Rectifier Diode
Types W2020NC360 to W2020NC450

The data sheet on the subsequent pages of this document is a scanned copy of existing data for this product.
(Rating Report 96DR04 Issue 2)

This data reflects the old part number for this product which is: SW36-45CXC818. 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

W2020	NC	♦♦	**0**
Fixed Type Code	Fixed Outline Code	Voltage code V_{RRM}/100 36-45	Fixed Code

Typical Order Code: W2020NC380, 26.6mm clamp height, 3800V V_{RRM}

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QUALITY AND EVALUATION LABORATORY

Rating Report No: 96DR04 | Date: 2nd August 1996

Origin: Q.E.L. | Pages: 10

Diode Capsule Type : SW36-45CXC818

Written by: Matthew Baker Checked: R Fletcher. Approved: [signature]

This diode consists of a diffused 53 mm diameter silicon slice, reference DPNXC, mounted in a cold weld capsule.

This Rating Report supersedes Advance Data AD94D13, dated 1st December 1994.

Ratings

Voltage Grades	) A blocking voltage derating factor) of 0.13% per deg. Celsius is applicable) to this device for T_j below 25 ^{0}C))	: 36 - 45
V_{RSM}		: 3700 - 4600 V
V_{RRM}		: 3600 - 4500 V

IF(AV) : Single phase: 50 Hz, 180^0 half sinewave;

Double Side Cooled T_{HS} = 55 ^{0}C, 100 ^{0}C	: 2020 A, 1416 A
Single Side Cooled T_{HS} = 100 ^{0}C	: 880 A
$I_{F(rms)}$ T_{HS} = 25^{0}C) Double side cooled	: 3705 A
I_F T_{HS} = 25^{0}C)	: 3290 A
I_{FSM} : t = 10ms half sinewave; $T_{J\ (initial)}$ = 160 ^{0}C V_{RM} = 0.6V_{RRM}(MAX)	: 18 kA
I_{FSM} : t = 10ms half sinewave; $T_{J\ (initial)}$ = 160 ^{0}C V_{RM} ≤10V	: 20 kA
I^2t : t = 10ms; T_J (initial) = 160 ^{0}C; V_{RM} = 0.6V_{RRM}(MAX)	: 1.62 x $10^6 A^2s$
I^2t : t = 10ms; T_J (initial) = 160 ^{0}C; V_{RM} ≤ 10V	: 2.00 x $10^6 A^2s$
I^2t : t = 3ms; T_J (initial) = 160 ^{0}C; V_{RM} ≤ 10V	: 1.51 x $10^6 A^2s$
T_{HS}: Operating Range	: -40 To +160 ^{0}C
T_{stg} : Non-operating	: -55 To +160 ^{0}C

Characteristics

(Maximum values unless otherwise stated)

V_0	: 1.00 V
r_s	: 0.32 mΩ
A : $T_J = 25^0C$	: 0.450164
B : $T_J = 25^0C$	: 8.647849E-2
C : $T_J = 25^0C$	: 1.792516E-4
D : $T_J = 25^0C$	: 2.902065E-3
A)	: -7.237E-5
B) $V_F = A + B.\ln(i_F) + C.i_F + D\sqrt{i_F}$	: 1.173679E-1
C)	: 2.770598E-4
D)	: 3.324836E-3
V_{FM} at I_{FM} = 3000 A	: 1.96 V
$R_{th(J-HS)}$ Double side cooled) Steady-state d.c. and	: 0.02 K/W
Single side cooled) 1 ϕ a.c. resistive load.	: 0.04 K/W
I_{RRM} : at $V_{RRM(MAX)}$	: 75 mA
V_{fr} : at di_F/dt =	: ---
Reverse recovery at I_{FM} = A; tp = ms	: ---
Q_{RR} (total area)	: ---
Q_{RA} (50% chord)	: ---
t_{rr} (50% chord)	: ---
I_{RM}	: ---
Mounting Force	: 19 - 26 kN (1900 - 2600 kg.f)
Outline Drawing	: 100A249
JEDEC Outline No.	: DO-200AC

NOTE: All characteristics are at $T_{VJ} = T_{Jmax}$ operating unless stated otherwise.

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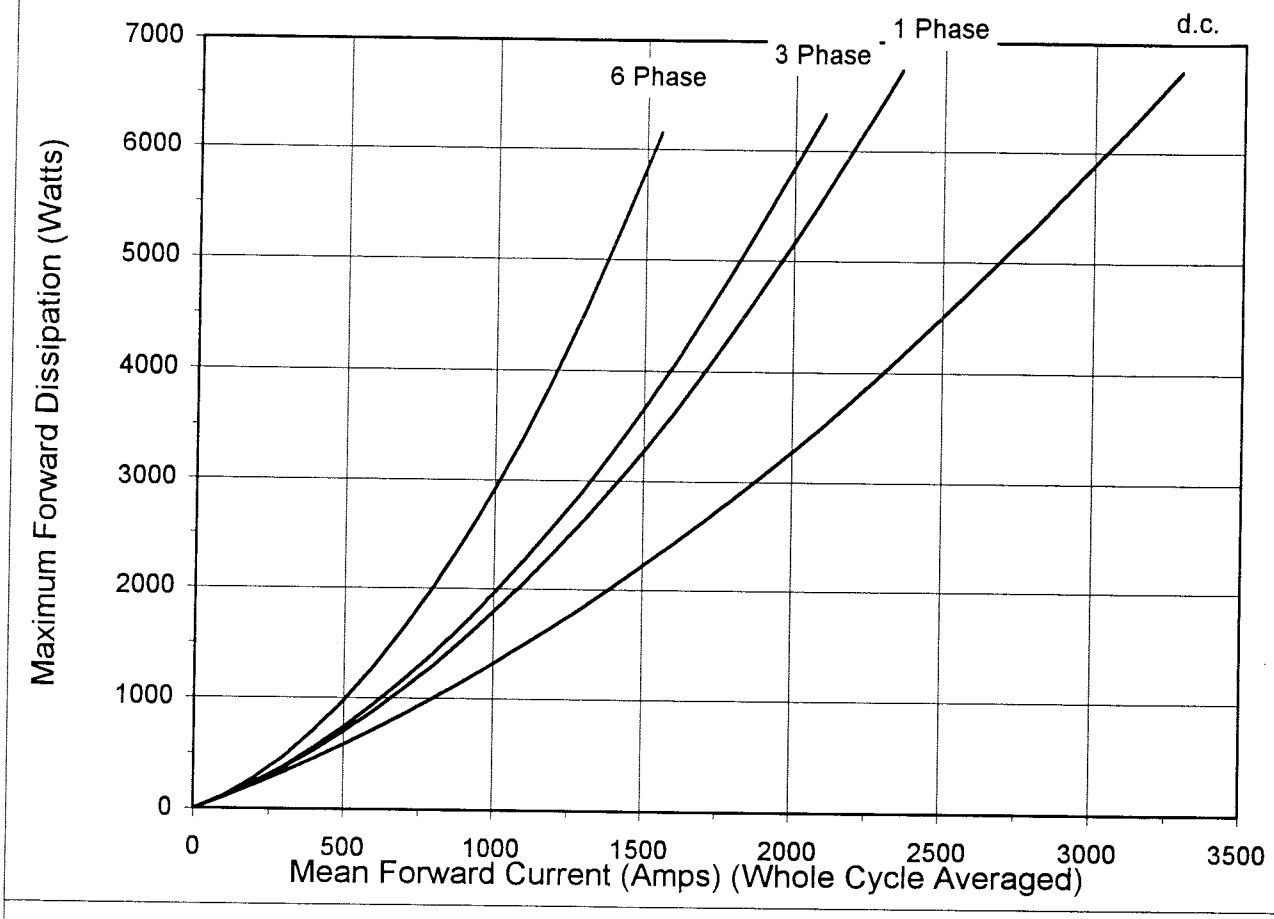
Voltage Ratings

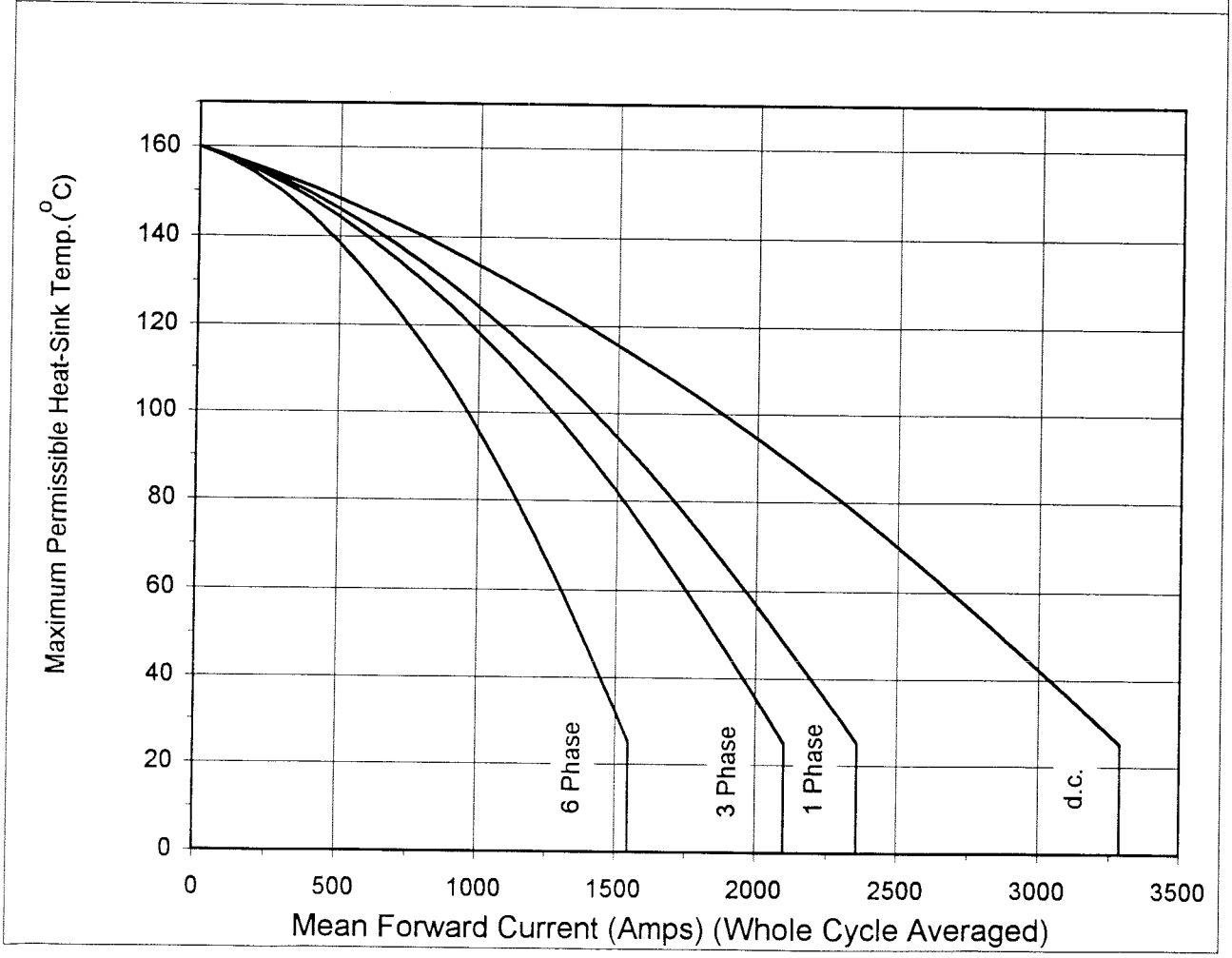
Voltage Class	V_{RRM} V	V_{RSM} V
36	3600	3700
38	3800	3900
40	4000	4100
42	4200	4300
44	4400	4500
45	4500	4600

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

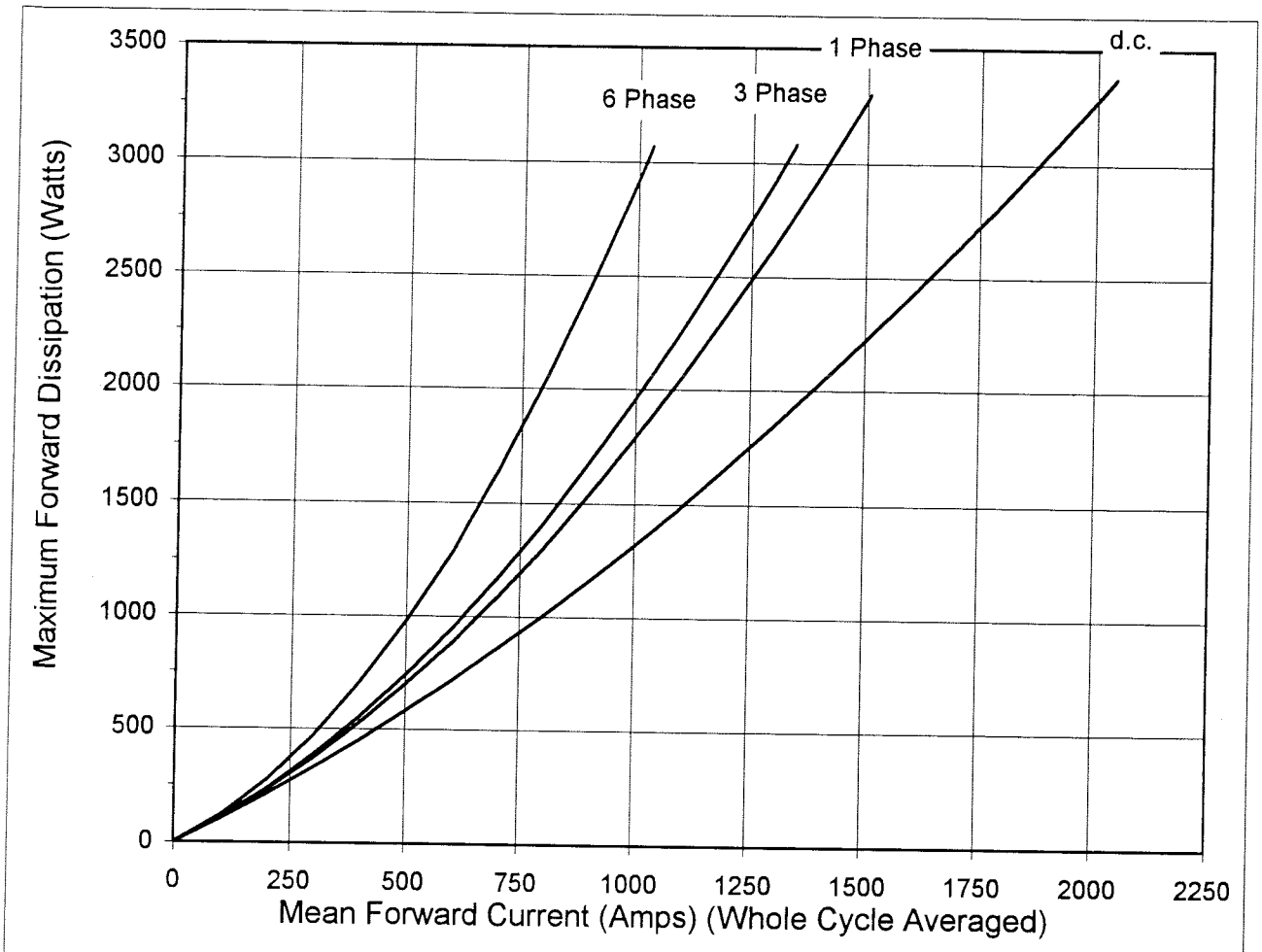
2. A blocking voltage derating factor of 0.13% per deg. Celsius is applicable to this device for T_J below 25 ^{o}C.

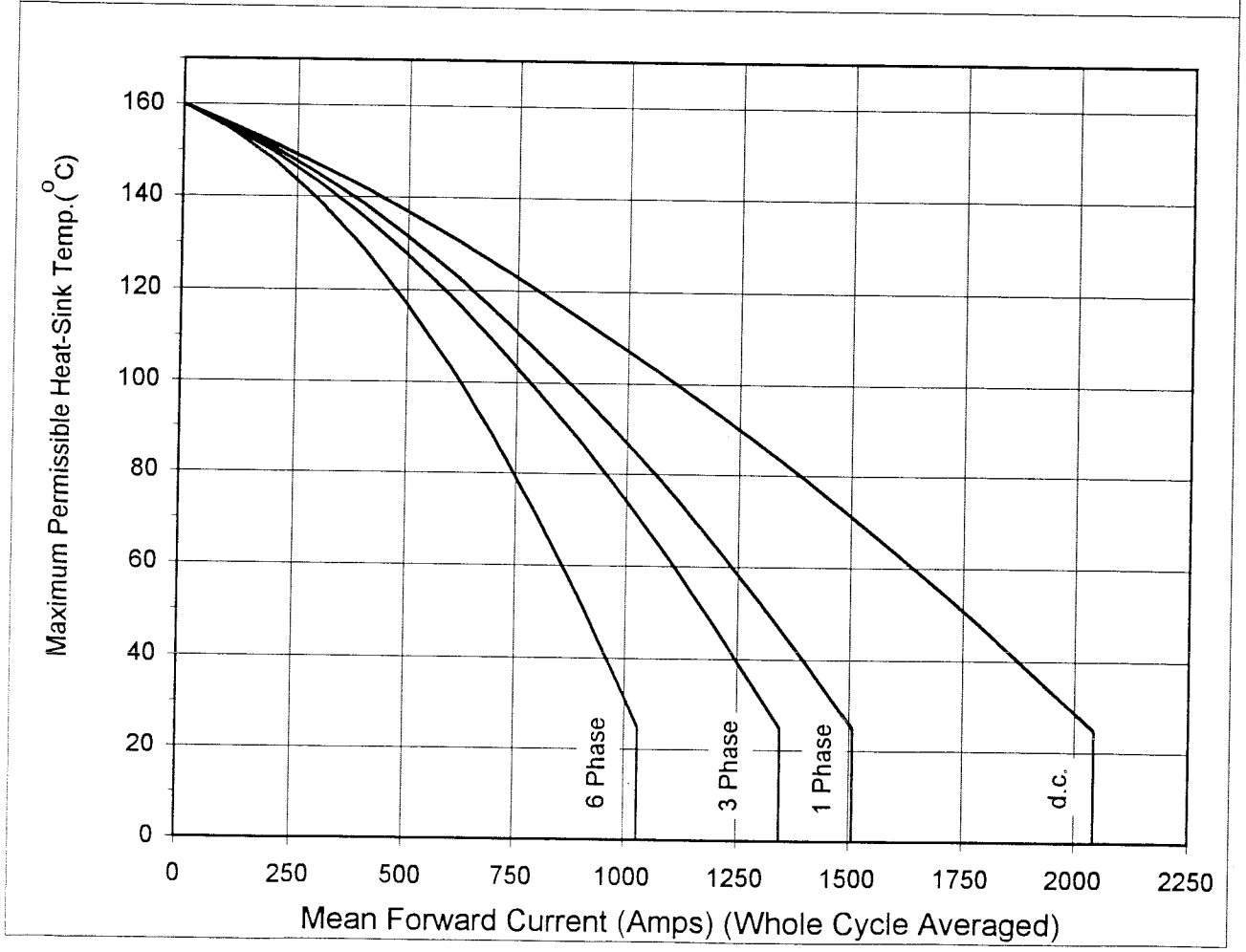
Double Side Cooled



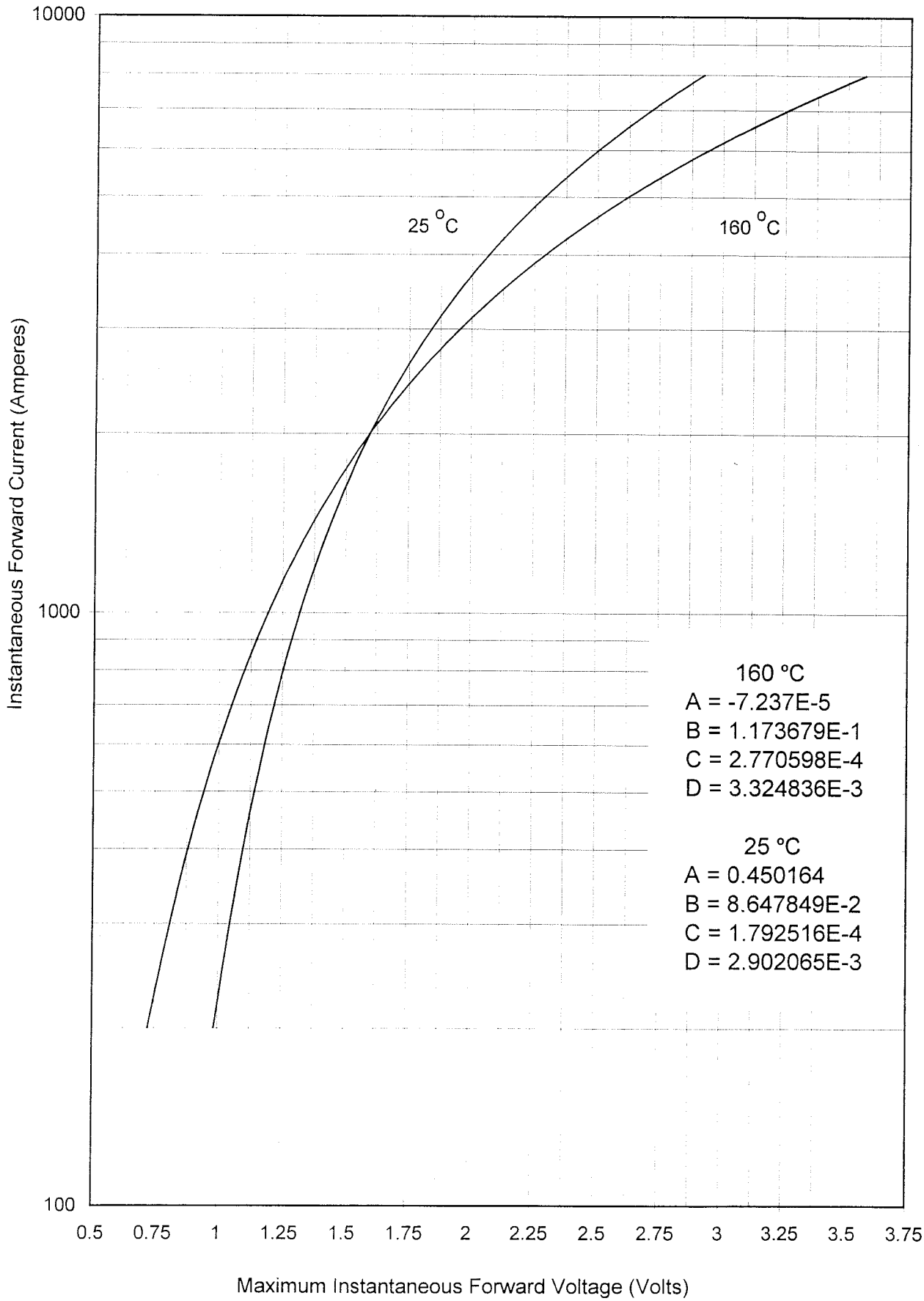


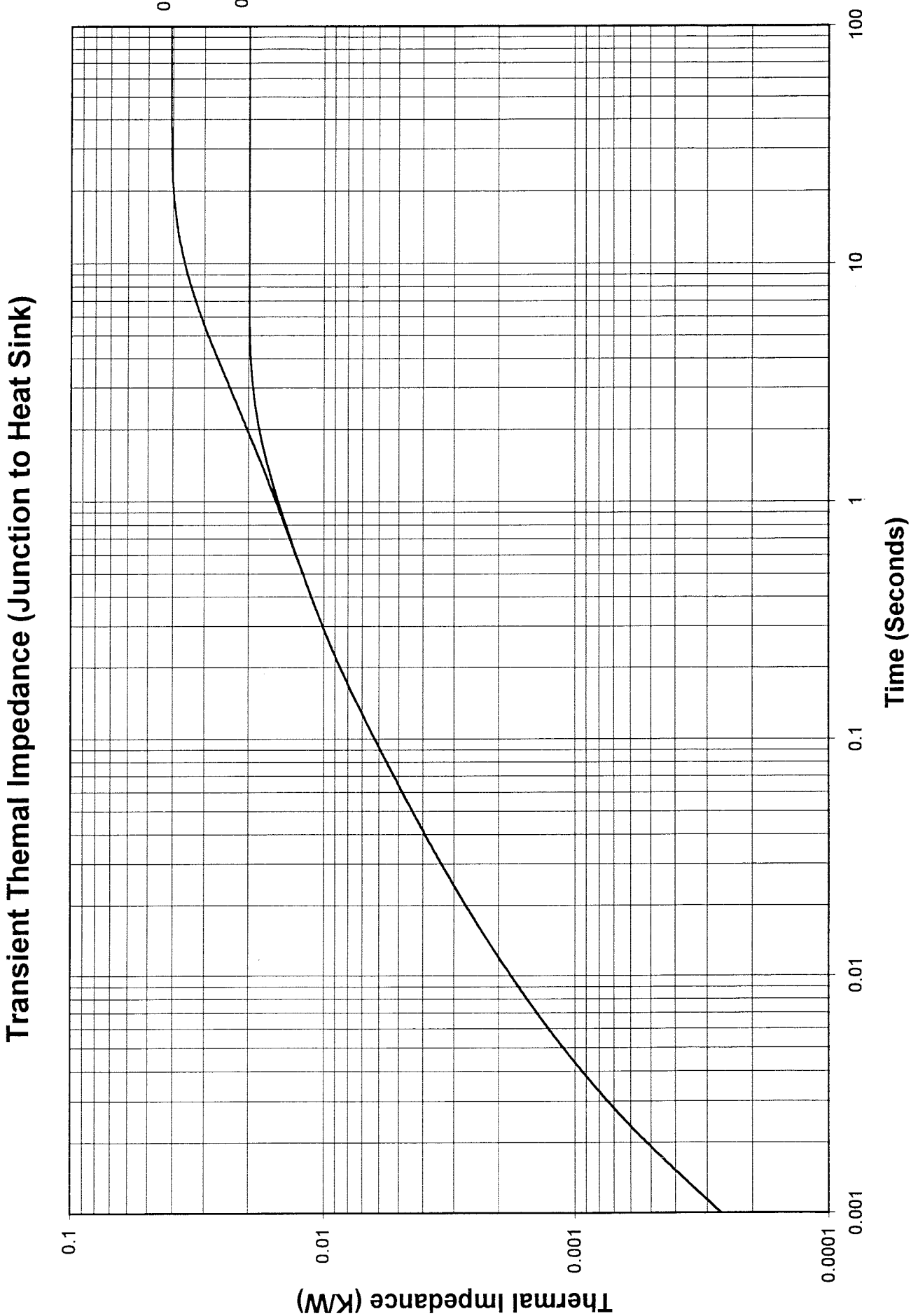
Single Side Cooled



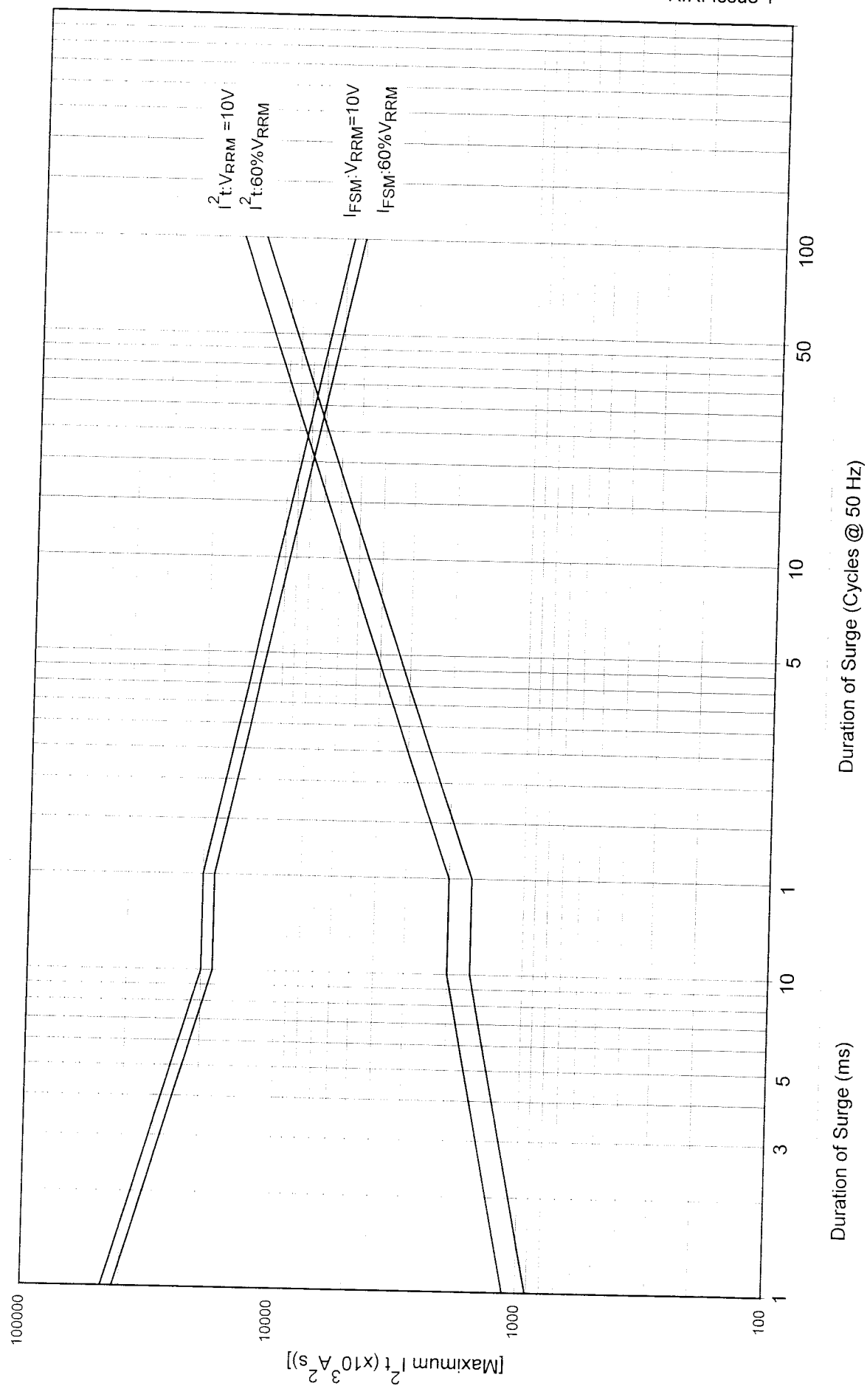


Forward Characteristic of Limit Device




Transient Themal Impedance (Junction to Heat Sink)
0.04 K/W
S.S.C.
0.02 K/W
D.S.C.
Thermal Impedance (K/W)
0.1
0.01
0.001
0.0001
Time (Seconds)
0.001
0.01
0.1
1
10
100

Maximum Non-Repetitive Surge Current
@ Initial Junction Temperature 160 °C



ACAD REF: 100A249

INTERNATIONAL OUTLINE No. DO-200AC

G.A. DWG No. 159B100H350-H359

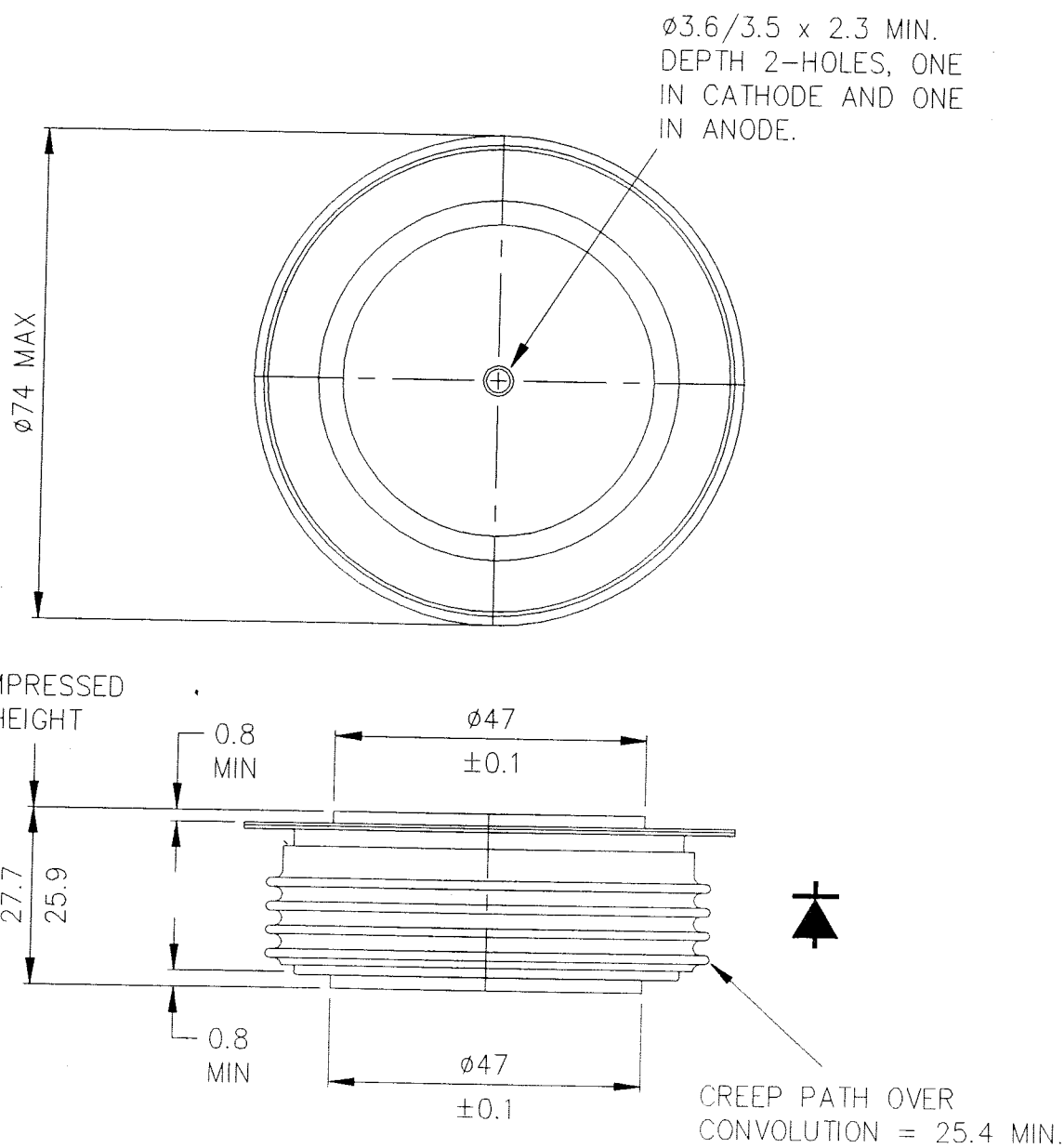
WEIGHT. 480 GRAMS

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. (19-26kN).

TYPE NUMBER

CXC334	CXC680	
CXC500	CXC815	
CXC504	CXC818	CXC950
CXC574	CXC820	CXC990
CXC604	CXC824	CXC1170
CXC614	CXC915	CXC11C
CXC620	CXC920	CXC12C
CXC624	CXC924	CXC14C
	CXC930	CXC19C



ISS	REVISIONS		
1	15.5.78. P304		
13 C	24.1.96. M2861. INDEX HOLE WAS 3 MIN.		HN.
14 C	14.5.96. M3001 TYPE No.CXC920 ADDED.		B.B.B.

SCALE 1/1 DRAWN RCB DIST. A

UNCONTROLLED COPY

THIRD ANGLE PROJECTION.

DWG. COMPLIES WITH BS 308.

DIMNS. IN MILLIMETRES.

DWG No. 100A249

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