Rectifier Diode
Types W5696V#020 to W5696V#140

The data sheet on the subsequent pages of this document is a scanned copy of existing data for this product.
(Rating Report 90NR22 Issue 1)

This data reflects the old part number for this product which is: SW02-14CXC27C.
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:
Only VC outline drawing (W6) in datasheet
No reverse recovery information available

The following links will direct you to the appropriate outline drawings
Outline W6 – 33mm clamp height capsule
Outline W43 – 27mm clamp height capsule

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

W5696	V#	♦♦	**0**
Fixed Type Code	VC – 33mm clamp height capsule VD – 27mm clamp height capsule	Voltage code V_{RRM}/100 02-14	Fixed Code

Typical Order Code: W5696VC140, 33mm clamp height capsule, 1400V 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

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

WESTCODE
An IXYS Company

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

QUALITY EVALUATION LABORATORY

Rating Report: 90NR22 Date: 17th October, 1990

Pages: 10

Diode Type SW02-14CXC27C

Written by: M. Baker Checked: BH Approved: BHoff

This diode consists of a diffused 63 mm diameter silicon slice mounted in a cold weld capsule housing.

Ratings

Voltage Grades	: 02-14
V_{RSM}	: 300-1500V
V_{RRM}	: 200-1400V
$I_{F(AV)}$: Single Phase; 50 Hz, 180° half sinewave;	
Double side cooled T_{HS} = 55°C, 100°C	: 5700A, 4400A
Single side cooled T_{HS} = 100°C	: 2700A
I_F (rms) max.)) Double side cooled T_{HS} = 25°C	: 10160A
I_F max.)	: 8810A
I_{FSM} : t = 10ms half sinewave; T_J (initial) = 190°C; V_{RM} = 0.6 V_{RRM}(Max)	: 53000A
I_{FSM} ; t = 10ms half sinewave; T_J (initial = 190 °C; $V_{RM} \leqslant$ 10V	: 59000A
I^2t : t = 10ms; T_J (initial) = 190 °C; V_{RM} = 0.6 V_{RRM}(Max)	: 14.0 x $10^6 A^2$SECS
I^2t : t = 10ms; T_J (initial) = 190 °C; $V_{RM} \leqslant$ 10V	: 17.4 x $10^6 A^2$SECS
I^2t : t = 3ms; T_J (initial) = 190 °C; $V_{RM} \leqslant$ 10V	: 13.5 x $10^6 A^2$SECS
T_{HS} Operating range	: -55 to +190°C
T_{stg}; Non-operating	: -55 to +200°C

Characteristics

(Maximum values unless stated otherwise)

V_O : T_J = 190°C	:	0.65V
r_s : T_J = 190°C	:	0.059 mohms
COLD		
A : T_J = 25°C	:	
B : T_J = 25°C	:	
C : T_J = 25°C	:	
D : T_J = 25°C	:	
HOT		
A : (Constant)	:	0.6174317
B : (B x ln i)	:	6.299688E-3
C : (C x i)	:	6.045386E-5
D : (D x $\sqrt{i}$	:	-3.998218E-4
V_{FM} : I_{FM} =6800A T_{VJ} = 190°C	:	1.05V
R_{th}(J-HS) double side cooled	:	0.016 K/W
single side cooled	:	0.032 K/W
I_{RRM} : T_J = 190°C V_{RM} = $V_{RRM(Max)}$	:	60 mA
Q_{RA} : I_{TM} = T_{VJ} =	:	
: V_{RM} = T_{VJ} =	:	
Mounting Force	:	2700-3400 Kg.F
Outline Drawing	:	100A270
JEDEC Outline No.	:	DO-200AD

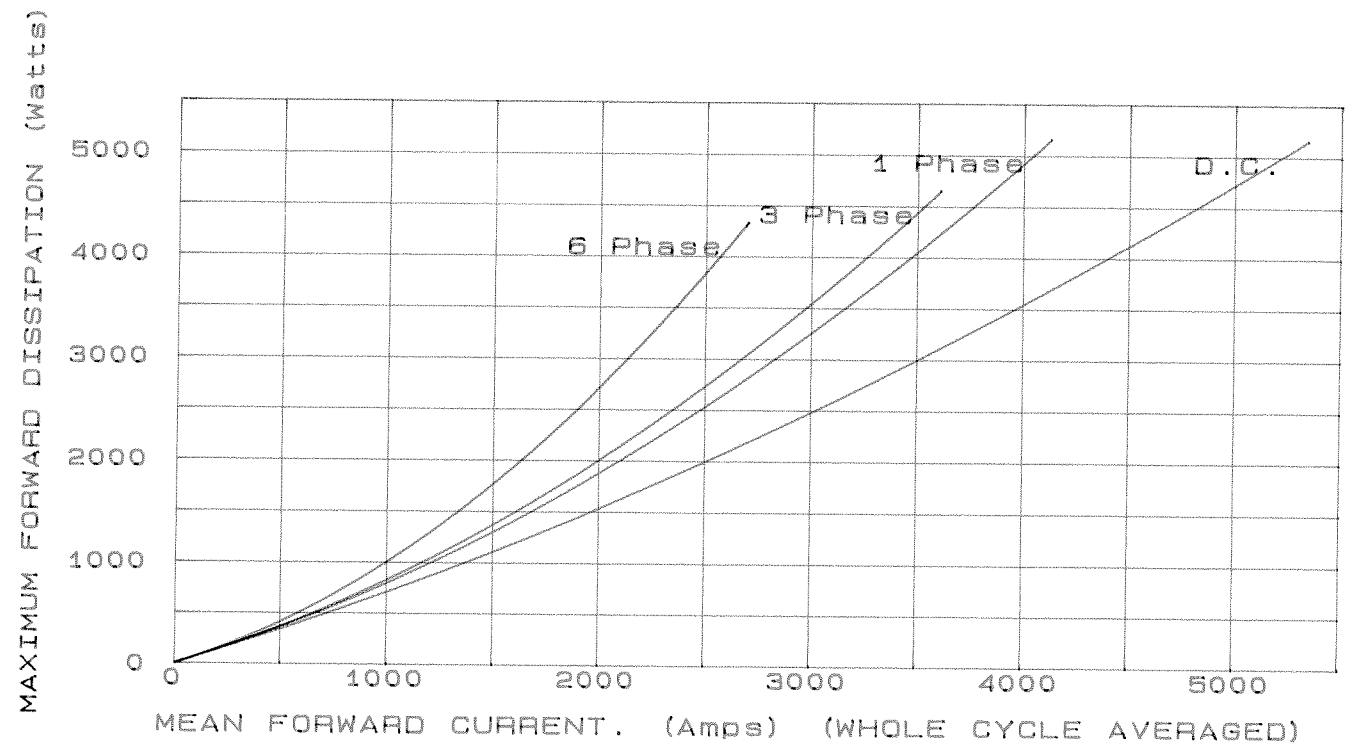
CONTENTS

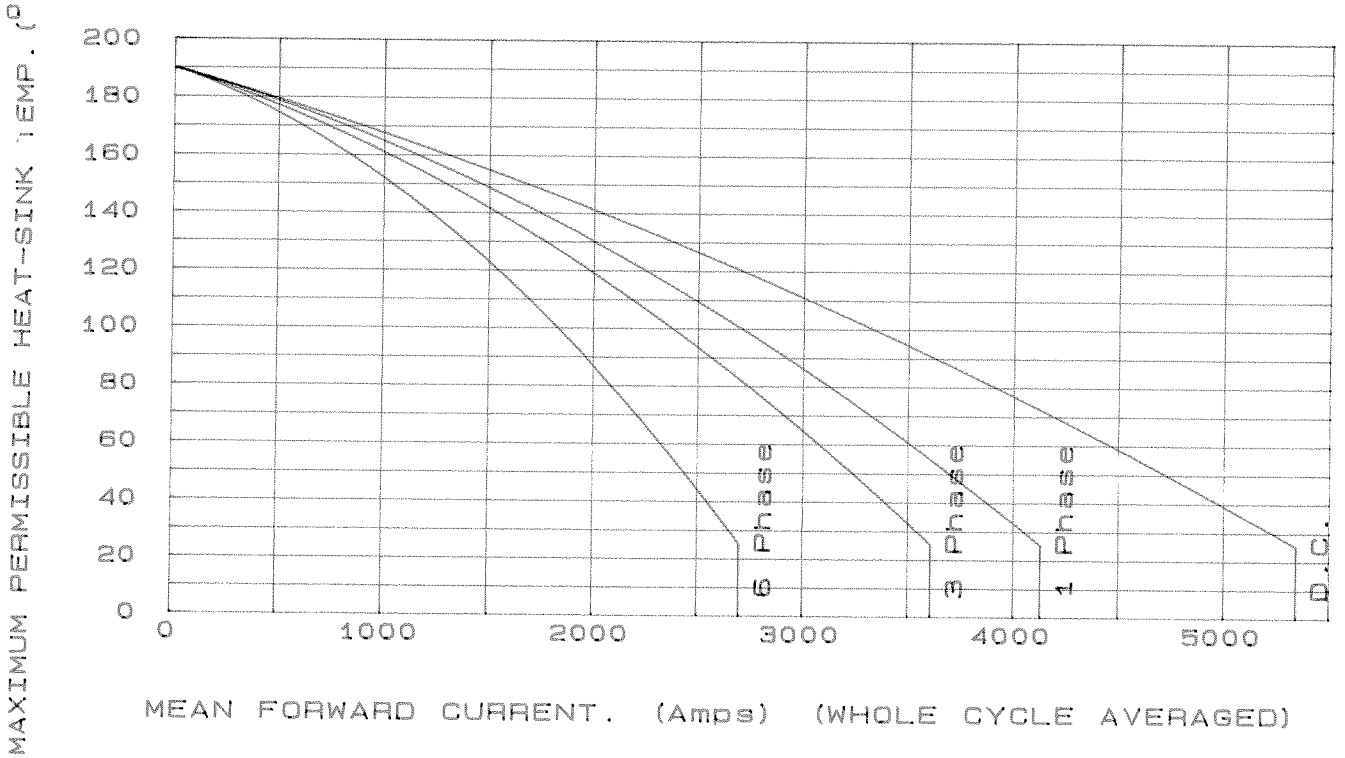
Voltage Ratings

Voltage Class	V_{RRM} V	V_{RSM} V
2	200	300
4	400	500
6	600	700
8	800	900
10	1000	1100
12	1200	1300
14	1400	1500

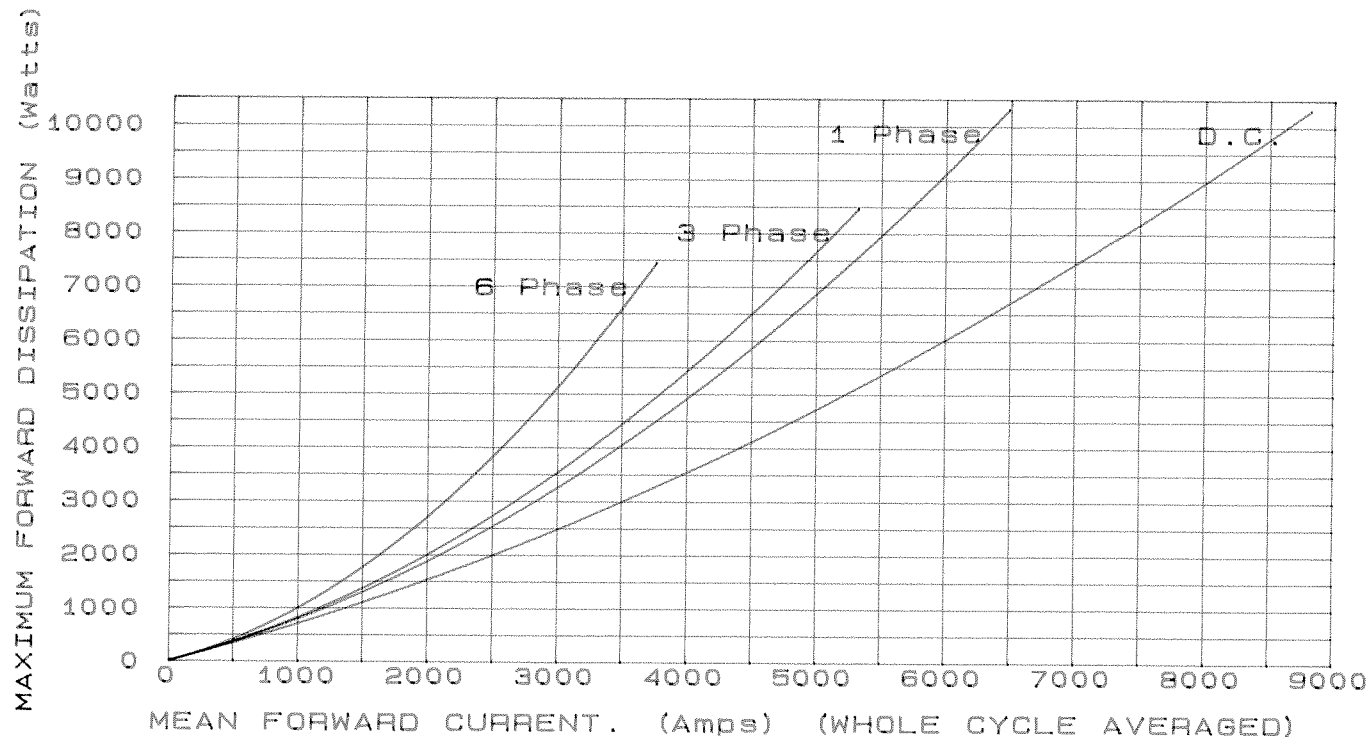
This Report is applicable to higher or lower voltage grades when supply has been agreed by Sales/Production.

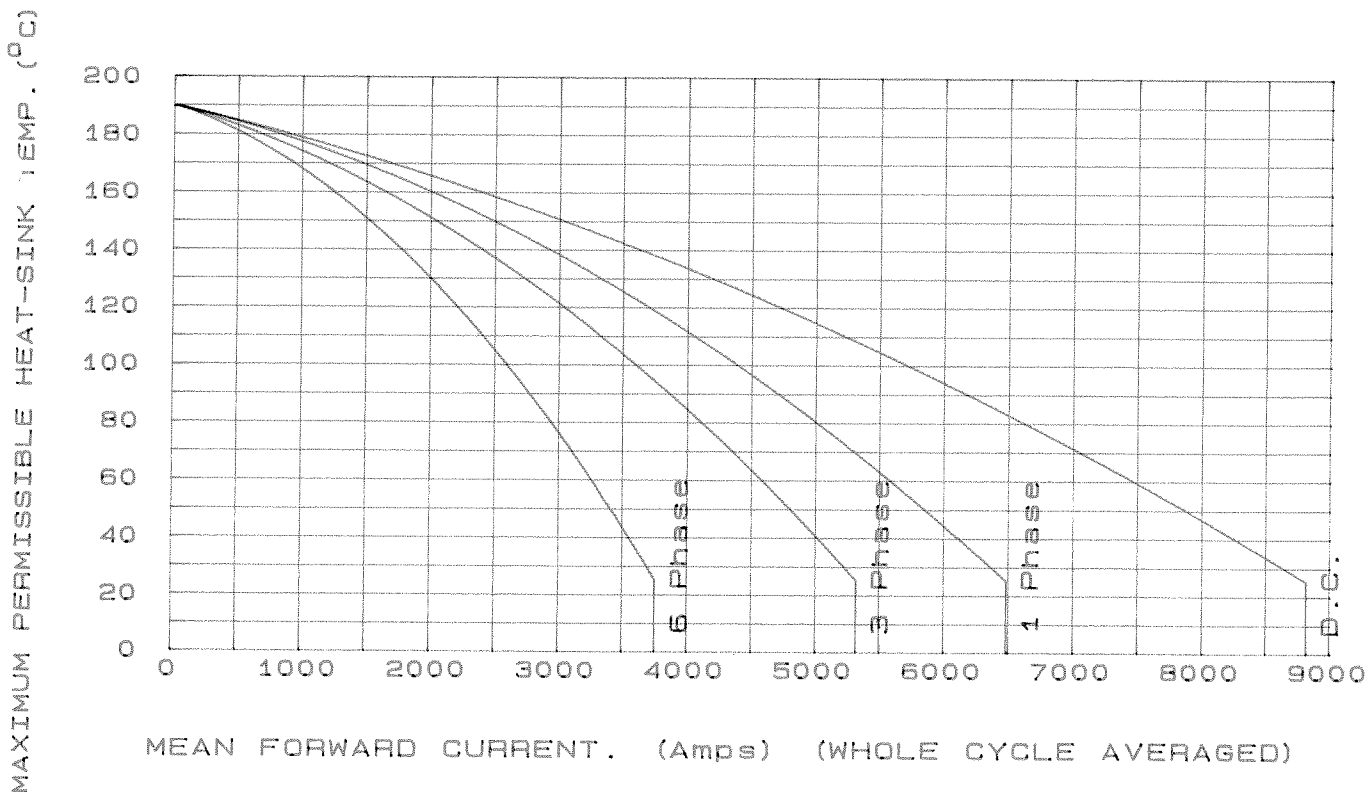
SINGLE SIDE COOLED



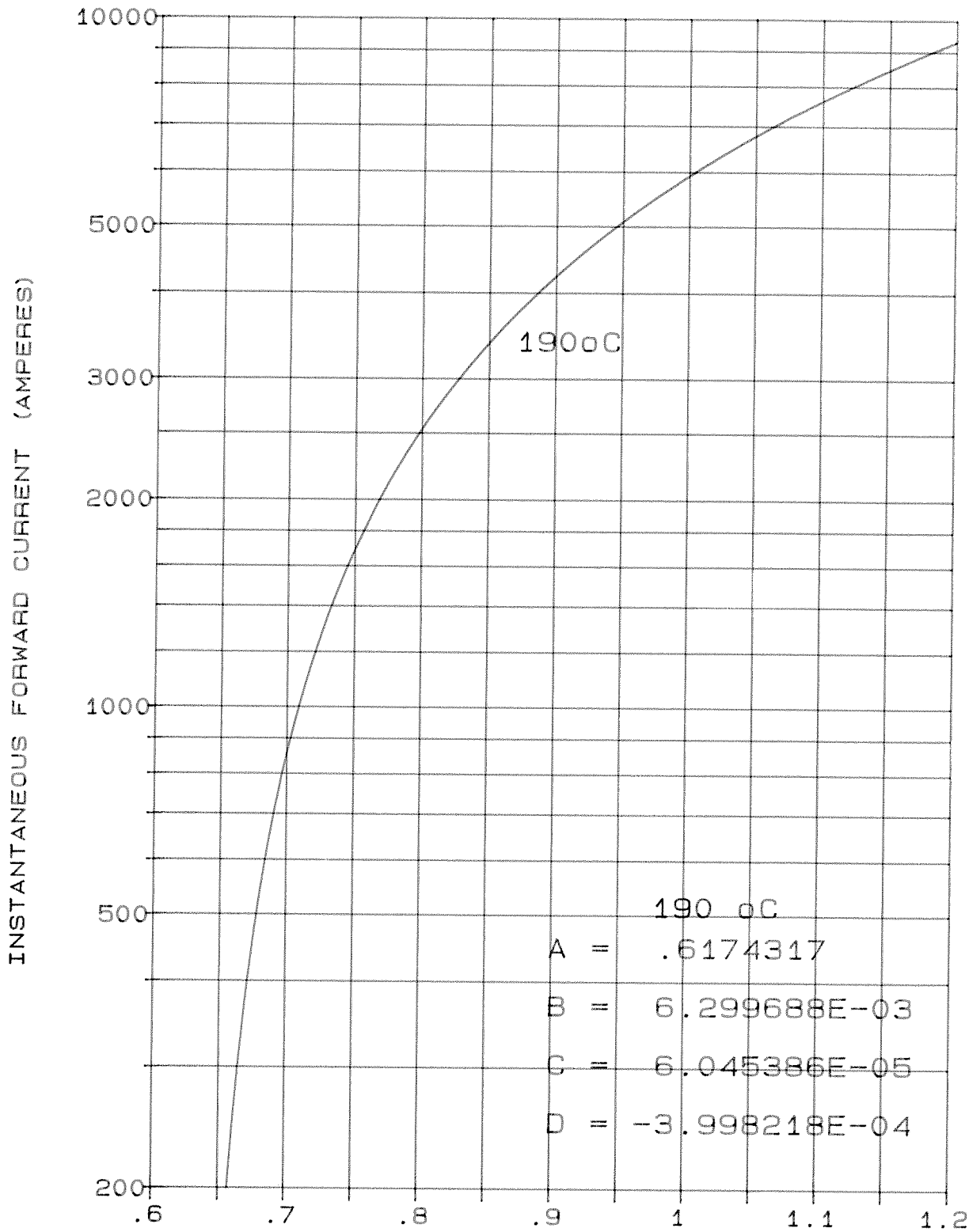


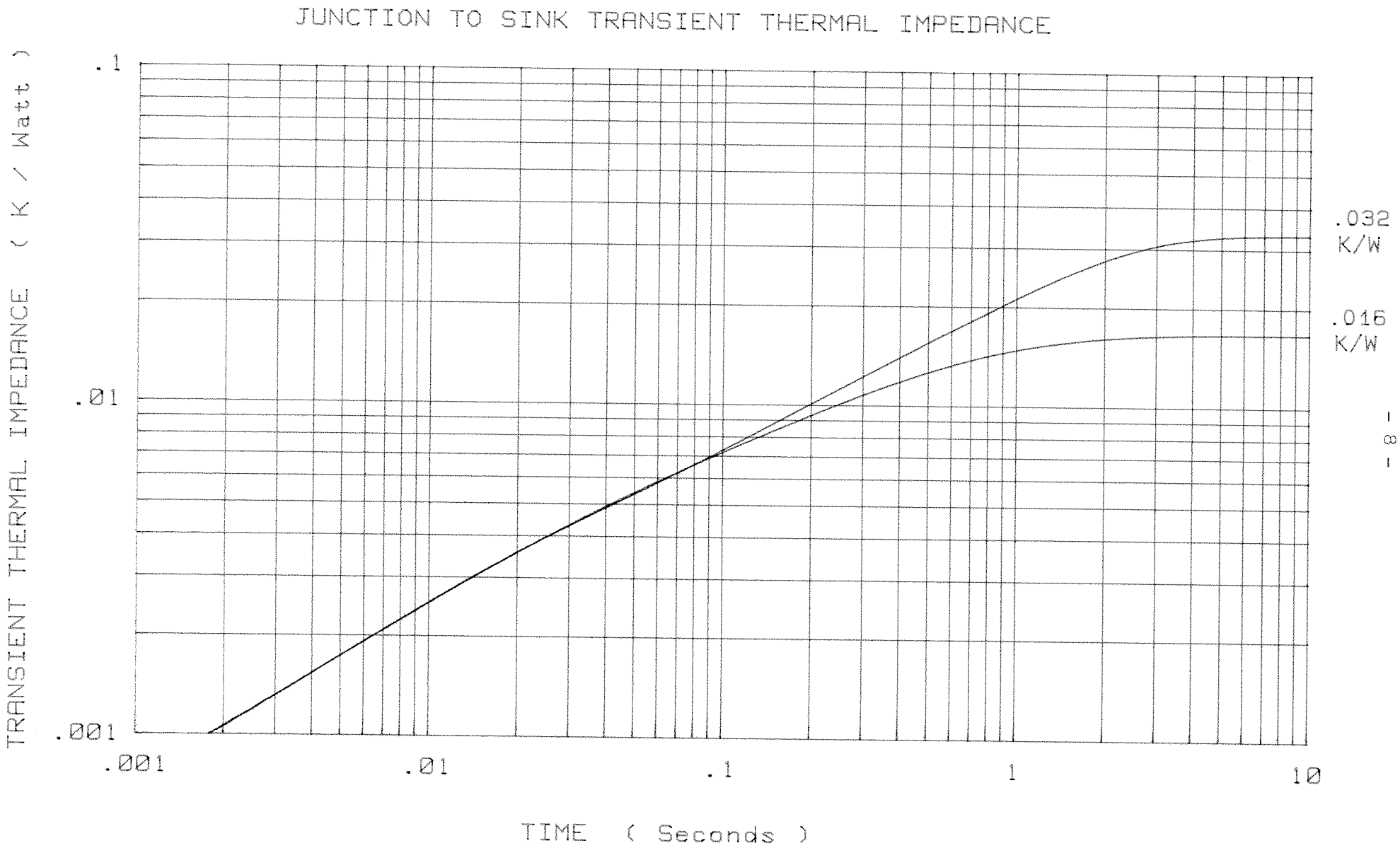
DOUBLE SIDE COOLED

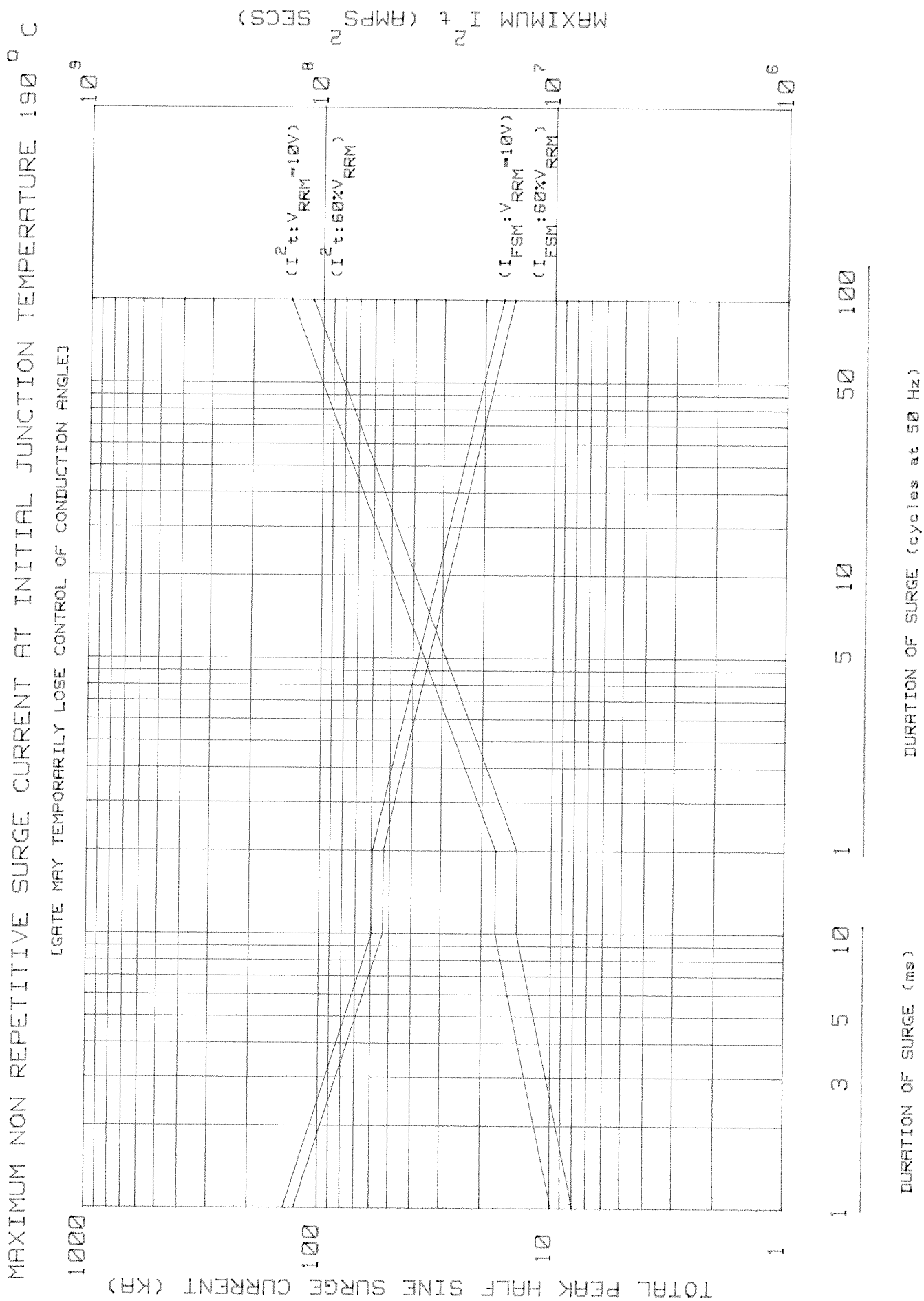




FORWARD CHARACTERISTIC OF LIMIT DEVICE




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


MAXIMUM NON REPETITIVE SURGE CURRENT AT INITIAL JUNCTION TEMPERATURE 190°C
(GATE MAY TEMPORARILY LOSE CONTROL OF CONDUCTION ANGLE)
TOTAL PEAK HALF SINE SURGE CURRENT (KA)
MAXIMUM I²t (AMPS² SECS)
(I²t:VRRM=10V)
(I²t:60%VRRM)
(IFSM:VRRM=10V)
(IFSM:60%VRRM)
1000
100
10
1
10⁹
10⁸
10⁷
10⁶
1
3
5
10
1
5
10
50
100
DURATION OF SURGE (ms)
DURATION OF SURGE (cycles at 50 Hz)

ACAD REF: 100A270

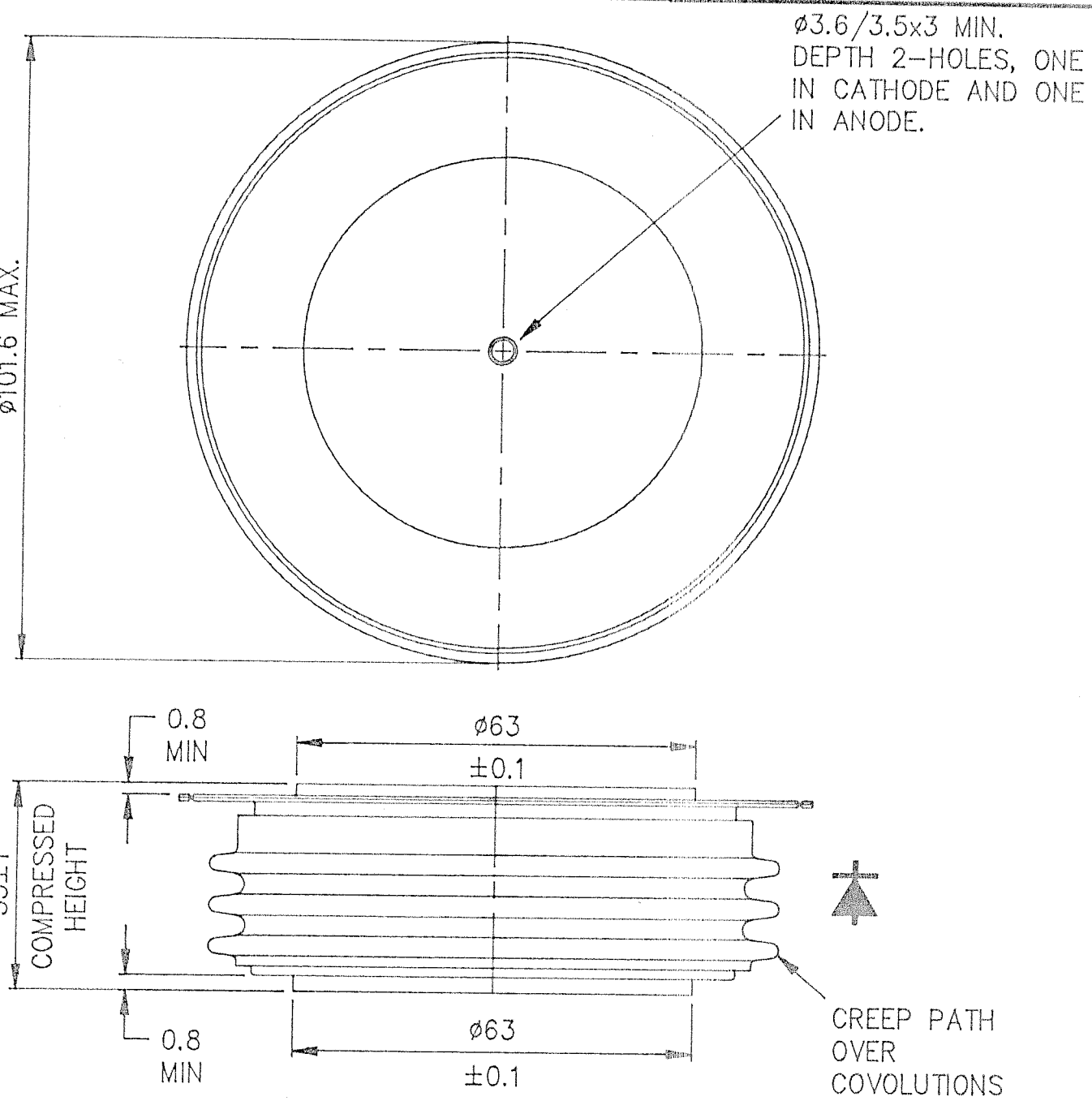
INTERNATIONAL OUTLINE No. DO-200AD
G.A. DWG No. 159B100H401-H410
WEIGHT. 1kg

FINISH. ET TO BS1872

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 = 2700-3400kgf.

TYPE NUMBE

CXC13C
CXC16C
CXC22C
CXC27C



ISS	REVISIONS	
2	11-09-90 REDRAWN ON CAD	HDN

THIRD ANGLE PROJECTION.
DWG. COMPLIES WITH BS 308.
DIMNS. IN MILLIMETRES.
DWG No. 100A270

SCALE 1/1 DRAWN HDN

A

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