

Rectifier Diode

Types W4307Z#200 to W4307Z#300

The data sheet on the subsequent pages of this document is a scanned copy of existing data for this product.
(Rating Report 84NR6 Issue 1)

This data reflects the old part number for this product which is: SM20-30CXC20C.
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 'C' outline drawing (W7) in datasheet
No recovery data available

The following links will direct you to the appropriate outline drawings
[Outline W7](#) – 37mm Clamp height capsule
[Outline W42](#) – 26mm 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			
W4307	Z#	◆◆	0
Fixed Type Code	ZC – 37mm Clamp height capsule ZD – 26mm Clamp height capsule	Voltage code $V_{RRM}/100$ 20-30	Fixed Code
Typical Order Code: W4307ZC240, 37mm Clamp height, 2400V V_{RRM}			

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<p>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.</p> <p>In the interest of product improvement, Westcode reserves the right to change specifications at any time without prior notice.</p> <p>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.</p>		

QUALITY EVALUATION LABORATORY

Rating Report: 84NR6

Date: 23rd November, 1984

Origin:

Pages: 9

Diode Type SW20-30CXC20C

Written:

mhb/7mbop

Checked:

mhb

Approved:

B. H. H.

The C20C range of diodes is based on a 76 mm diameter all-diffused silicon slice housed in a cold-weld capsule

Ratings and Characteristics

Ratings

Voltage Grades	:	20-30
V_{RSM}	:	2100-3100V
V_{RRM}	:	2000-3000V
$I_F(AV)$: Single phase; 50Hz, 180° half sinewave;	:	
Double side cooled. $T_{HS} = 55^{\circ}C, 100^{\circ}C$:	4310A, 3035A
Single side cooled. $T_{HS} = 100^{\circ}C$:	1900A
$I_F(rms)$ $T_{HS} = 25^{\circ}C$:	7875A
I_F $T_{HS} = 25^{\circ}C$:	7060A
I_{FSM} : t = 10ms half sinewave; T_J (initial) = 160°	:	
$V_{RM} = 0.6 V_{RRM}(MAX)$:	55000A
I_{FSM} : t = 10ms half sinewave; T_J (initial) = 160°	:	
$V_{RM} \leq 10V$:	60500A
I^2t : t = 10ms; T_J (initial) = 160°; $V_{RM} = 0.6 V_{RRM}(MAX)$:	$15.1 \times 10^6 A^2 SEC$
I^2t : t = 10ms; T_J (initial) = 160°; $V_{RM} \leq 10V$:	$18.3 \times 10^6 A^2 SEC$
I^2t : t = 3ms; T_J (initial) = 160°; $V_{RM} \leq 10V$:	$13.6 \times 10^6 A^2 SEC$
T_{HS} operating range	:	-55° to +160°
T_{stg} ; non-operating	:	-55° to +160°

Characteristics

(Maximum values unless stated otherwise)

$V_0 : T_J = 160^{\circ}\text{C}$:	0.8V
$r_s : T_J = 160^{\circ}\text{C}$:	0.133mohms
$V_{FM} : I_{FM} = 60000\text{A} \quad T_{VJ} = 160^{\circ}\text{C}$:	1.6V
$R_{th}(J-HS)$ Double side cooled	:	0.011°C/W
Single side cooled	:	0.022°C/W
$I_{RRM} : T_J = 160^{\circ}\text{C} \quad V_{RM} = V_{RRM}(\text{MAX})$:	100mA
$Q_{rr} : I_{FM} = \quad ; \quad dI/dt =$:	
$V_{RM} = \quad T_{VJ} =$:	
Mounting Force :	:	$3700 \pm 1000\text{Kg.f}$
Outline Drawing :	:	100A293

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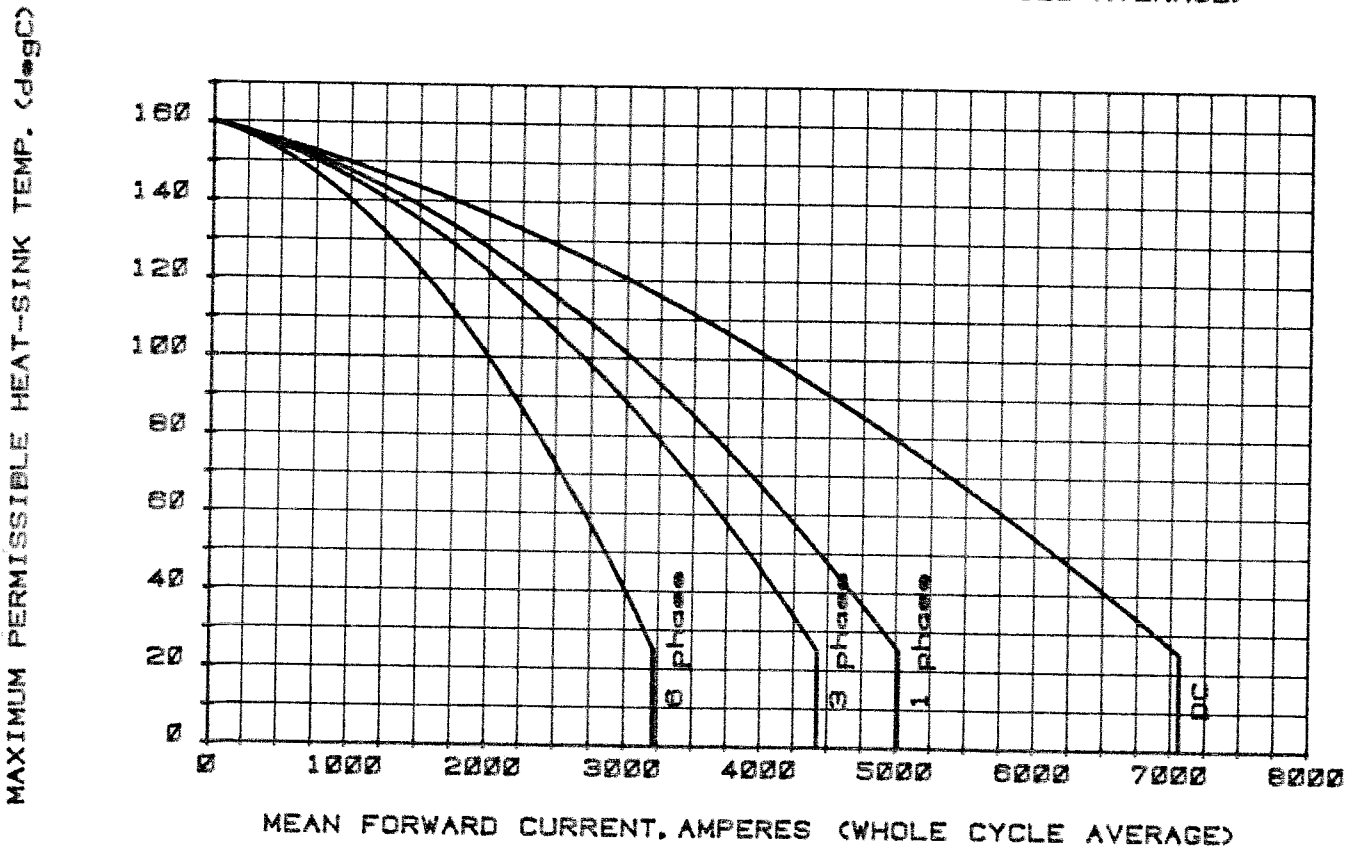
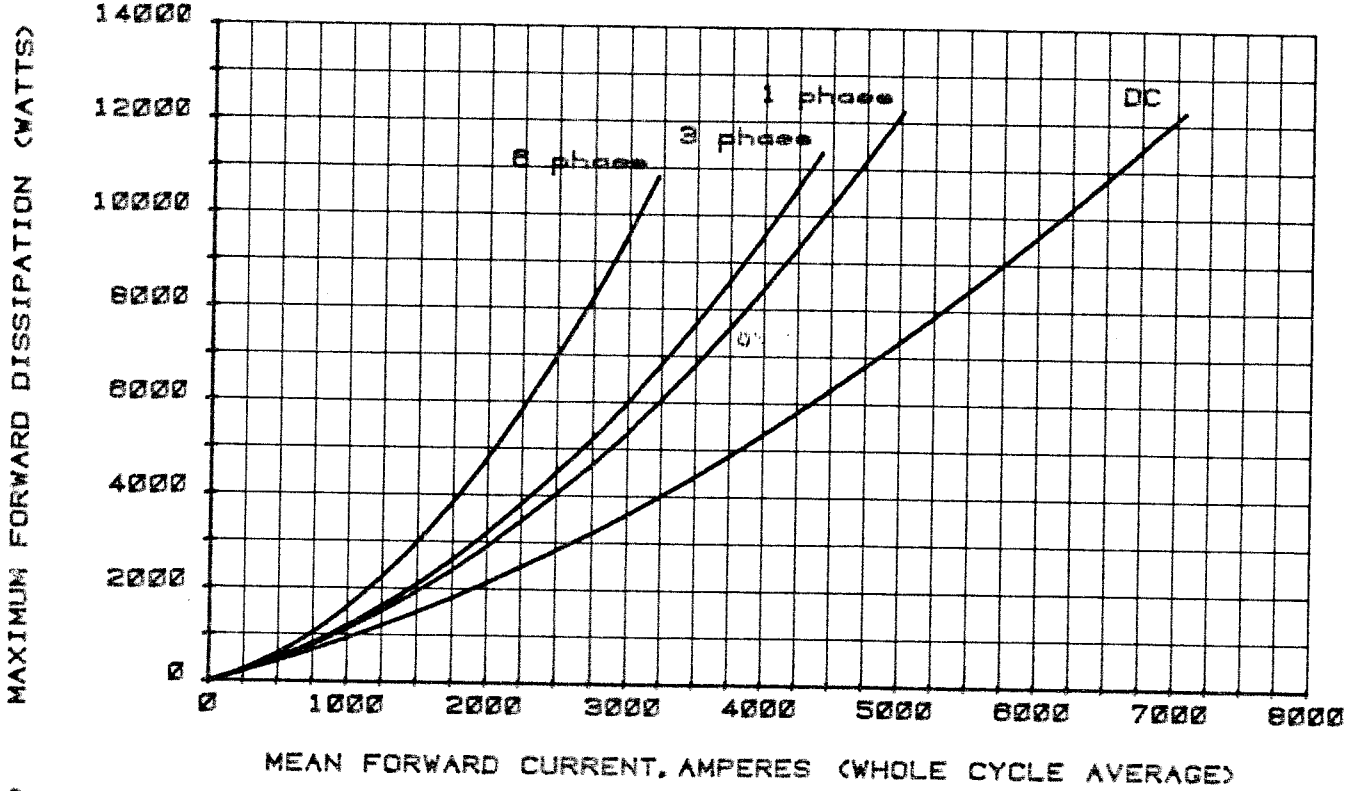
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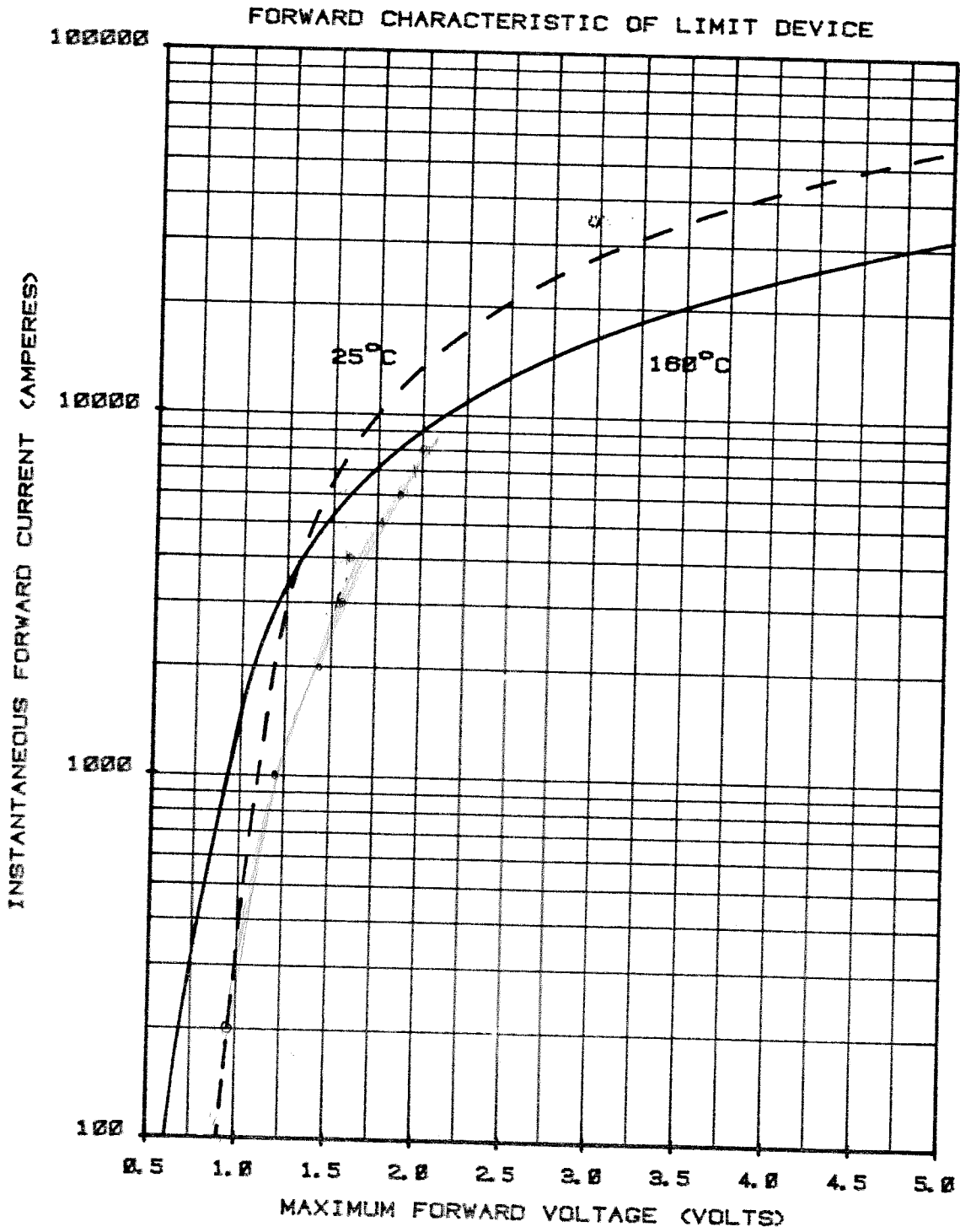
Voltage Ratings

Voltage Class	V_{RRM} V	V_{RSM} V
20	2000	2100
22	2200	2300
24	2400	2500
26	2600	2700
28	2800	2900
30	3000	3100

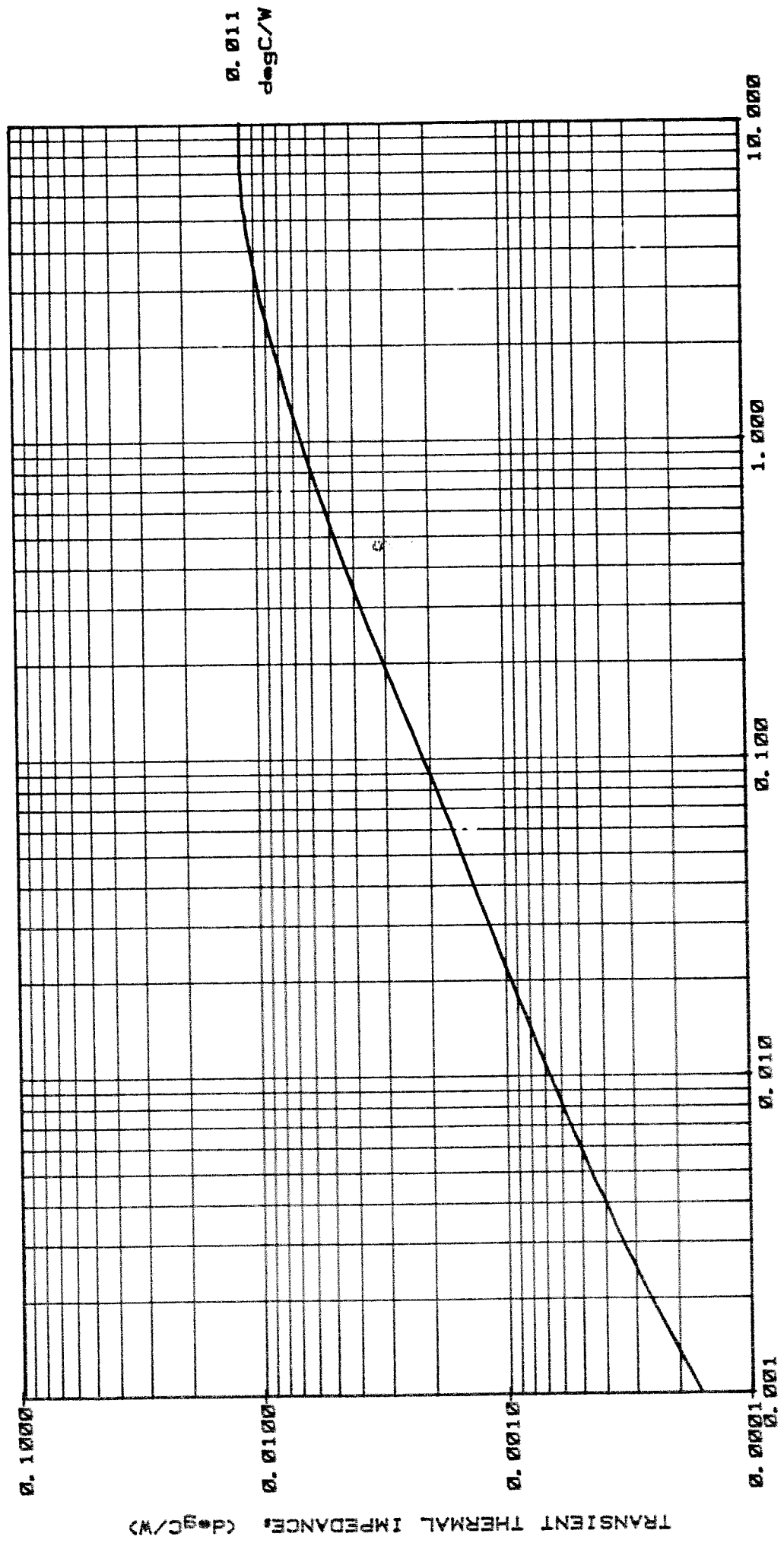
This Report is applicable to higher or lower voltage grades when supply has been agreed by Sales/Production.

DOUBLE SIDE COOLED

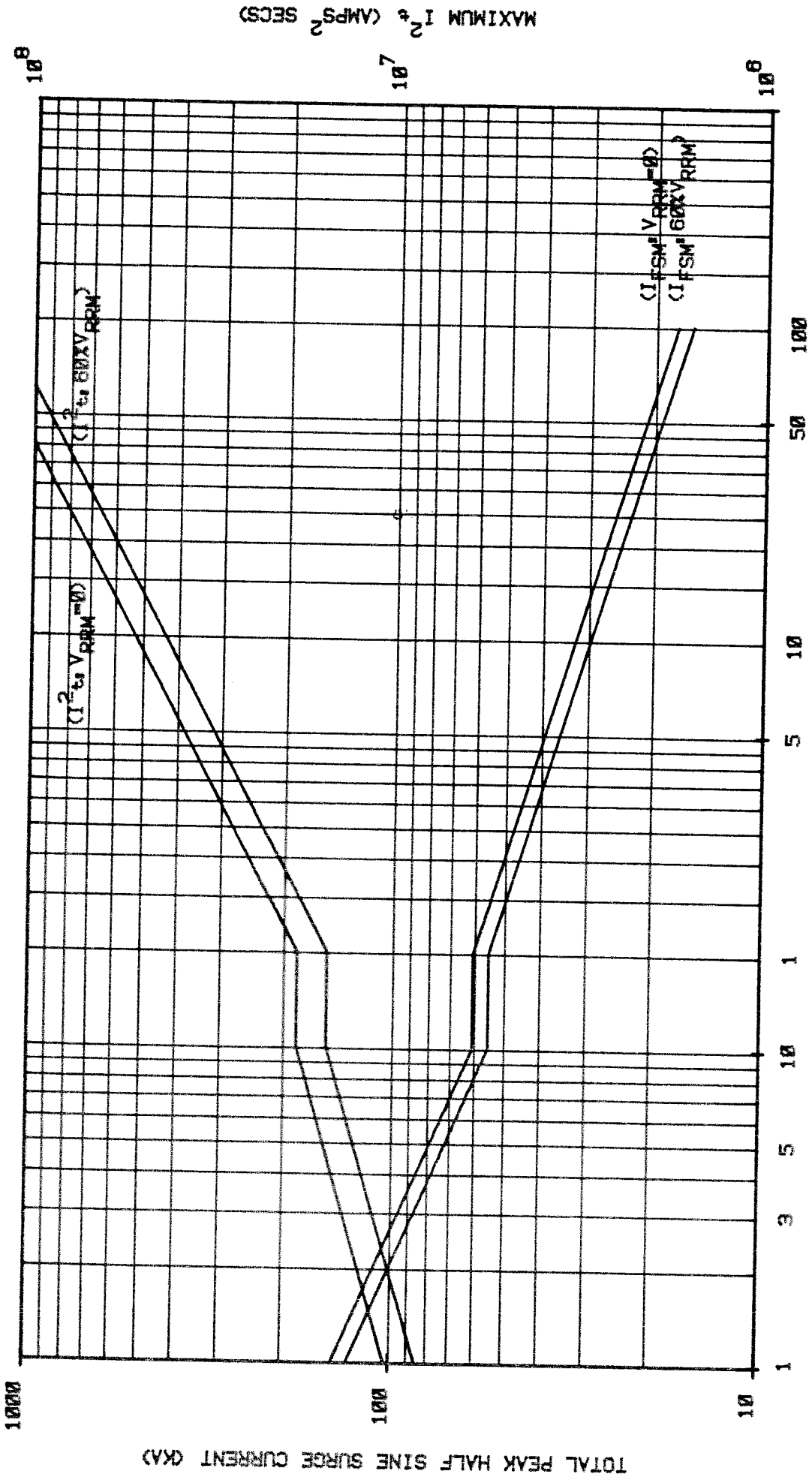




JUNCTION TO HEAT SINK TRANSIENT THERMAL IMPEDANCE



MAXIMUM NON REPETITIVE SURGE CURRENT AT INITIAL JUNCTION TEMPERATURE 100°C



DURATION OF SURGE (microsecs) DURATION OF SURGE (cycles at 50 Hz)

TOTAL PEAK HALF SINE SURGE CURRENT (KA)

MAXIMUM I²t (AMPS² SECS)

(I²t)₅₀ VRRM=100

(I²t)₅₀ VRRM=600

(I²t)₅₀ VRRM=6000

(I²t)₅₀ VRRM=6000

SCALE	1/1
DRN	<i>[Signature]</i>
CHKD	<i>[Signature]</i>
APPD	
	A
8	NI

INTERNATIONAL OUTLINE No.
 WEIGHT. 1.7 kg
 FINISH. NICKEL PLATE.
 - 9 -
 DEVICE MARKING INCLUDES MONOGRAM, TYPE No., SPEC. No. AND POLARITY SYMBOL
 DEVICE MOUNTING: CLAMPING FORCE
 3700 ± 1000 kgf (37 ± 10 kN)
 APPLY LOAD ON ϕ OF LOCATION HOLES AND EVENLY DISTRIBUTED OVER THE AREA OF CONTACT.

TYPE NUMBER
 CXC15C
 CXC20C

G.A DRG. No. 159B100H601

$\phi 3.6/3.5 \times 3$ MIN
 DEPTH. ONE HOLE
 IN CATHODE AND
 ONE IN ANODE.

$\phi 110.5$
 MAX

41.6 MIN CREEP
 DISTANCE OVER
 CONVOLUTIONS.

0.8
 MIN

$\phi 73$

37.65 / 36
 COMPRESSED
 HEIGHT.

0.8
 MIN

$\phi 73$



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WESTINGHOUSE BRAKE AND SIGNAL CO. LTD.
 CHIPPENHAM, WILTSHIRE, SN15 1JD, ENGLAND.



WESTCODE
 SEMICONDUCTORS

THIRD ANGLE PROJECTION



DIMENSIONS IN MILLIMETRES

DRG. No.

100A293

REV	REVISIONS
1	22.9.82 P379
2	5.7.84 CLAMPING WAS 3175 \pm 450 kgf <i>Alif</i>