

# 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](#) – 3/4" Glass and metal stud  
[Outline W27](#) – 3/4" 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.

<b>Ordering Particulars</b>			
W0508	S/RX	◆◆	0
Fixed Type Code	S/RA – 3/4" Glass and metal stud S/RB – 3/4" Glass and metal stud removed	Voltage code $V_{RRM}/100$ 04-15	Fixed Code
Typical Order Code: W0508SA060, Normal polarity 3/4" Glass and metal stud, 600V $V_{RRM}/V_{DRM}$			

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<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: 87NR26  
Origin:

Date: 24th November, 1987  
Pages: 9

Diode Type SW02-15PHN/R300

Written by: *infw/2mndp* Checked: *infw* Approved: *P. J. H.*

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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 ms half sinewave; $T_J$ (initial) = 180°C ; $V_{RM} = 0.6V_{RRM}(\text{MAX})$	: 5500A
$I_{FSM}$ : t = 10 ms half sinewave; $T_J$ (initial) = 180°C ; $V_{RM} = 10V$	: 6050A
$I^2t$ : t = 10 ms; $T_J$ (initial) = 180°C; $V_{RM} = 0.6V_{RRM}(\text{MAX})$	: $1.51 \times 10^5 A^2S$
$I^2t$ : t = 10 ms; $T_J$ (initial) = 180°C; $V_{RM} \leq 10V$	: $1.83 \times 10^5 A^2S$
$I^2t$ : t = 3 ms; $T_J$ (initial) = 180°C; $V_{RM} \leq 10V$	: $1.35 \times 10^5 A^2S$
$T_C$ Operating Range	: -40 to +180°C
$T_{stg}$ Non-operating	: -40 to +200°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
$V_{FM}$	: $I_{FM} = 1180\text{A}$	$T_{VJ} = 180^\circ\text{C}$	:	1.84V
$R_{th}$	(J-C)		:	0.13°C/W
$R_{th}$	(C-HS)		:	0.04°C/W
$I_{RRM}$	: $T_J = 180^\circ\text{C}$	$V_{RM} = V_{RRM}$ (MAX)	:	15mA
$Q_{rr}$	: ) $I_{FM} =$	: $dI/dt$ :	:	
	) $V_{RM} :$	$T_{VJ} =$	:	
$t_{rr}$	)		:	
Mounting torque			:	2.5 - 2.77 Kg.m
Outline drawing			:	100A281
JEDEC Outline No.			:	

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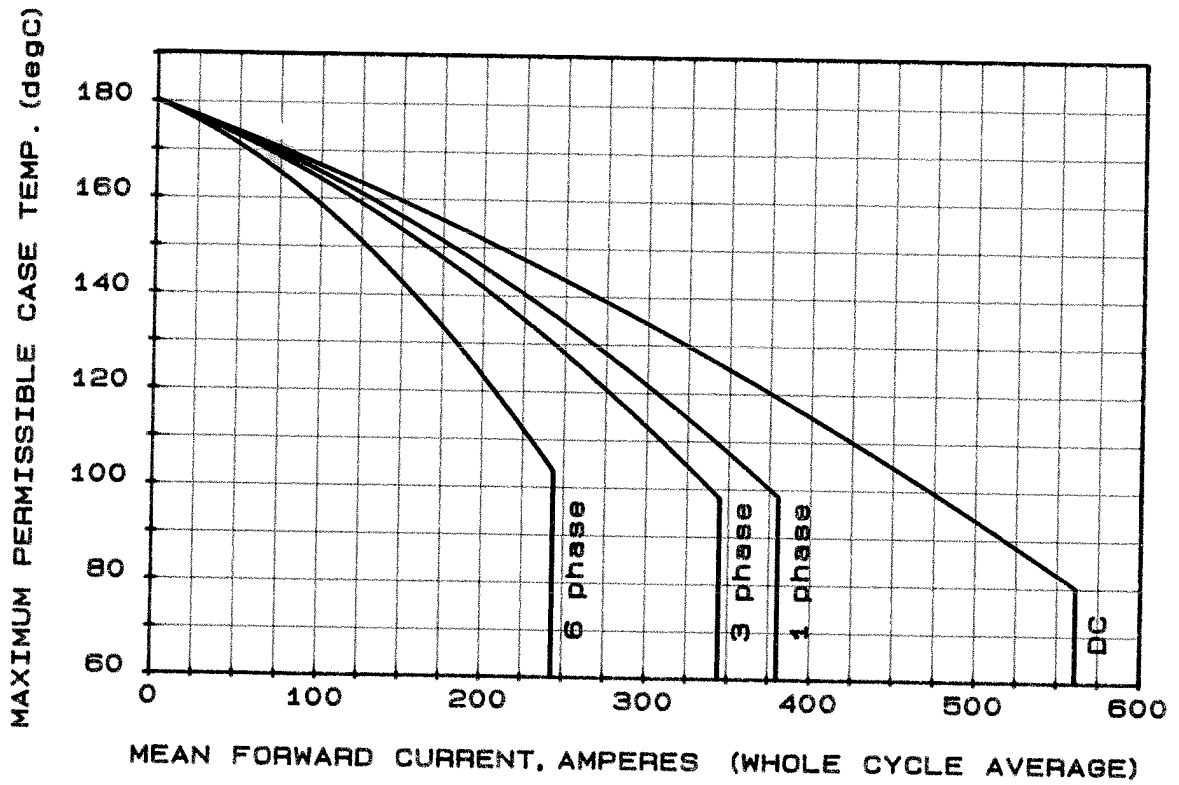
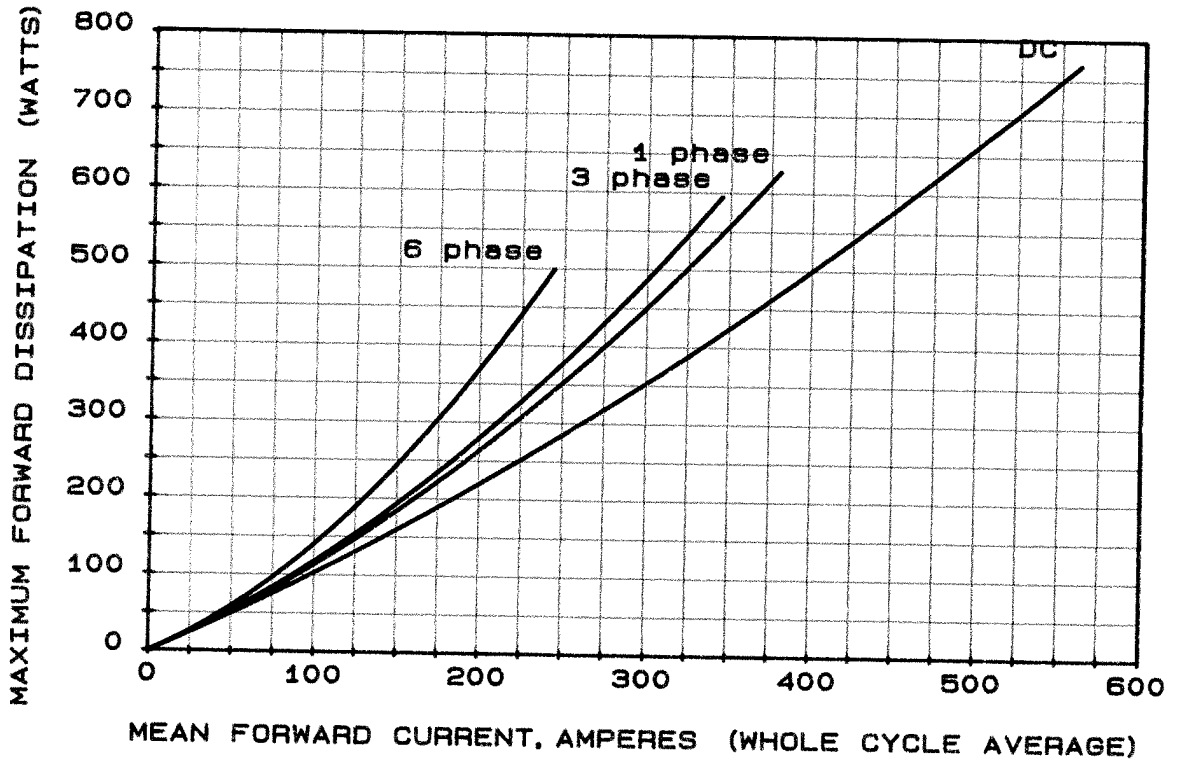
Changes to Rating Report No. 79NR18

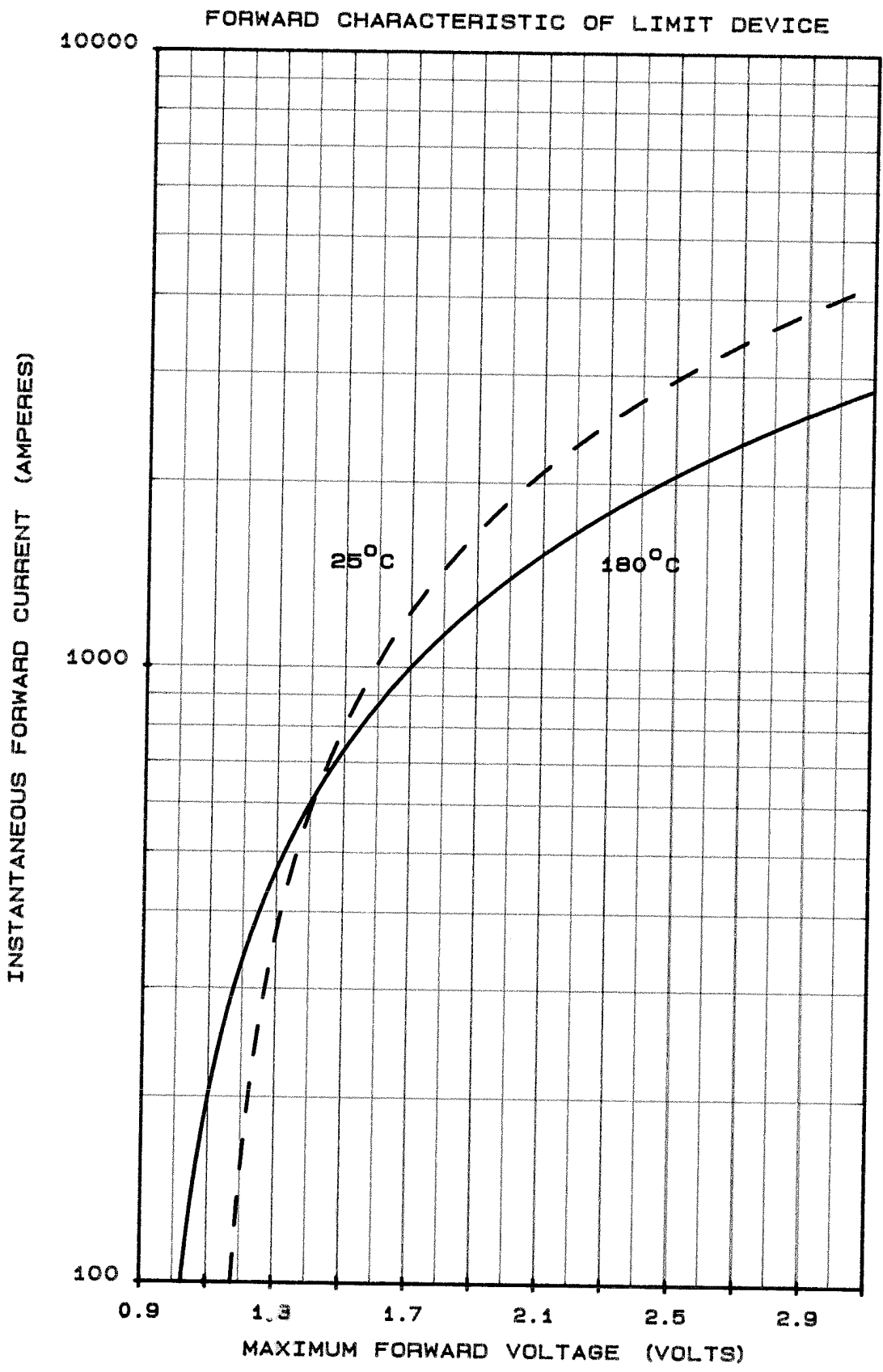
- p1  $V_{RWM}$  omitted
- $I_F$  DC(MAX) changed
- $I^2t$ , corrected
- $T_C$  (operating range) MIN reduced to  $-40^\circ\text{C}$
- p4  $V_{RWM}$  omitted
- pp5, 6, 7,8 Re-drawn
- p9 Updated

Voltage Ratings

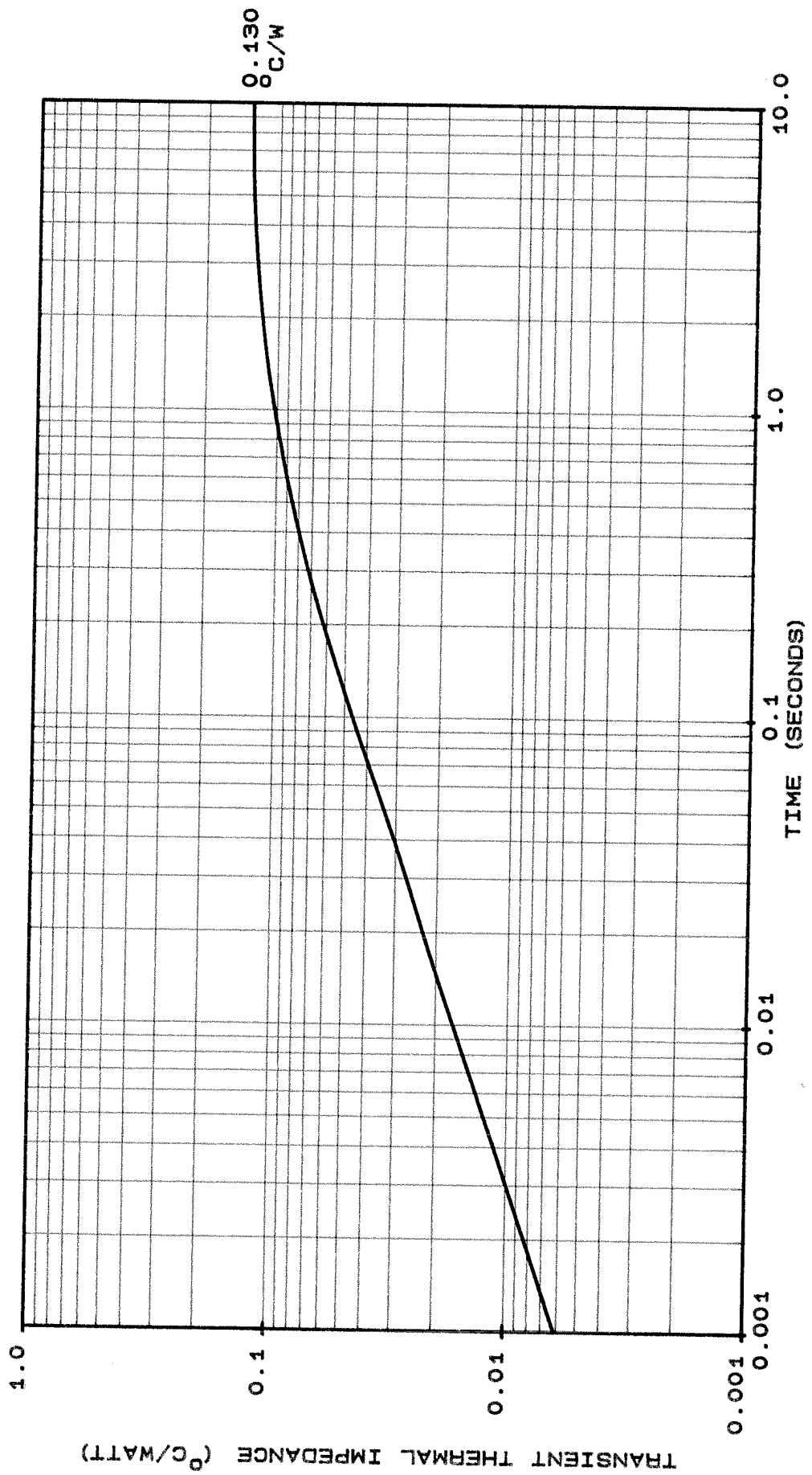
Voltage Class	$V_{RRM}$ V	$V_{RSM}$ V
02	200	300
04	400	500
06	600	700
08	800	900
10	1000	1100
12	1200	1300
14	1400	1500
15	1500	1600

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



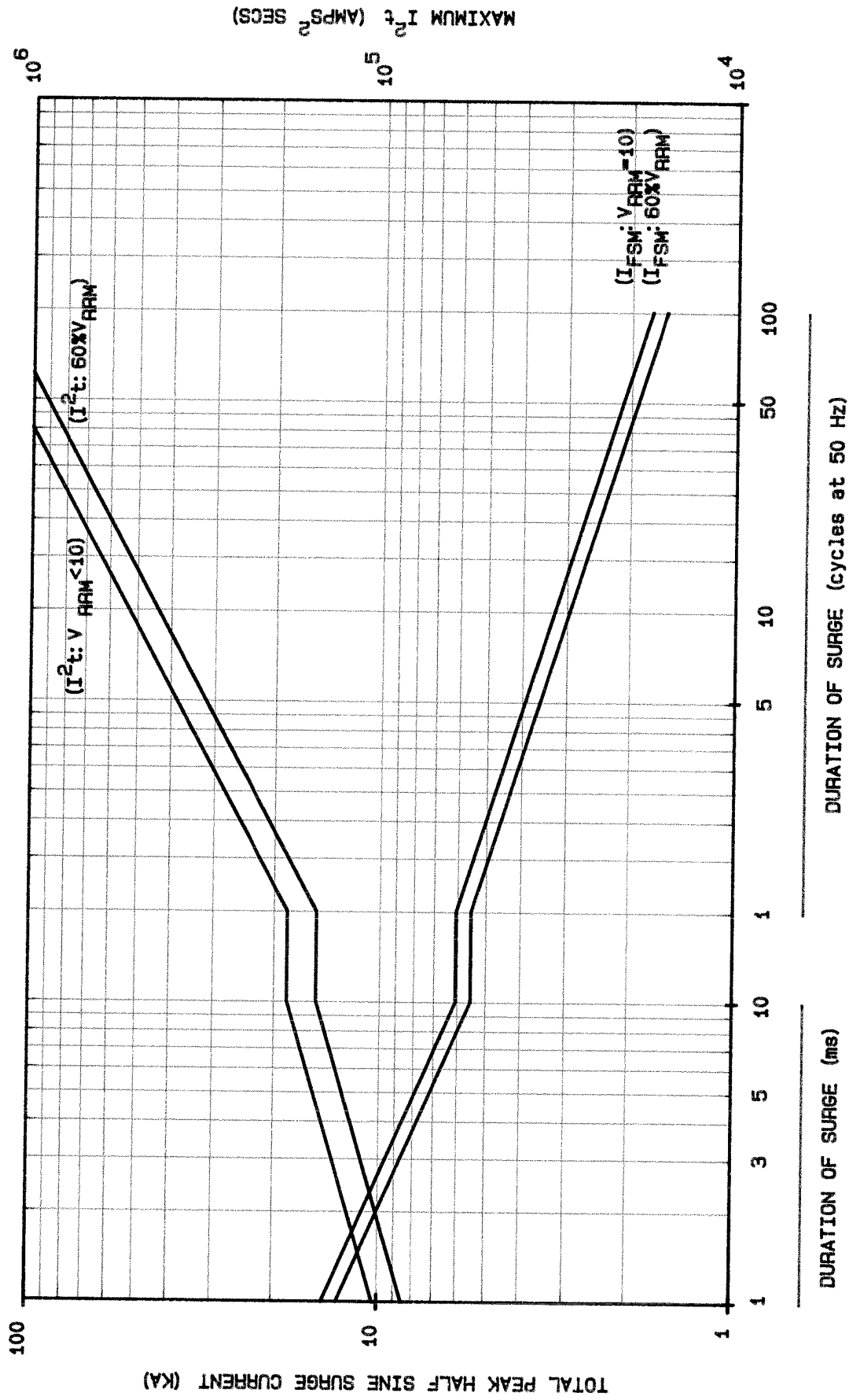


JUNCTION TO CASE TRANSIENT THERMAL IMPEDANCE





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



TOTAL PEAK HALF SINE SURGE CURRENT (KA)

MAXIMUM I<sup>2</sup>t (AMPS<sup>2</sup> SECS)

DURATION OF SURGE (ms)

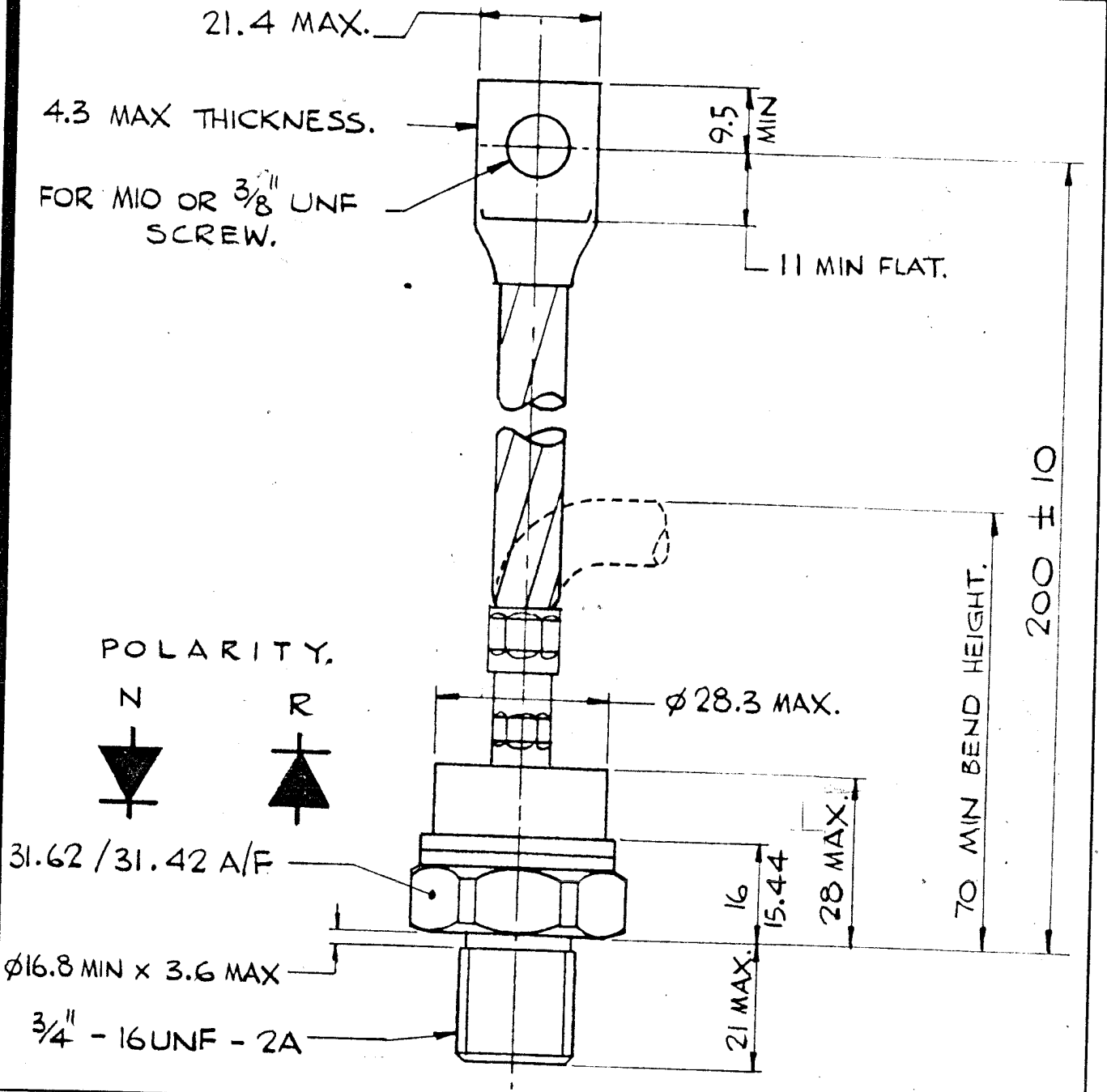
DURATION OF SURGE (cycles at 50 Hz)

SCALE	1/1
DRN	1/1
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



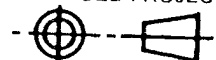
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WESTCODE®  
 SEMICONDUCTORS

THIRD ANGLE PROJECTION



DIMNS. IN MILLIMETRES

DRG. No.

100A281

ISS	REVISIONS
1	11.9.78
4	12.12.79 M806 REDRAWN. D&G N° WAS 100A257.
5	27.11.84 M1218 FIN WAS ET. 1/1