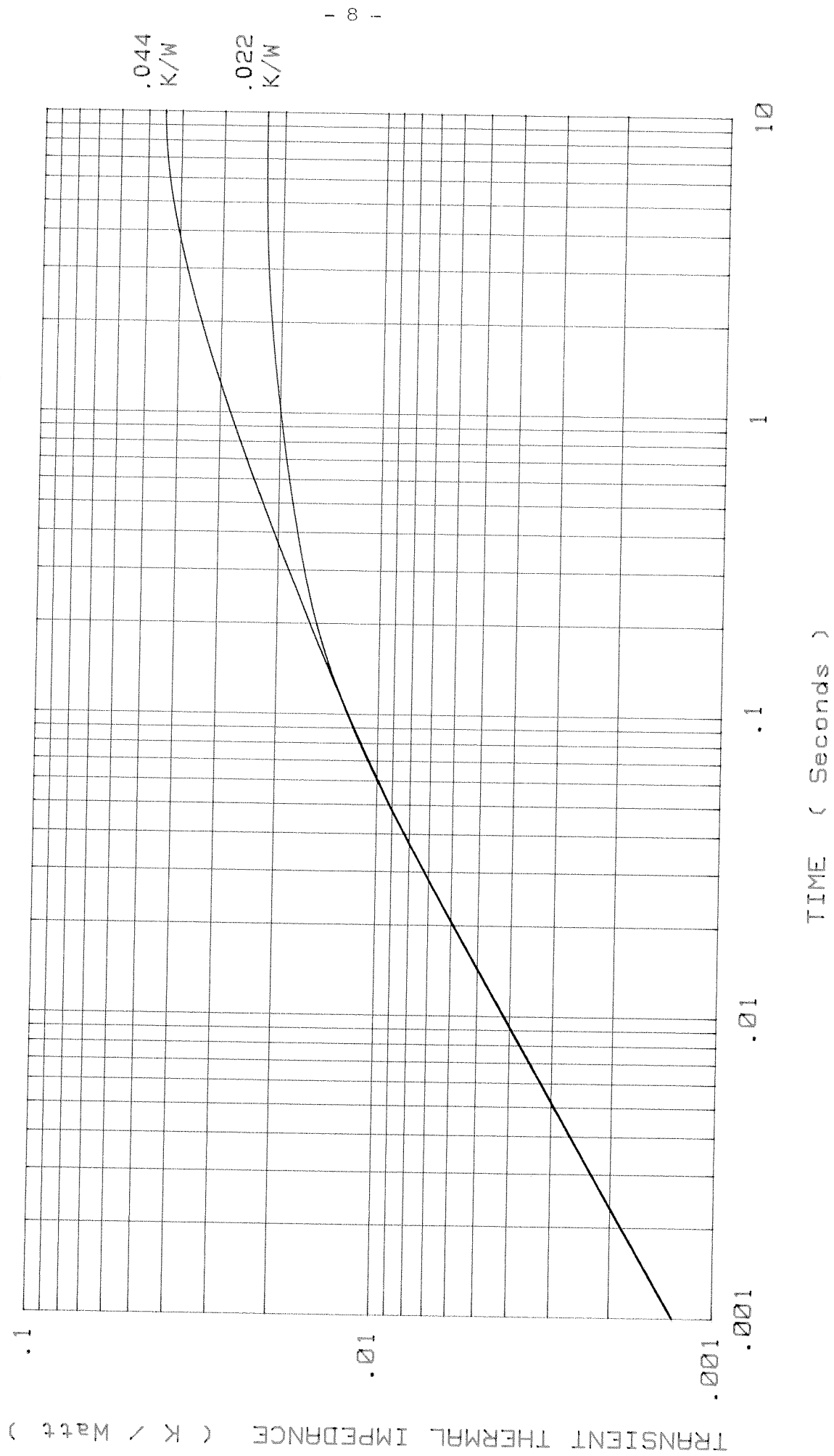
SINGLE SIDE COOLED



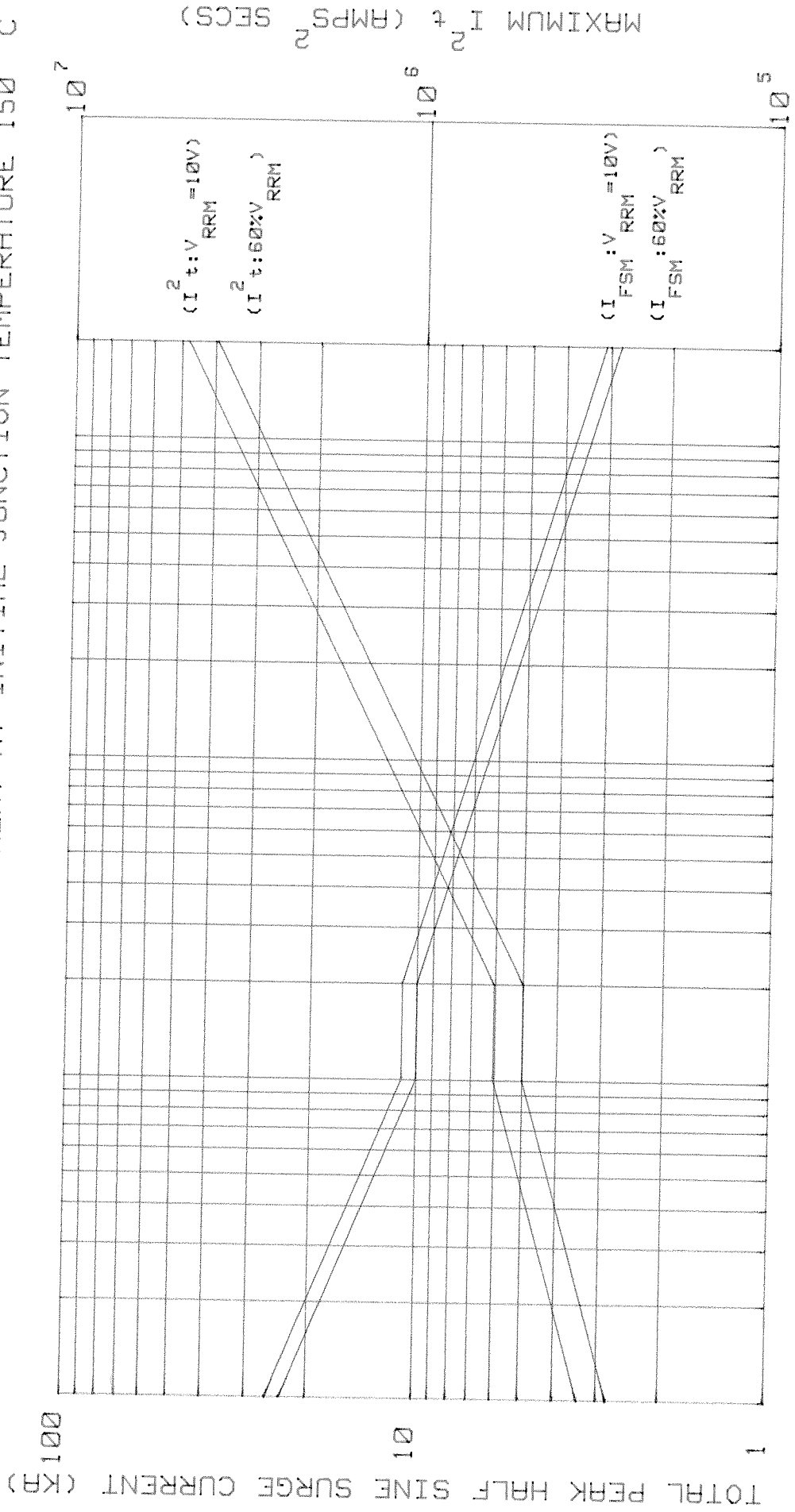
FORWARD CHARACTERISTIC OF LIMIT DEVICE



JUNCTION TO SINK TRANSIENT THERMAL IMPEDANCE



MAXIMUM NON REPETITIVE SURGE CURRENT AT INITIAL JUNCTION TEMPERATURE 150 ° C



INTERNATIONAL OUTLINE No. DO-200AC

G.A. DWG No. 159B100H301-H310

WEIGHT. 480 GRAMS

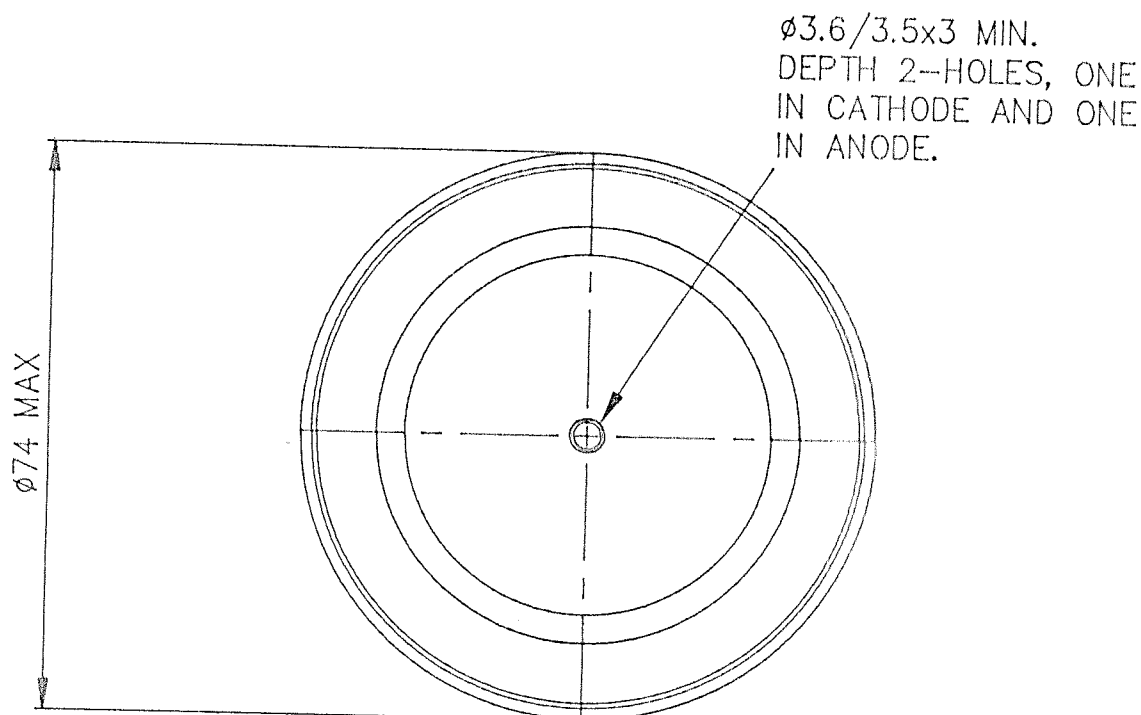
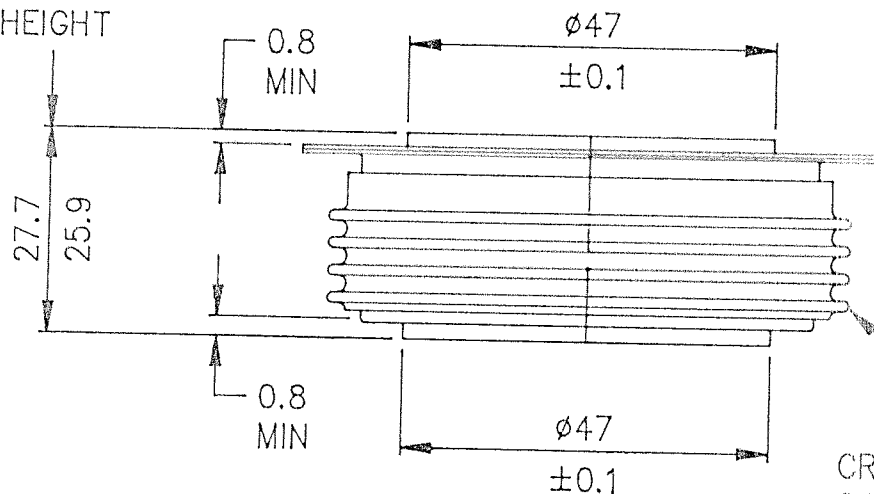
- 10 -

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

COMPRESSED
HEIGHT

THIRD ANGLE PROJECTION.

DWG. COMPLIES WITH BS 308.

DIMNS. IN MILLIMETRES.

DWG No.

100A249



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