

# Rectifier Diode

## W0944WC040 to W0944WC150

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

(Rating Report 90NR27 Issue 2)

This data reflects the old part number for this product which is: **SW02-15CXC470**. 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 grade 02 (200V  $V_{RRM}$ )

Please use the following link to view an up to date outline drawing for this device  
[Outline W1](#)

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.

<b>Ordering Particulars</b>			
W0944	WC	◆◆	0
Fixed Type Code	Fixed Outline Code	Voltage code $V_{RRM}/100$ 04-15	Fixed Code
Typical Order Code: W0944WC100, 14.4mm clamp height, 1000V $V_{RRM}$			

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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: 90NR27 Issue 2

Date: 12th May, 1992

Origin: Q.E.L.

Pages: 10

Diode Type SW02-15CX0470

Written by: M. Baker

Checked: M.B.

Approved: 

This diode consists of a diffused 24 mm silicon slice mounted in a cold weld capsule housing.

This report supersedes Report 90NR27 Issue 1.

Ratings

Voltage Grades	:	02-15
$V_{RSM}$	:	300-1600V
$V_{RRM}$	:	200-1500V
$I_{F(AV)}$ : Single Phase; 50 Hz, 180° half sinewave;		
Double side cooled $T_{HS} = 55^{\circ}C, 100^{\circ}C$	:	945A; 717A
Single side cooled $T_{HS} = 100^{\circ}C$	:	430A
$I_F$ (rms) max. )	:	1694A
) Double side cooled $T_{HS} = 25^{\circ}C$	:	1430A
$I_F$ max. )	:	
$I_{FSM}$ : t = 10ms half sinewave; $T_J$ (initial) = 190°C;		
$V_{RM} = 0.6 V_{RRM}$ (Max)	:	9000A
$I_{FSM}$ ; t = 10ms half sinewave; $T_J$ (initial) = 190 °C; $V_{RM} \leq 10V$	:	10,000A
$I^2t$ : t = 10ms; $T_J$ (initial) = 190 °C; $V_{RM} = 0.6 V_{RRM}$ (Max)	:	.405 x 10 <sup>6</sup> A <sup>2</sup> SECS
$I^2t$ : t = 10ms; $T_J$ (initial) = 190 °C; $V_{RM} \leq 10V$	:	.5 x 10 <sup>6</sup> A <sup>2</sup> SECS
$I^2t$ : t = 3ms; $T_J$ (initial) = 190 °C; $V_{RM} \leq 10V$	:	.36 x 10 <sup>6</sup> A <sup>2</sup> SECS
$T_{HS}$ Operating range	:	-40 to +190°C
$T_{stg}$ ; Non-operating	:	-40 to +200°C

Characteristics

(Maximum values unless stated otherwise)

$V_O$	: $T_J = 190^\circ\text{C}$	:	0.79V
$r_s$	: $T_J = 190^\circ\text{C}$	:	0.342mohms
COLD			
A	: $T_J = 25^\circ\text{C}$	:	0.933861601
B	: $T_J = 25^\circ\text{C}$	:	-1.98094636E-2
C	: $T_J = 25^\circ\text{C}$	:	2.35239372E-4
D	: $T_J = 25^\circ\text{C}$	:	5.52084713E-3
HOT			
A	: (Constant)	:	0.717850746
B	: (B x ln i)	:	-1.13820768E-2
C	: (C x i)	:	2.83402379E-4
D	: (D x $\sqrt{i}$ )	:	6.10133431E-3
$V_{FM}$	: $I_{FM} = 1930A$ $T_{VJ} = 190^\circ\text{C}$	:	1.45V
$R_{th}(J-HS)$	double side cooled	:	0.09 K/W
	Anode side cooled	:	0.186 K/W
	Cathode side cooled	:	0.174 K/W
$I_{RRM}$	: $T_J = 190^\circ\text{C}$ $V_{RM} = V_{RRM(Max)}$	:	15mA
$Q_{RA}$	: $I_{TM} =$ $T_{VJ} =$	:	
	: $V_{RM} =$ $T_{VJ} =$	:	
Mounting Force		:	330-550 Kg.f
Outline Drawing		:	100A241
JEDEC Outline No.		:	DO-200AA

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Changes to Report 90NR27

Page 1  $I_F(AV)$ ,  $I_F(rms)$  and  $I_F$  max.

Page 2  $V_o$ ,  $r_s$ , Hot A B C D co-efficients

New cold A B C D co-efficients

Page 3 This list

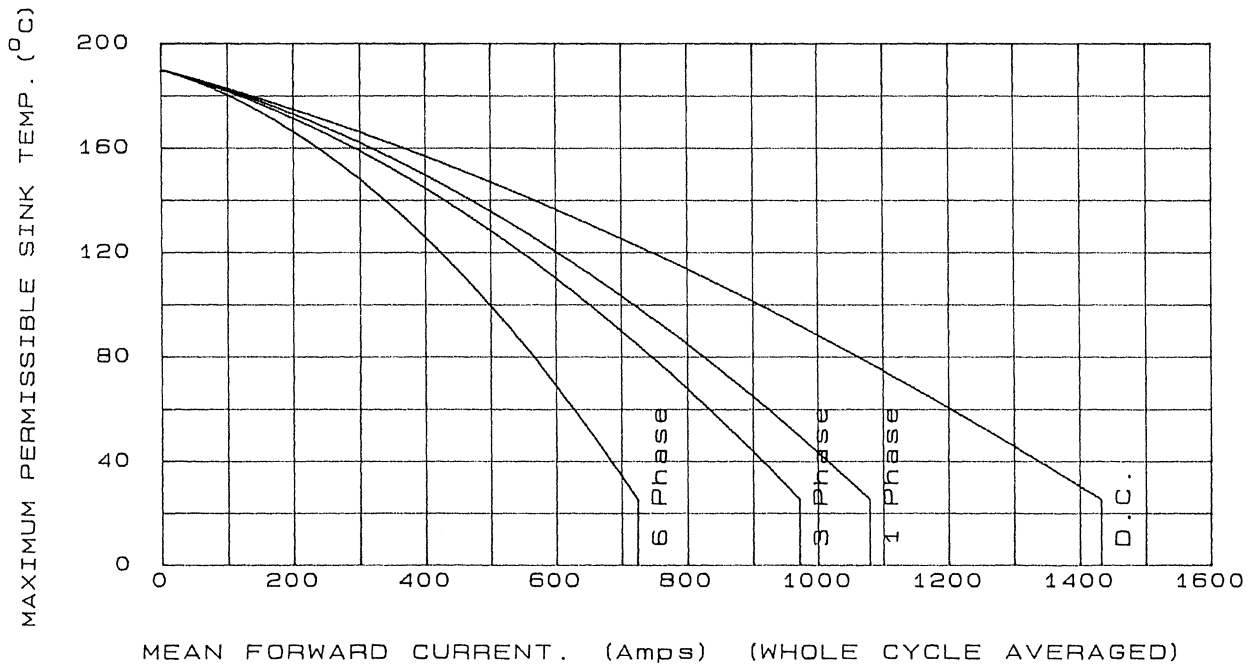
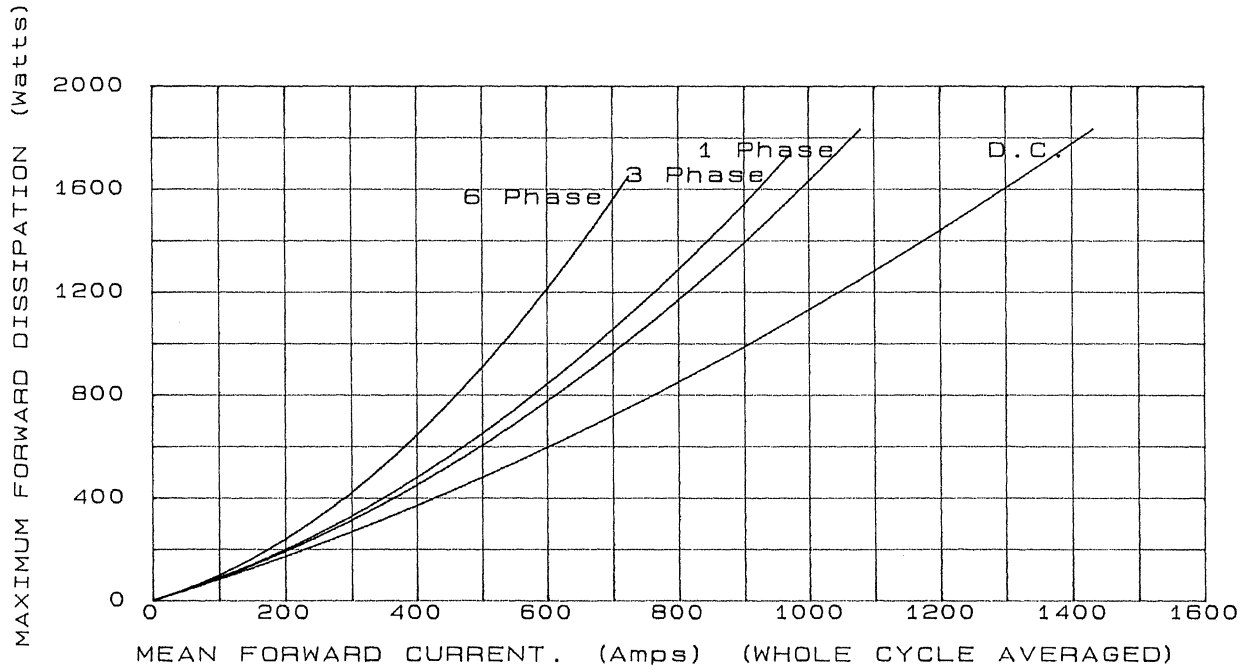
Page 5-8 Re-drawn

Voltage Ratings

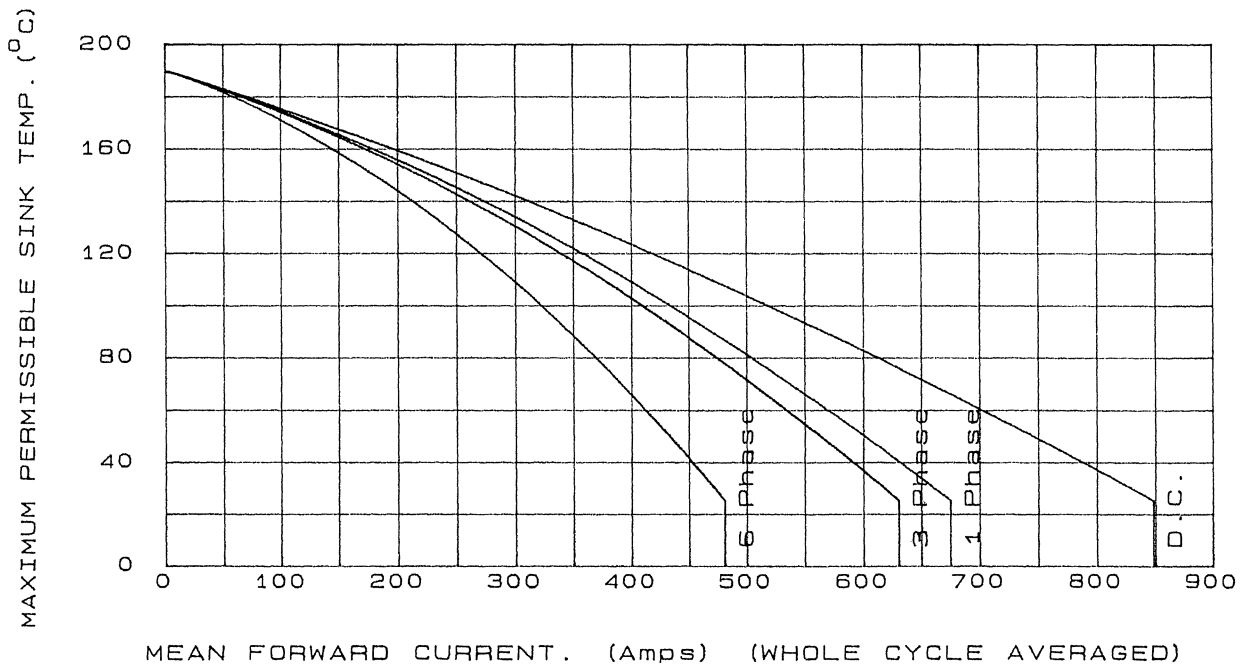
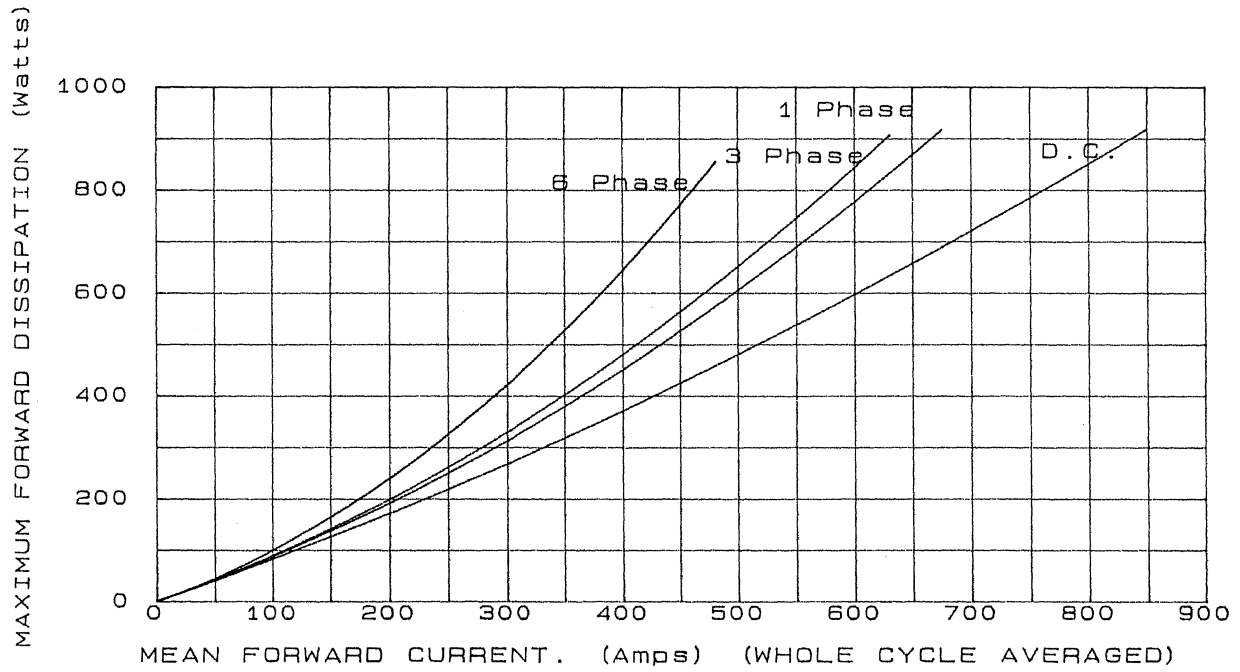
Voltage Class	$V_{RRM}$ V	$V_{RSM}$ V
2	200	300
4	400	500
6	600	700
8	800	900
10	1000	1100
12	1200	1300
14	1400	1500
15	1500	1600

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

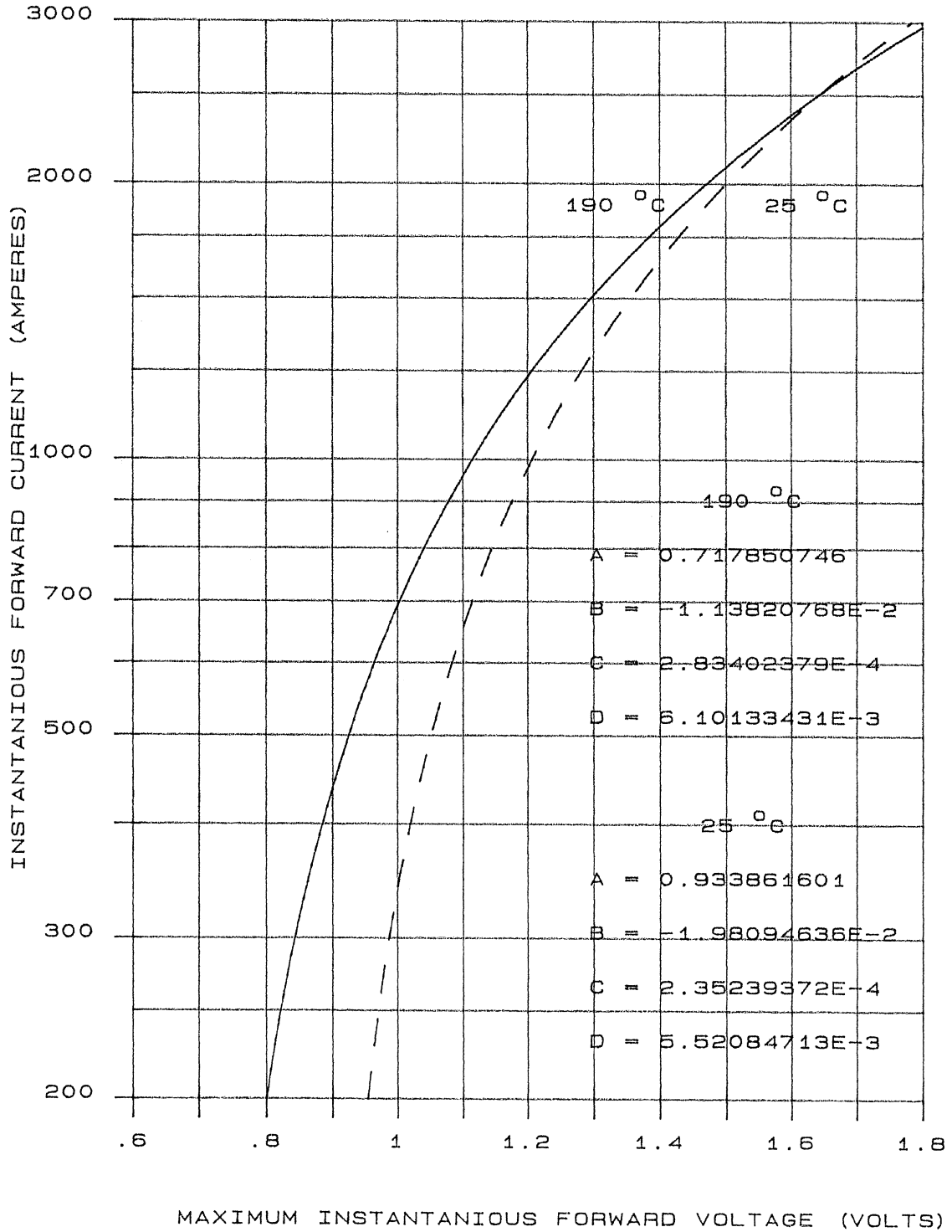
DOUBLE SIDE COOLED



SINGLE SIDE COOLED

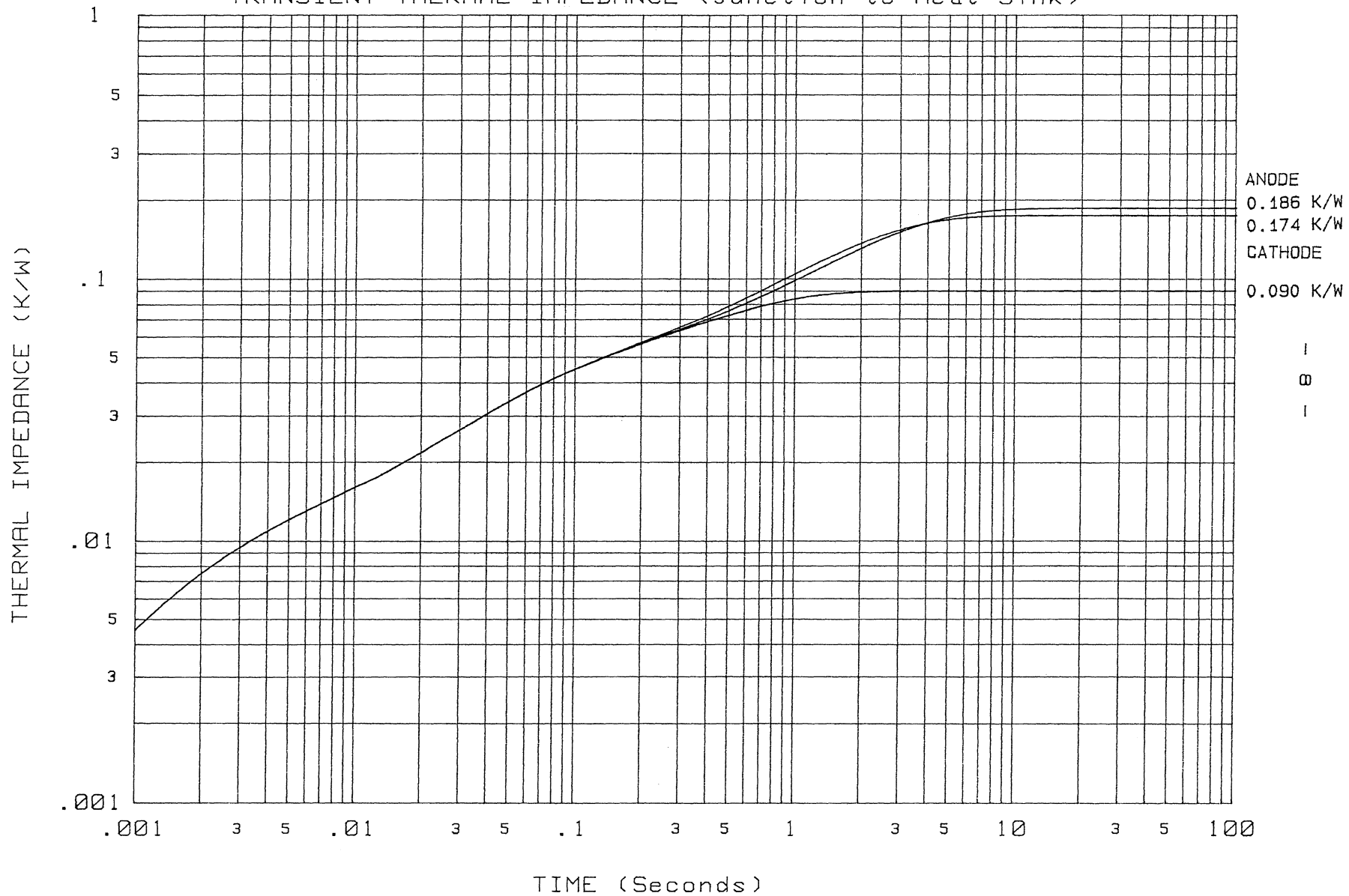


### FORWARD CHARACTERISTIC OF LIMIT DEVICE

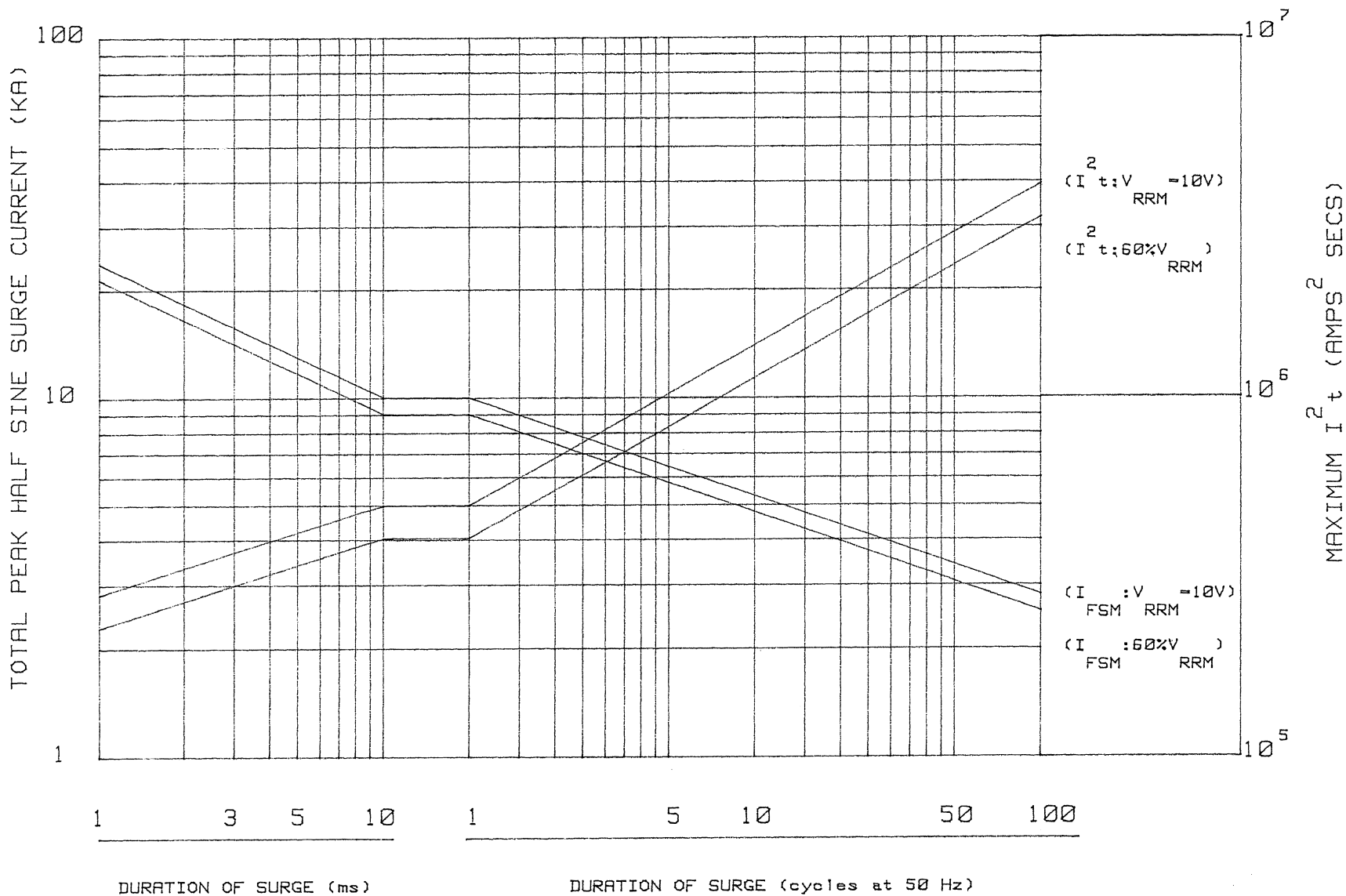




# TRANSIENT THERMAL IMPEDANCE (Junction to Heat Sink)



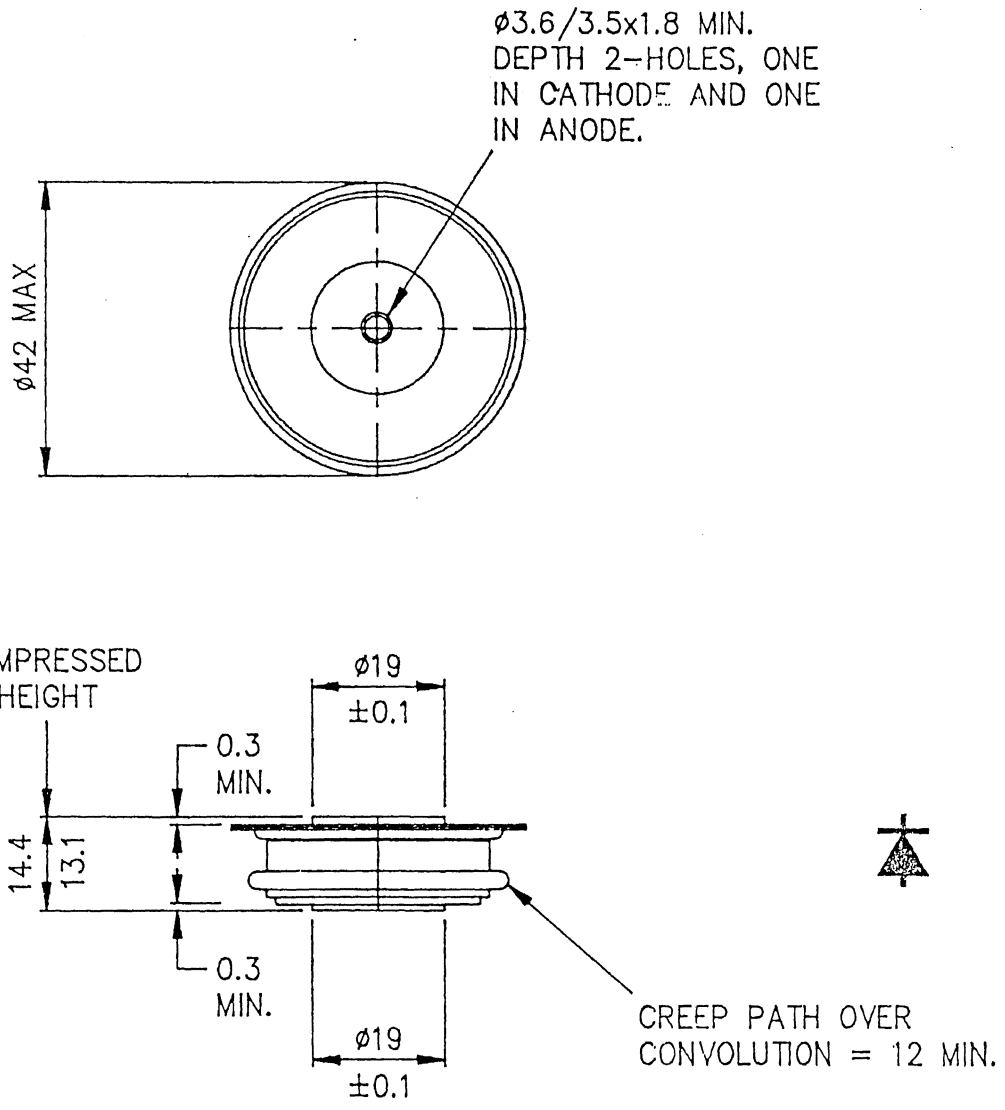
MAXIMUM NON REPETITIVE SURGE CURRENT AT INITIAL JUNCTION TEMPERATURE 190 °C



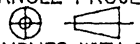
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INTERNATIONAL OUTLINE No. D0-200AA  
 G.A. DWG No. 159B100H100-H110.  
 WEIGHT. 70 GRAMS  
 FINISH. NICKEL PLATE  
 DEVICE MOUNTING: CLAMPING FORCE TO BE APPLIED ON CENTRE LINE OF LOCATION HOLES AND BE EVENLY DISTRIBUTED OVER AREA OF CONTACT. FLAT TOL. ON SURFACES TO WHICH DEVICE IS CLAMPED TO BE 0.04 WIDE. CLAMPING FORCE = 330-550kgf.

TYPE NUMBER	
CXC300	CXC134
CXC320	CXC144
CXC380	CXC170
CXC400	CXC174
CXC470	



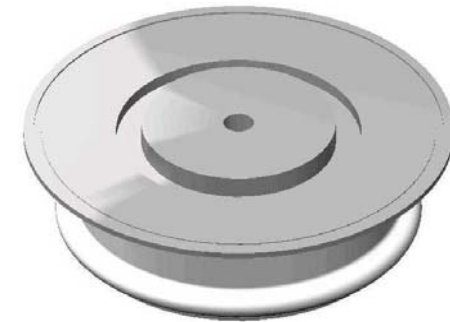
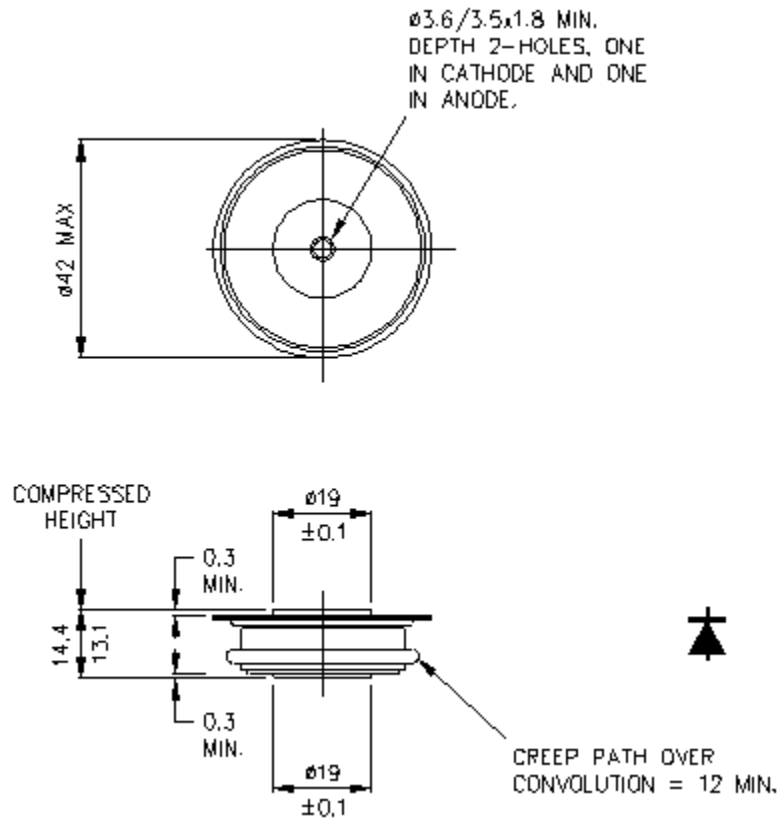
SCALE 1/1	ISS REVISIONS
DRAWN HDN 10	10-09-90
	REDRAWN ON CAD HDN

THIRD ANGLE PROJECTION.  
  
 DWG. COMPLIES WITH BS 308.  
 DIMNS. IN MILLIMETRES.  
 DWG No. 100A241

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Drawing Number – W1  
Outline Number – 100A241

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Weight 70g