

Rectifier Diode Stud

Types W0508S/RX040 to W0508S/RX150

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

(Rating Report 87NR26 Issue 1)

This data reflects the old part number for this product which is: SW02-15PHN/R300. 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 SA outline drawing (W23) in datasheet
No reverse recovery information available
Device no longer available for grade 02 (200V V_{RRM}/V_{DRM})

The following links will direct you to the appropriate outline drawings

[Outline W23](#) – ¾" Glass and metal stud
[Outline W27](#) – ¾" Glass and metal stud removed

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			
W0508	S/RX	◆◆	0
Fixed Type Code	S/RA – ¾" Glass and metal stud S/RB – ¾" Glass and metal stud removed	Voltage code $V_{RRM}/100$ 04-15	Fixed Code
Typical Order Code: W0508SA060, Normal polarity ¾" Glass and metal stud, 600V V_{RRM}/V_{DRM}			

IXYS Semiconductor GmbH
Edisonstraße 15
D-68623 Lampertheim
Tel: +49 6206 503-0
Fax: +49 6206 503-627
E-mail: marcom@ixys.de

WESTCODE
An  IXYS Company

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

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

www.westcode.com

www.ixys.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

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.

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: 87NR26
Origin:

Date: 24th November, 1987
Pages: 9

Diode Type SW02-15PHN/R300

Written by: *mhw/jump* Checked: *mhw* Approved: *Blc/H.*

This diode consists of a diffused 24 mm diameter silicon slice mounted under spring pressure in a stud base, top hat housing with a flexible lead.

This Rating Report supersedes Rating Report No. 79NR18.

Provisional Ratings and Characteristics

Ratings

Voltage Grades	: 02-15
V_{RSM}	: 300-1600V
V_{RRM}	: 200-1500V
$I_F(AV)$: Single phase; 50 Hz, 180° half sinewave, $T_C = 100^\circ C$	: 375A
$I_{F(rms)} \text{ max.}$	: 597A
$I_F \text{ d.c. max.}$	: 560A
I_{FSM} : $t = 10 \text{ ms}$ half sinewave; $T_J \text{ (initial)} = 180^\circ C$; $V_{RM} = 0.6V_{RRM}(\text{MAX})$	: 5500.
I_{FSM} : $t = 10 \text{ ms}$ half sinewave; $T_J \text{ (initial)} = 180^\circ C$; $V_{RM} = 10V$	: 6050A
I^2t : $t = 10 \text{ ms}$; $T_J \text{ (initial)} = 180^\circ C$; $V_{RM} = 0.6V_{RRM}(\text{MAX})$	: $1.51 \times 10^5 A^2 S$
I^2t : $t = 10 \text{ ms}$; $T_J \text{ (initial)} = 180^\circ C$; $V_{RM} \leq 10V$	: $1.83 \times 10^5 A^2 S$
I^2t : $t = 3 \text{ ms}$; $T_J \text{ (initial)} = 180^\circ C$; $V_{RM} \leq 10V$	: $1.35 \times 10^5 A^2 S$
T_C Operating Range	: -40 to $+180^\circ C$
T_{stg} Non-operating	: -40 to $+200^\circ C$

Characteristics

(Maximum values unless otherwise stated)

$V_D : T_J = 180^{\circ}\text{C}$	:	0.95V
$r_s : T_J = 180^{\circ}\text{C}$	:	0.75mohms
$V_{FM} : I_{FM} = 1180\text{A} \quad T_{VJ} = 180^{\circ}\text{C}$	:	1.84V
$R_{th} (J-C)$	:	0.13°C/W
$R_{th} (C-HS)$	:	0.04°C/W
$I_{RRM} : T_J = 180^{\circ}\text{C} \quad V_{RM} = V_{RRM} (MAX)$	:	15mA
$Q_{rr} :) I_{FM} = \quad : dI/dt :$	:	
$\quad) V_{RM} : \quad T_{VJ} =$	:	
$t_{rr})$	:	
Mounting torque	:	2.5 - 2.77 Kg.m
Outline drawing	:	100A281
JEDEC Outline No.	:	

CONTENTS

	<u>Page</u>
Ratings	1
Characteristics	2
Contents	3
Voltage Ratings	4
Dissipation and Case Temperature vs Mean Current	5
Limit forward voltage Characteristics	6
Transient Thermal Impedance Characteristic	7
Surge Current and I^2t vs Duration of Surge	8
Outline Drawing	9

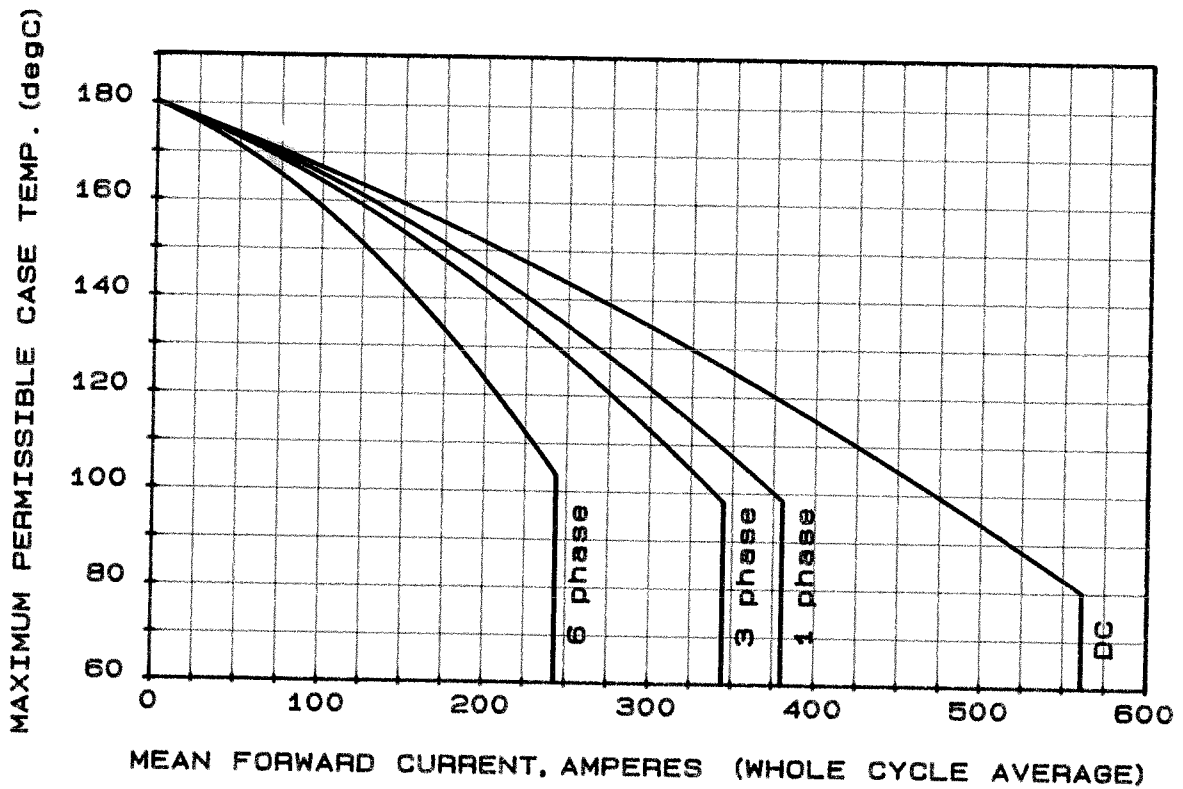
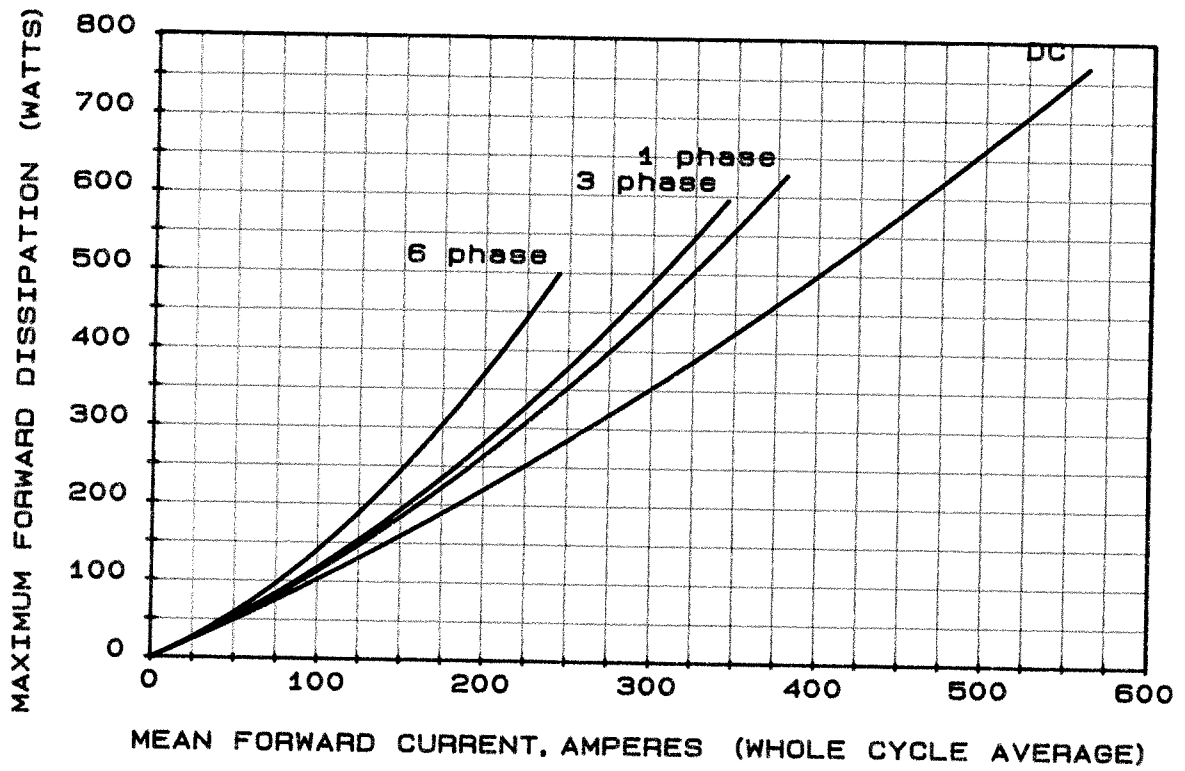
Changes to Rating Report No. 79NR18

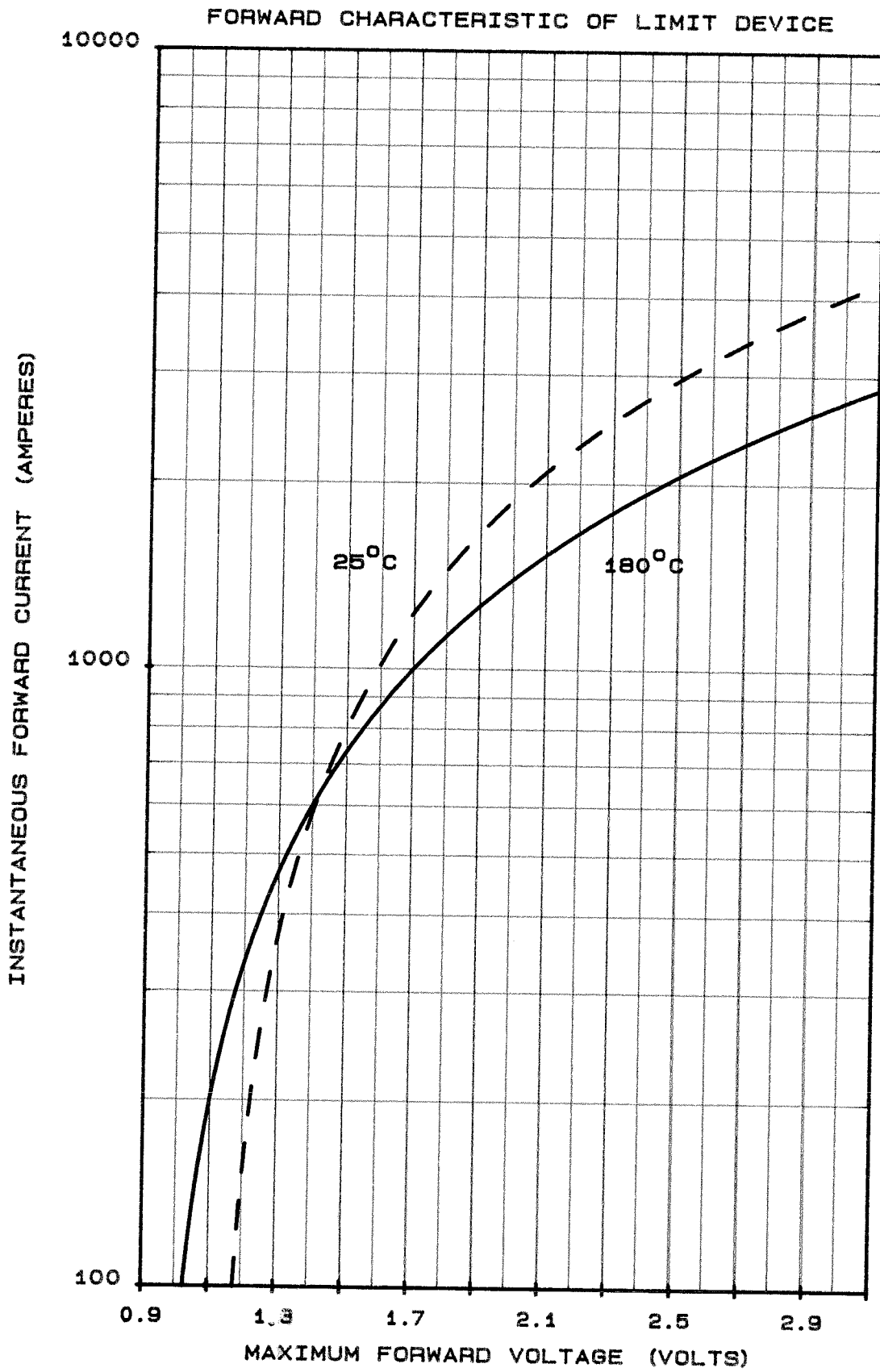
p1 V_{RWM} omitted
 I_F DC(MAX) changed
 I^2t , corrected
 T_C (operating range) MIN reduced to -40°C
p4 V_{RWM} omitted
pp5, 6, 7,8 Re-drawn
p9 Updated

Voltage Ratings

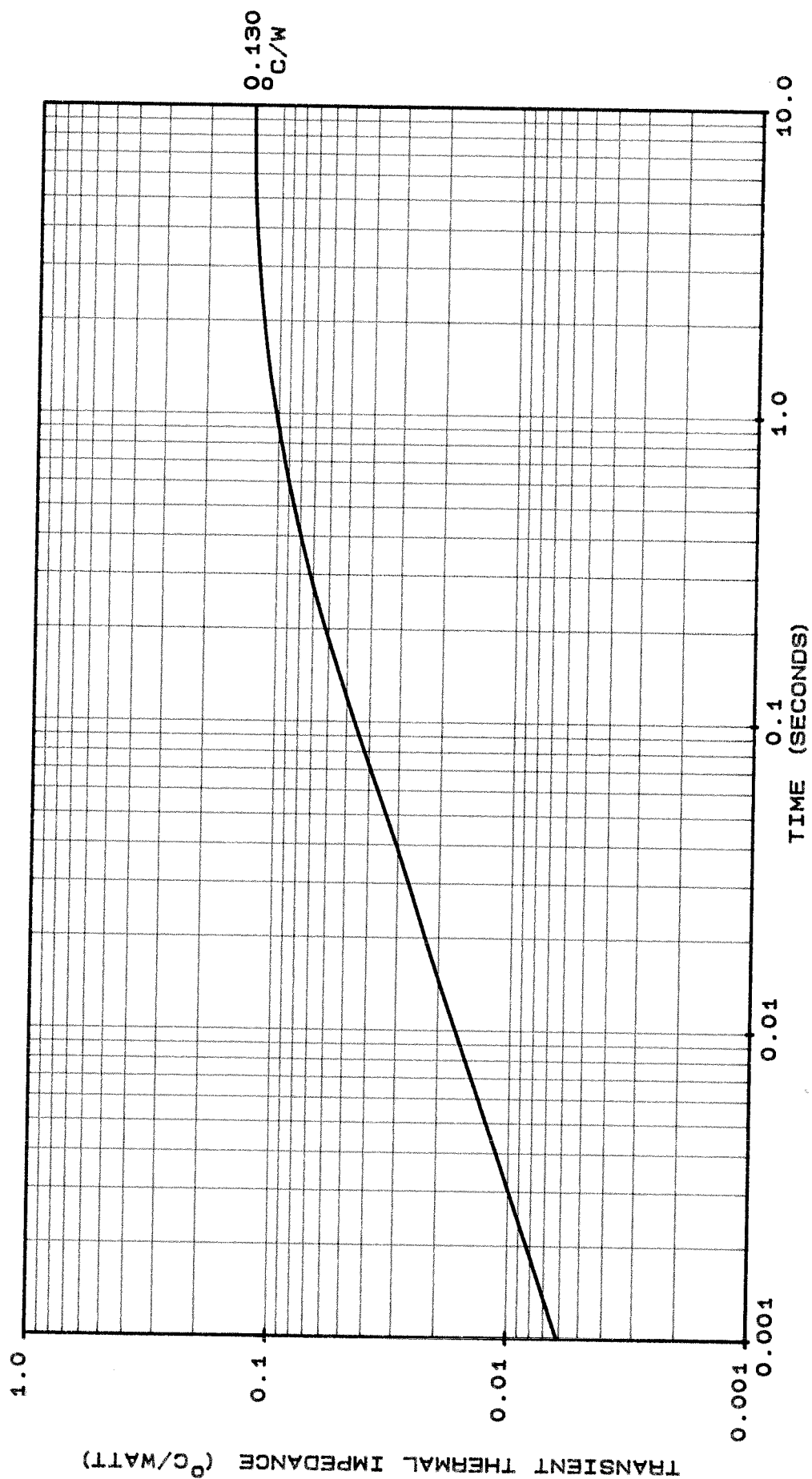
Voltage Class	V_{RRM} V	V_{RSM} V
02	200	300
04	400	500
06	600	700
08	800	900
10	1000	1100
12	1200	1300
14	1400	1500
15	1500	1600

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

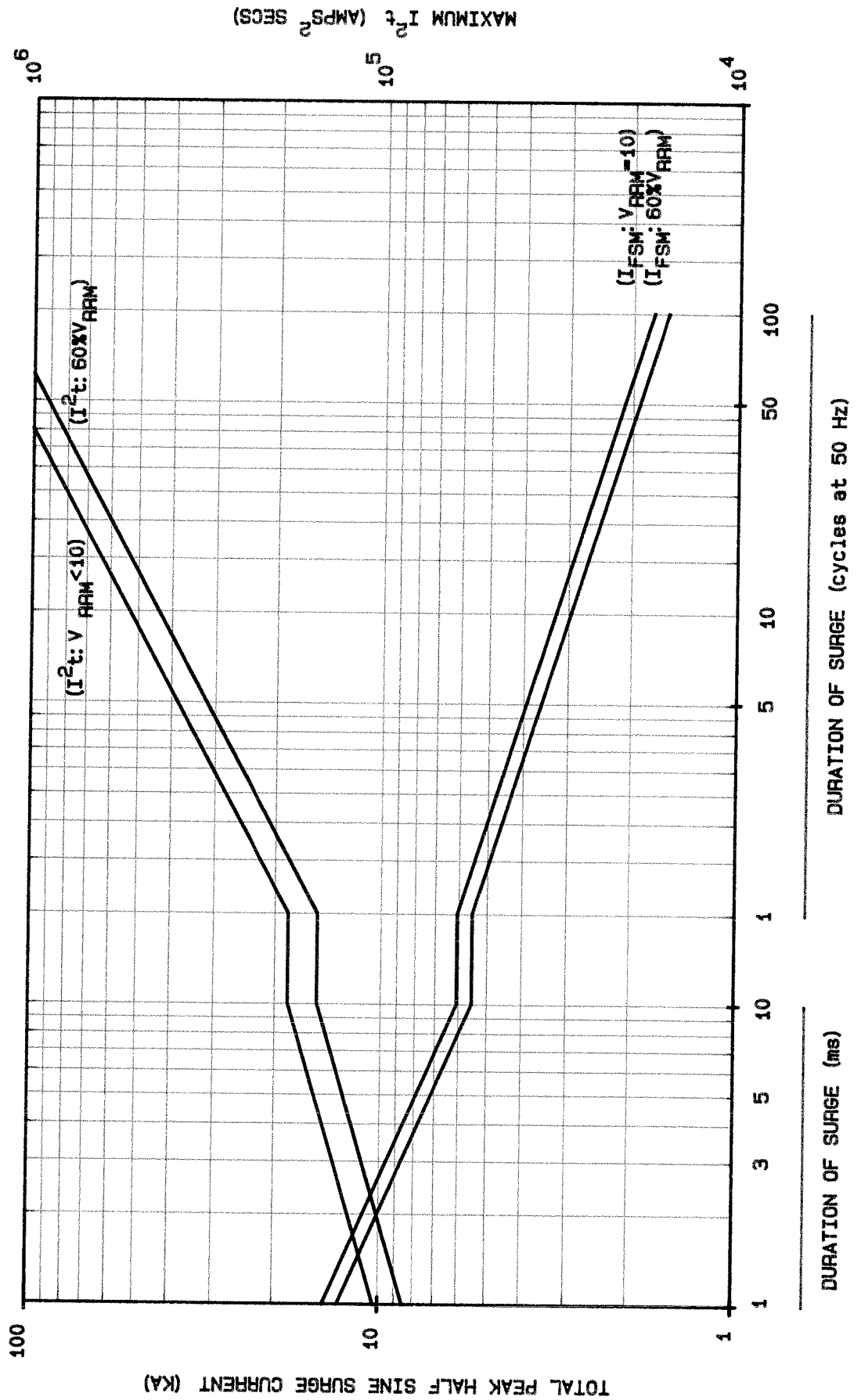




JUNCTION TO CASE TRANSIENT THERMAL IMPEDANCE



MAXIMUM NON REPETITIVE SURGE CURRENT AT INITIAL JUNCTION TEMPERATURE 180°C

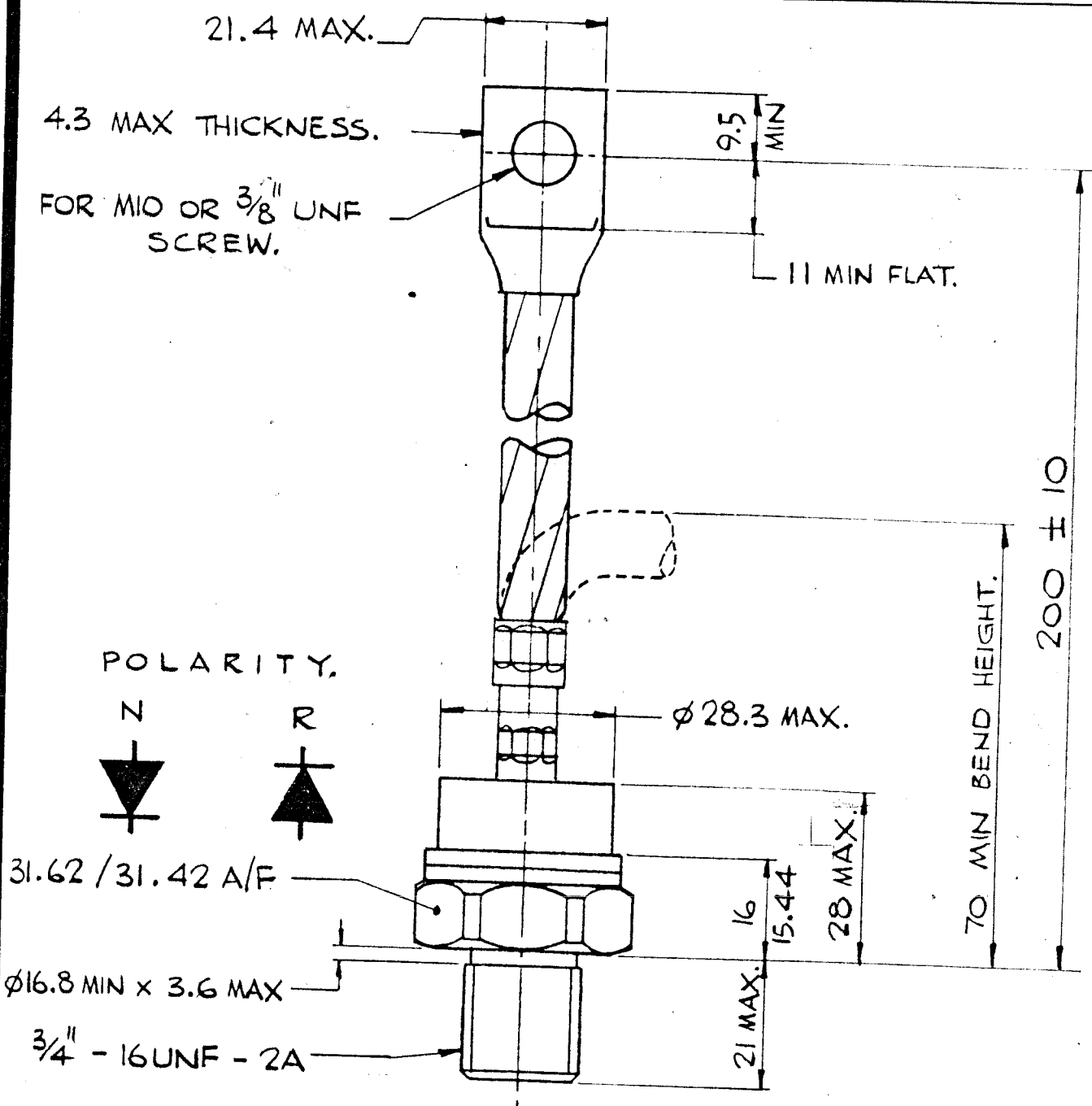


SCALE	1/1
DRN	156
CHKD	
APPD	
S	A
S	NI

INTERNATIONAL OUTLINE No.
 WEIGHT. 250 GRAMS. - 9 -
 FINISH. BRIGHT NICKEL PLATE.
 DEVICE MARKING INCLUDES MONOGRAM, TYPE No., SPEC.
 No. AND POLARITY SYMBOL.
 DEVICE MOUNTING:
 MOUNTING TORQUE TO BE
 27 - 24.5 Nm (2.77 - 2.5 kgf m).
 THREAD MUST NOT BE LUBRICATED.

DIODE TYPE NUMBER
 PHN / R170, 300, 400.

G.A. DRG. No. 102A216H05

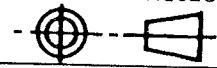


ALL INFORMATION CONTAINED IN THIS DRAWING IS SUPPLIED IN CONFIDENCE AND IS PROTECTED BY COPYRIGHT. THE INFORMATION MAY NOT BE DISCLOSED EXCEPT WITH THE WRITTEN PERMISSION OF AND IN MANNER PERMITTED BY THE PROPRIETORS, WESTINGHOUSE BRAKE AND SIGNAL CO. LTD.

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

WESTCODE®
 SEMICONDUCTORS

THIRD ANGLE PROJECTION



DIMNS. IN MILLIMETRES

DRG. No.

100A281

ISS	REVISIONS
1	11.9.78
4	12.12.79 M806 REDRAWN. DRG NO WAS 100A257.0
5	27.11.84 M1218 FIN WAS ET