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}

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QUALITY EVALUATION LABORATORY

Rating Report: 90NR26

Date: 16th October, 1990

Pages: 10

Diode Type SW16-25CXC950

Written by: M. Baker Checked: BH Approved: BJW/C.

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 amd 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°C, 100°C	: 2420A, 1700A
Single side cooled T_{HS} = 100°C	: 1060A
I_F (rms) max.)) Double side cooled T_{HS} = 25°C	: 4430A
I_F max.)	: 3920A
I_{FSM} : t = 10ms half sinewave; T_J (initial) =160 °C; V_{RM} = 0.6 V_{RRM}(Max)	: 25,500A
I_{FSM} ; t = 10ms half sinewave; T_J (initial =160 °C; $V_{RM} \leqslant$10V	: 28,050A
I^2t : t = 10ms; T_J (initial) = 160°C; V_{RM} = 0.6 V_{RRM}(Max)	: 3.25 x $10^6 A^2$SECS
I^2t : t = 10ms; T_J (initial) = 160°C; $V_{RM} \leqslant$10V	: 3.92 x $10^6 A^2$SECS
I^2t : t = 3ms; T_J (initial) = 160°C; $V_{RM} \leqslant$10V	: 2.85 x $10^6 A^2$SECS
T_{HS} Operating range	: -55 to +160°C
T_{stg}; Non-operating	: -55 to +200°C

Characteristics

(Maximum values unless stated otherwise)

V_O : T_J = 160°C	:	0.78V
r_s : T_J = 160°C	:	0.2 mohms
COLD		
A : T_J = 25°C	:	0.7221466
B : T_J = 25°C	:	4.237709E-2
C : T_J = 25°C	:	9.3865E-5
D : T_J = 25°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°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°C V_{RM} = $V_{RRM(Max)}$	:	50 mA
Q_{RA} : I_{TM} = T_{VJ} =	:	
: V_{RM} = T_{VJ} =	:	
Mounting Force	:	1900-2600 Kg.F
Outline Drawing	:	100A249
JEDEC Outline No.	:	DO-200AC

CONTENTS

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

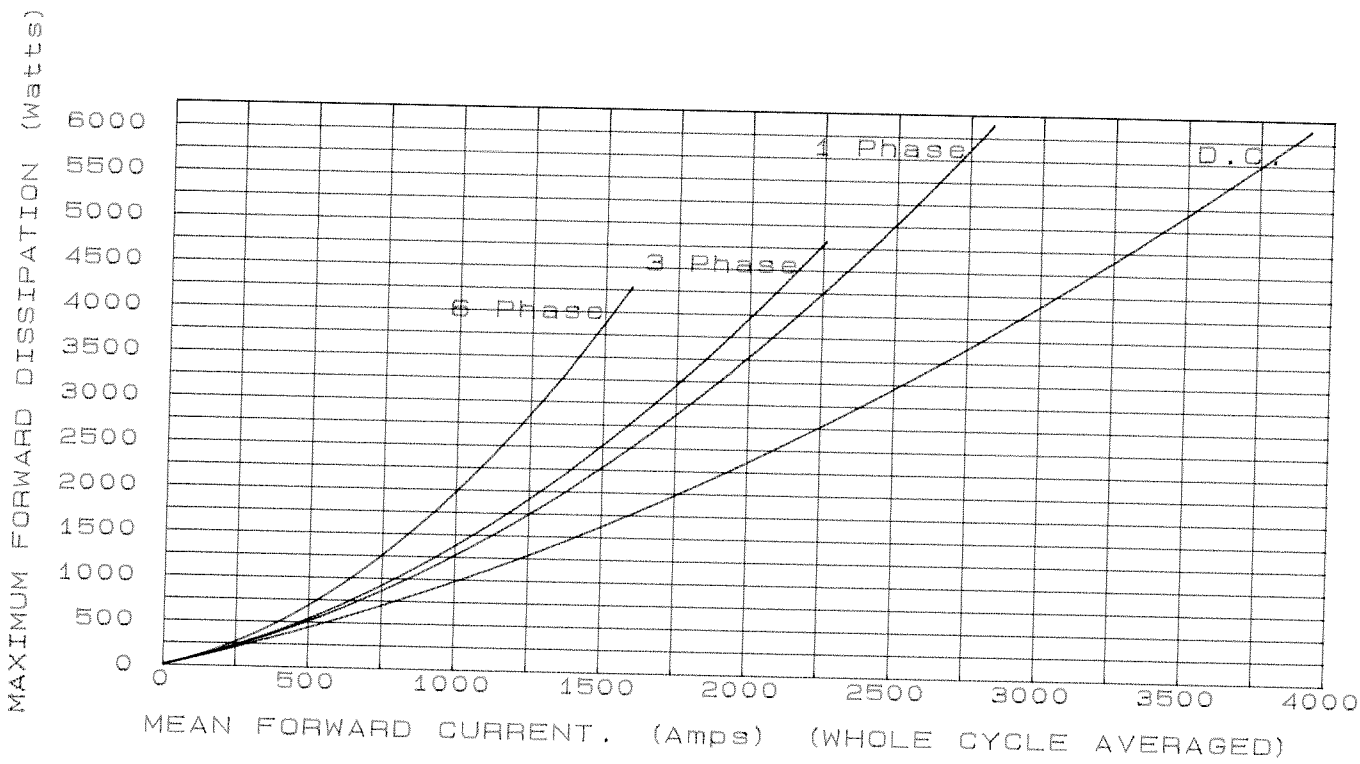
P8 : Re-drawn

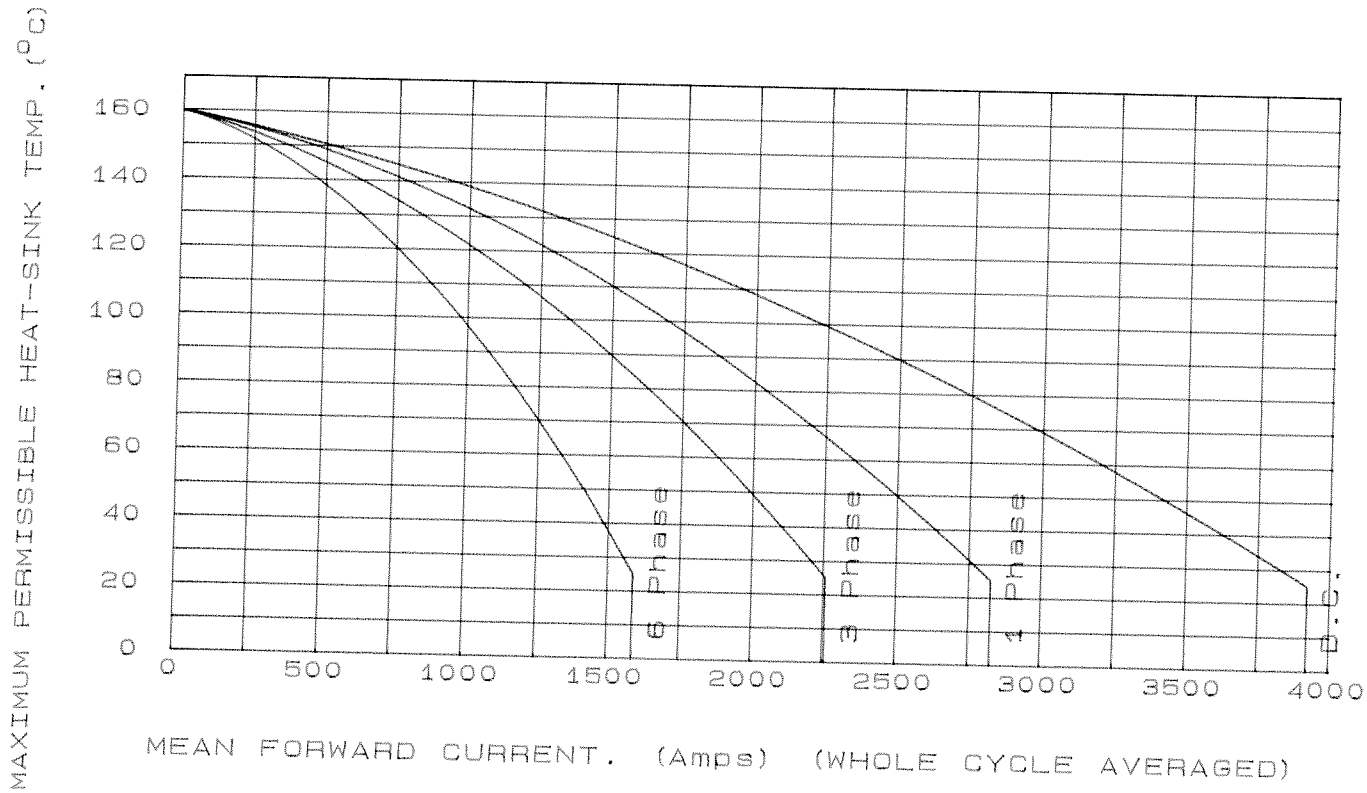
Voltage Ratings

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

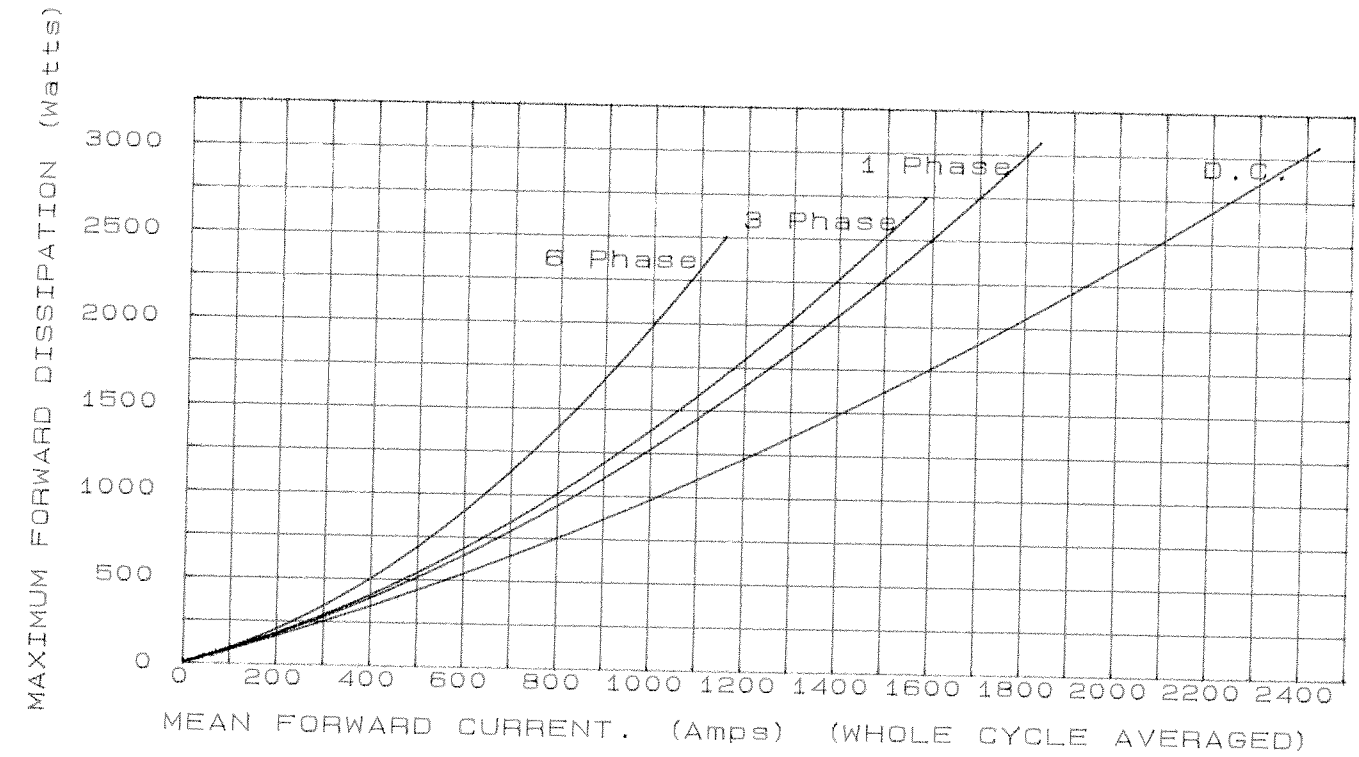
This Report is applicable to higher or lower voltage grades when supply has been agreed by Sales/Production.

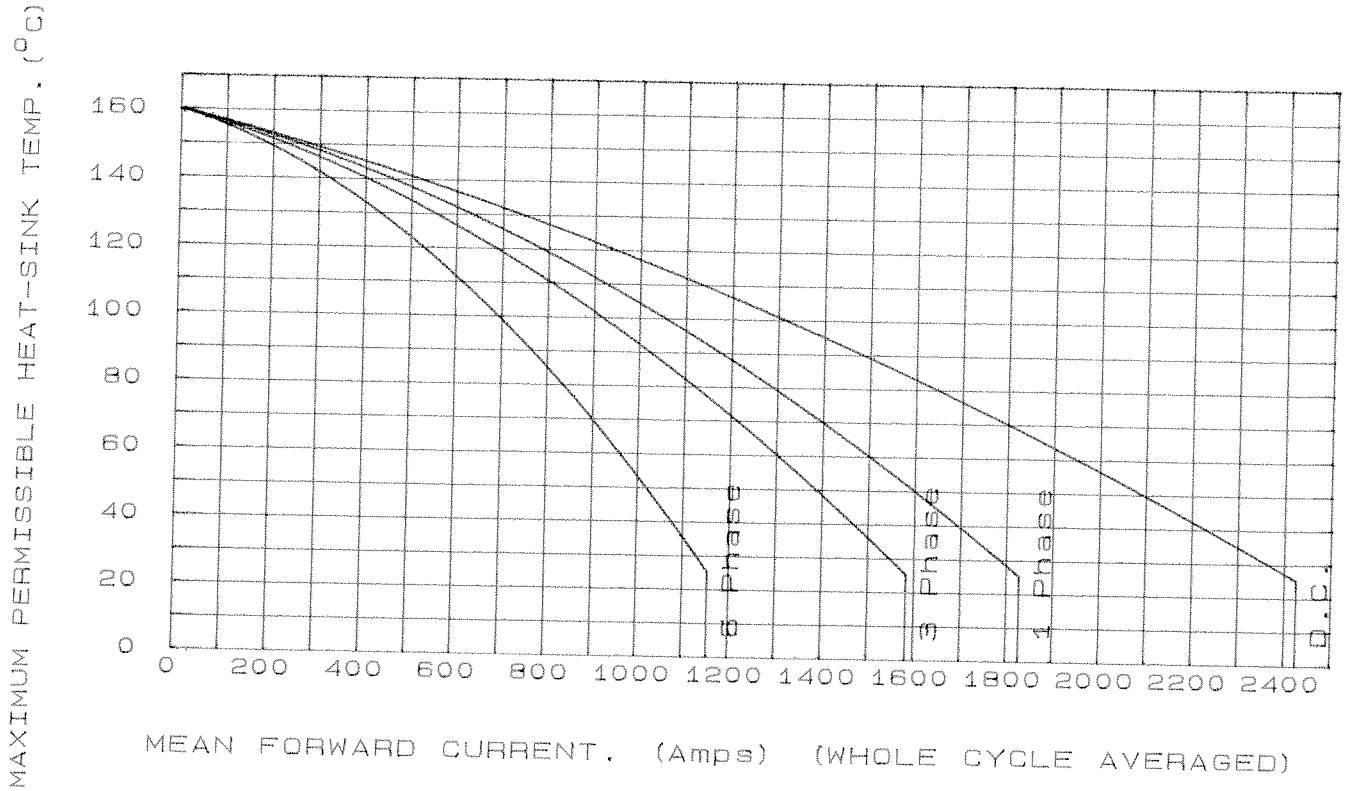
DOUBLE SIDE COOLED



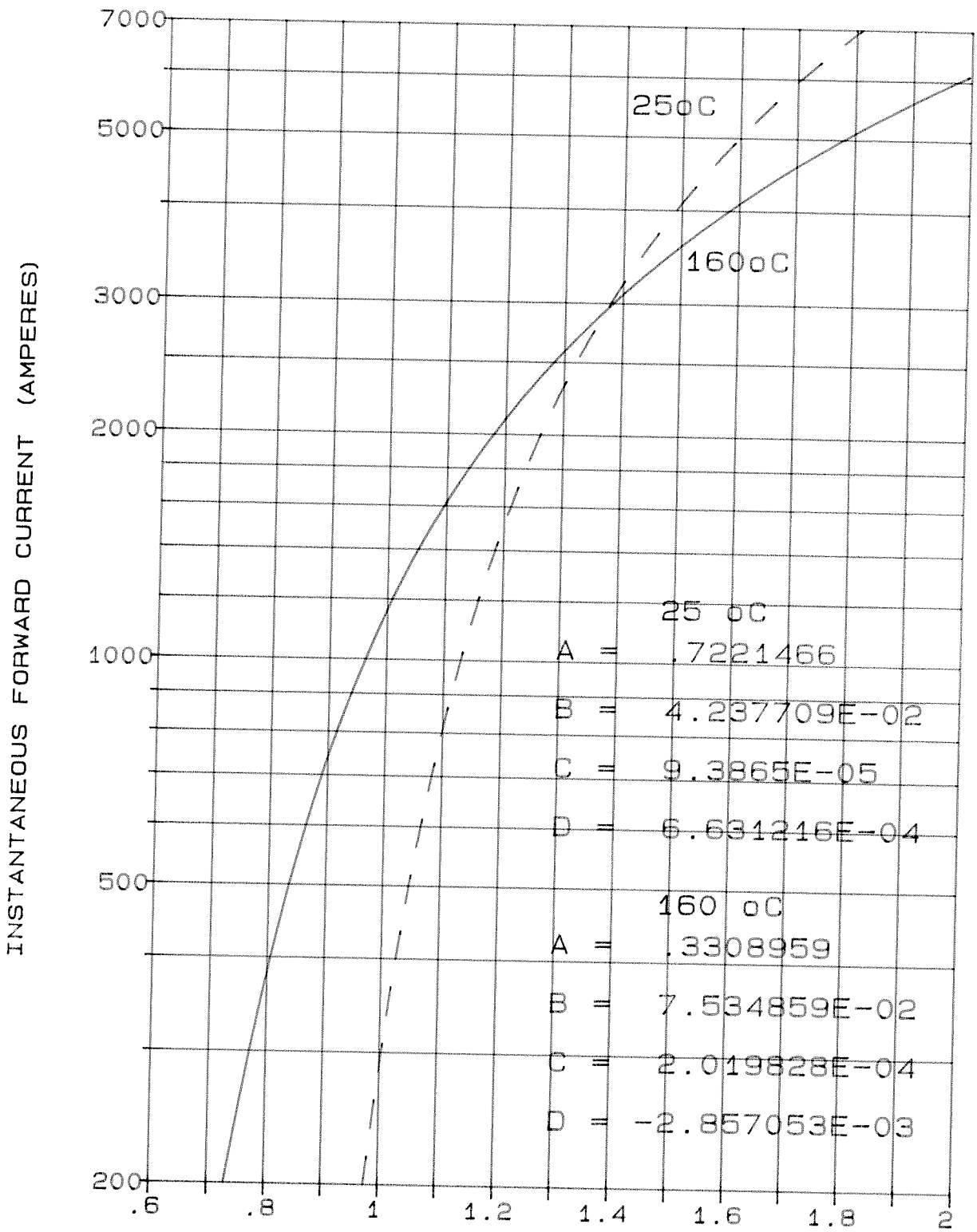


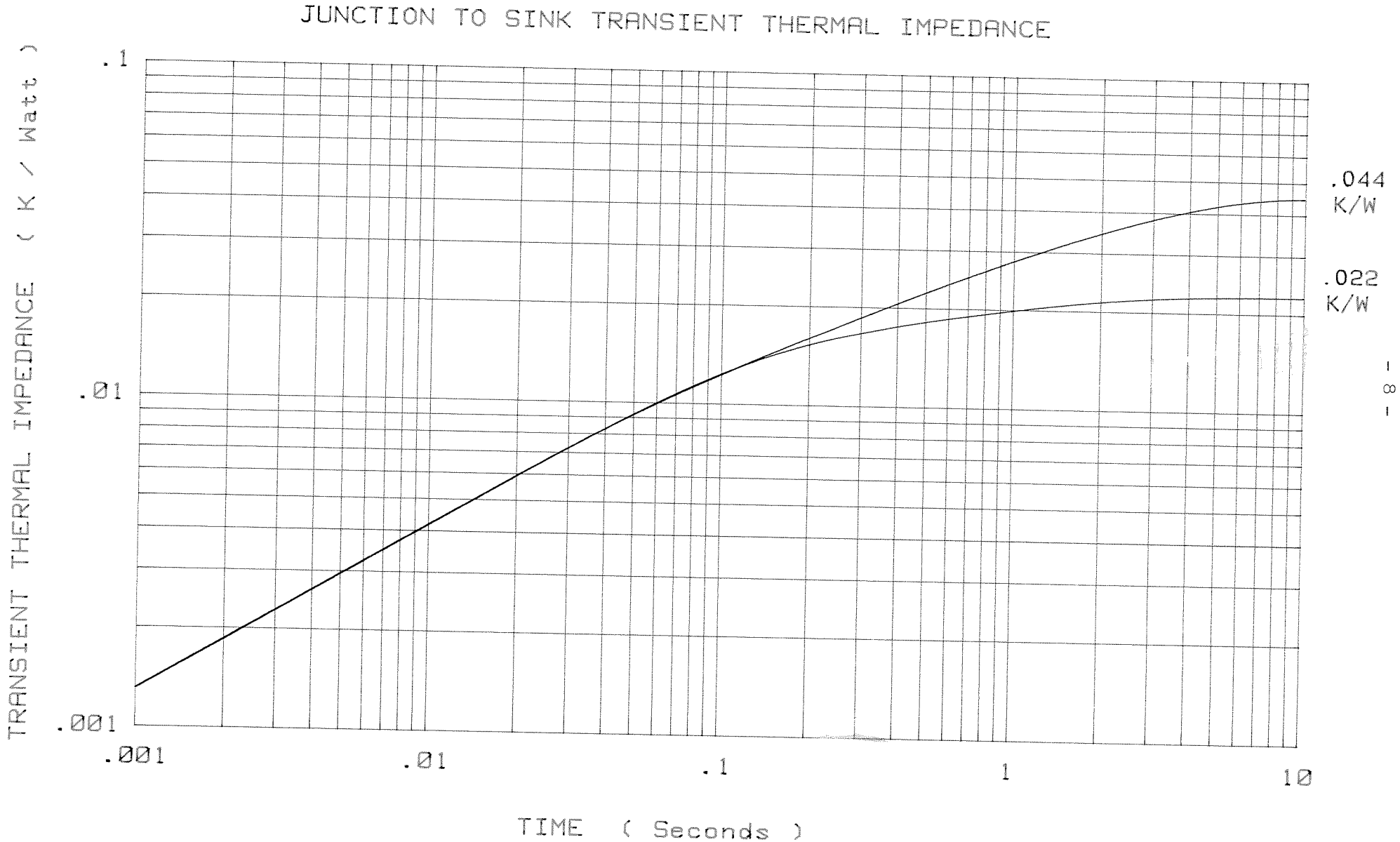
SINGLE SIDE COOLED

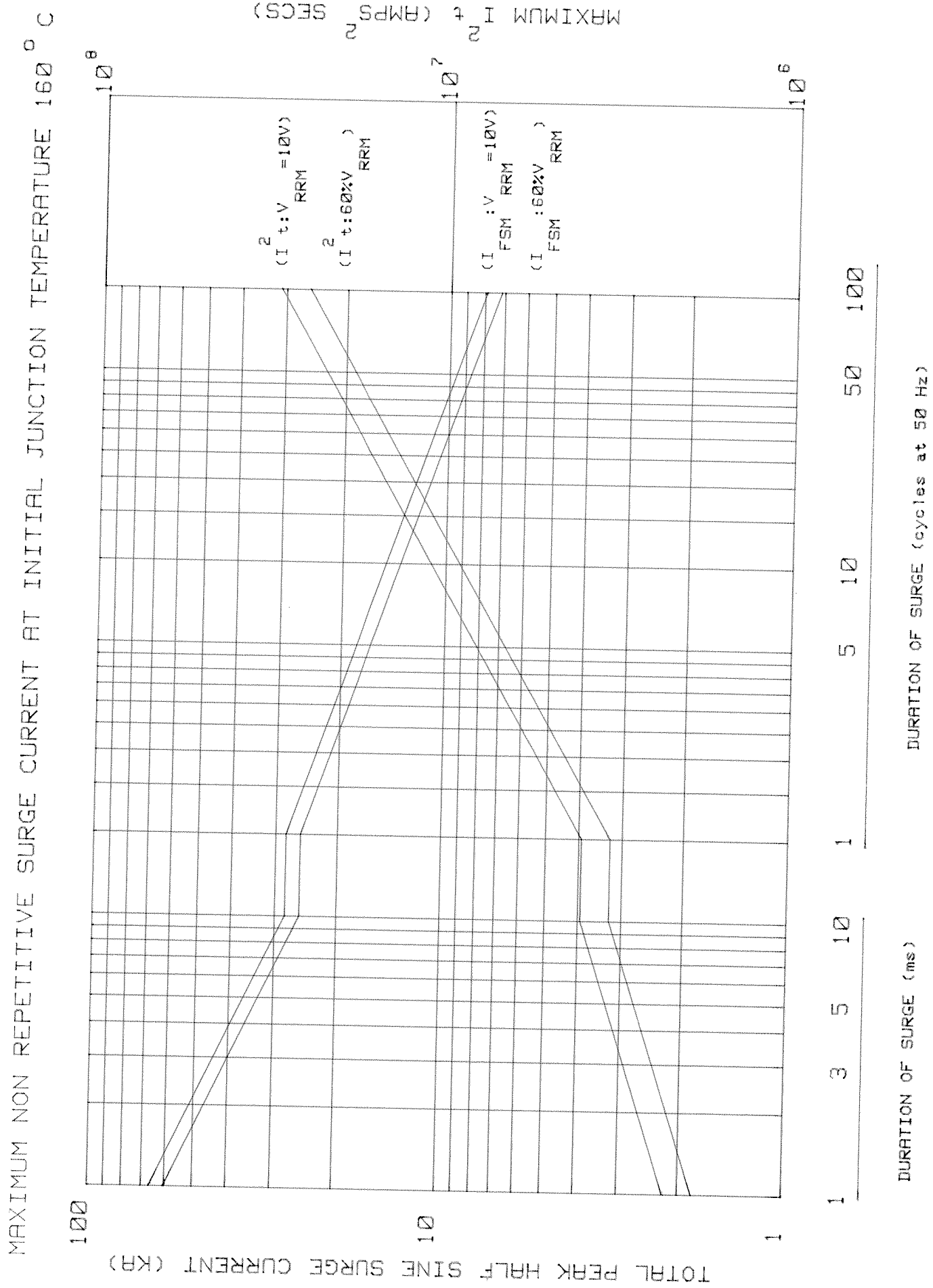




FORWARD CHARACTERISTIC OF LIMIT DEVICE



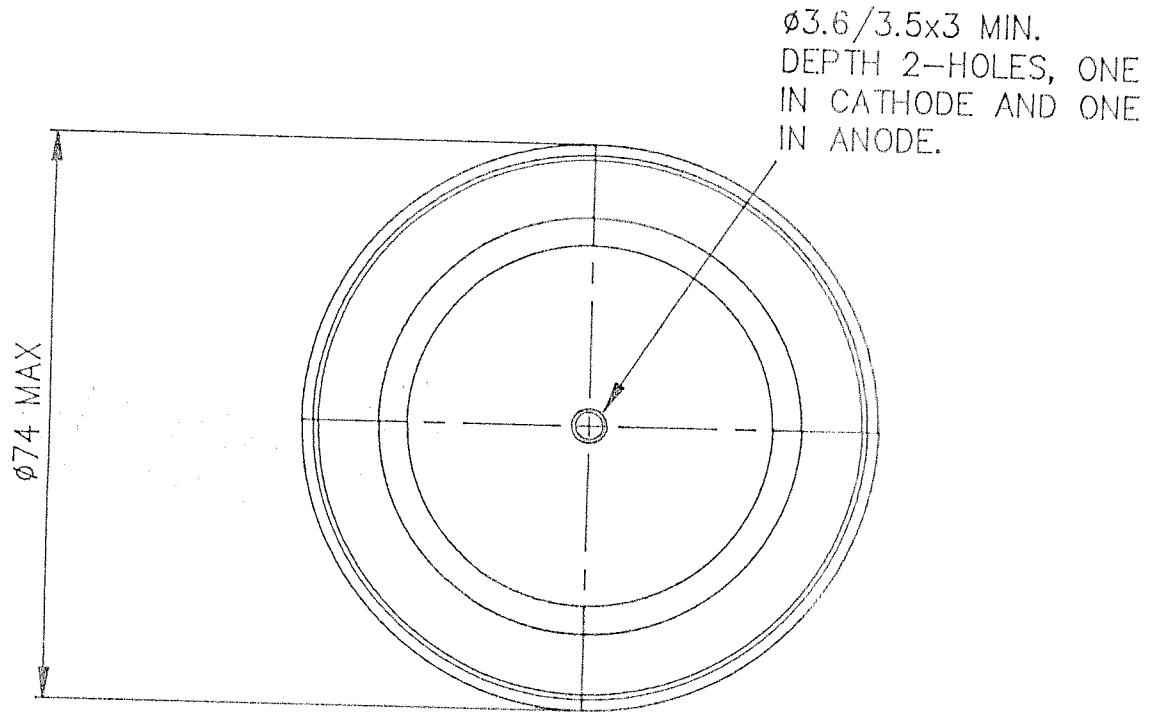

JUNCTION TO SINK TRANSIENT THERMAL IMPEDANCE
TRANSIENT THERMAL IMPEDANCE (K / Watt)
.1
.01
.001
.001
.01
.1
1
10
TIME (Seconds)
.044
K/W
.022
K/W

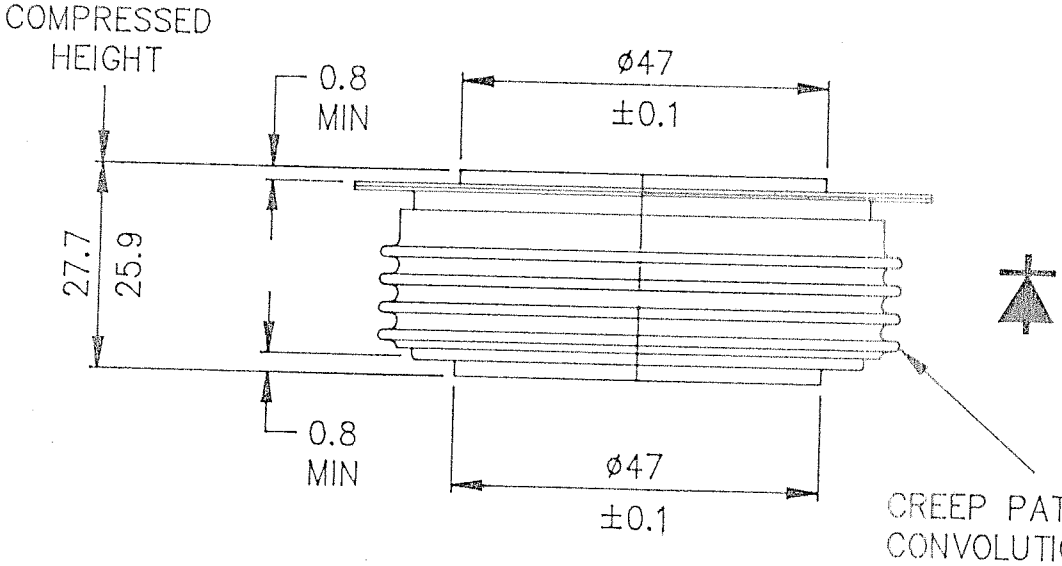

MAXIMUM NON REPETITIVE SURGE CURRENT AT INITIAL JUNCTION TEMPERATURE 160 °C
TOTAL PEAK HALF SINE SURGE CURRENT (KA)
100
10
1
MAXIMUM I²t (AMPS² SECS)
10⁸
10⁷
10⁶
(I²t:V RRM =10V)
(I²t:60%V RRM)
(IFSM:V RRM =10V)
(IFSM:60%V RRM)
1 3 5 10
DURATION OF SURGE (ms)
1 5 10 50 100
DURATION OF SURGE (cycles at 50 Hz)

INTERNATIONAL OUTLINE No. DO-200AC
G.A. DWG No. 159B100H301-H310
WEIGHT. 480 GRAMS
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





ISS	REVISIONS	
4	11-09-90	REDRAWN ON CAD HDN

THIRD ANGLE PROJECTION.
DWG. COMPLIES WITH BS 308.
DIMNS. IN MILLIMETRES.
DWG No. 100A249

SCALE 1/1
DRAWN HDN

WESTCODE SEMICONDUCTORS LTD.,
P.O. BOX 57, CHIPPENHAM, WILTSHIRE, SN15 1JL, ENGLAND.
TEL 0249 654141. TELEX 44751 WESCDE G. TELEFAX 0249 659448.