

# Rectifier Diode Stud

## Types W0628S/RX040 to W0628S/RX150

The data sheet on the subsequent pages of this document is a scanned copy of existing data for this product.  
(Rating Report 87NR27 Issue 1)

This data reflects the old part number for this product which is: **SW02-15PHN/R400**.  
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>			
W0628	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: W0628SA060, Normal polarity 3/4" Glass and metal stud, 600V $V_{RRM}/V_{DRM}$			

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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: 87NR27

Date: 23rd November, 1987

Origin:

Pages: 9

Diode Type SW02-15PHN/R400

Written by:

*M.W. Dunlop*

Checked:

*M.W.*

Approved:

*Blaiz*

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 Report supersedes Rating Report No. 79NR15

Ratings

Voltage Grades

: 02-15

$V_{RSM}$

: 300-1600V

$V_{RRM}$

: 200-1500V

$I_F$ (AV): Single phase; 50 Hz, 180° half sine wave,  $T_C = 120^\circ C$  : 400A

$I_F$ (rms) max.

: 628A

$I_F$  d.c. max.

: 628A

$I_{FSM}$  : t = 10 ms half sine wave;  $T_J$  (initial) = 190°C ;  $V_{RM} = 0.6V_{RRM}$ (MAX) : 7500A

$I_{FSM}$  : t = 10 ms half sine wave;  $T_J$  (initial) = 190°C ;  $V_{RM} = 10V$  : 8250A

$I^2t$  : t = 10 ms;  $T_J$  (initial) = 190°C;  $V_{RM} = 0.6V_{RRM}$ (MAX) :  $0.28 \times 10^6 A^2S$

$I^2t$  : t = 10 ms;  $T_J$  (initial) = 190°C;  $V_{RM} \leq 10V$  :  $0.34 \times 10^6 A^2S$

$I^2t$  : t = 3 ms;  $T_J$  (initial) = 190°C;  $V_{RM} \leq 10V$  :  $0.25 \times 10^6 A^2S$

$T_C$  Operating Range

: -40 to +190°C

$T_{stg}$  Non-operating

: -40 to +200°C

Characteristics

(Maximum values unless otherwise stated)

$V_0 : T_J = 190^\circ\text{C}$	:	0.8 V
$r_s : T_J = 190^\circ\text{C}$	:	0.548 mohms
$V_{FM} : I_{FM} = 1500\text{A} \quad T_{VJ} = 190^\circ\text{C}$	:	1.62V
$R_{th} \text{ (J-C)}$	:	0.13°C/W
$R_{th} \text{ (C-HS)}$	:	0.04°C/W
$I_{RRM} : T_J = 190^\circ\text{C} \quad V_{RM} = V_{RRM} \text{ (MAX)}$	:	15mA
$Q_{rr} : ) I_{FM} = 1000\text{A}; dI/dt : 10\text{A}/\mu\text{S} \text{ defined by chord through } 50\% I_{RM}$	:	500uC Typical
$) V_{RM} : 50\text{V}; T_{VJ} = 190^\circ\text{C}$	:	
$t_{rr} )$	:	
Mounting torque	:	2.5 - 2.77 Kg.m
Outline drawing	:	100A281
JEDEC Outline No.	:	

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Changes to Rating Report No. 79NR15

p1:  $V_{RWM}$  omitted

$T_C$  operating range (min) reduced to  $-40^\circ\text{C}$

p4:  $V_{RWM}$  omitted

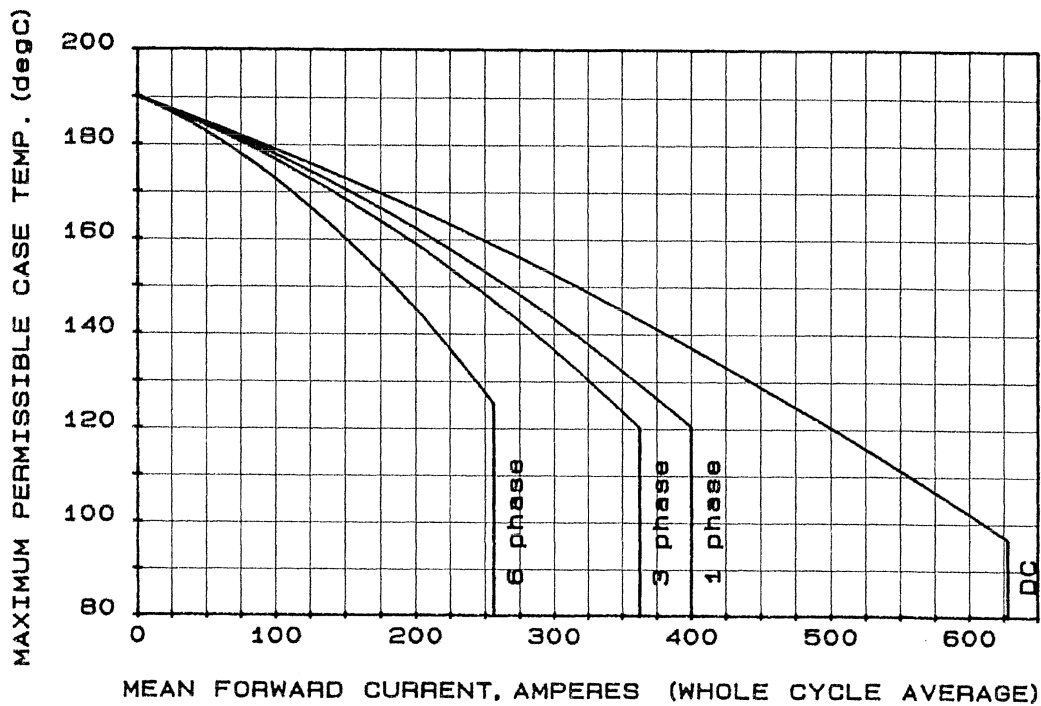
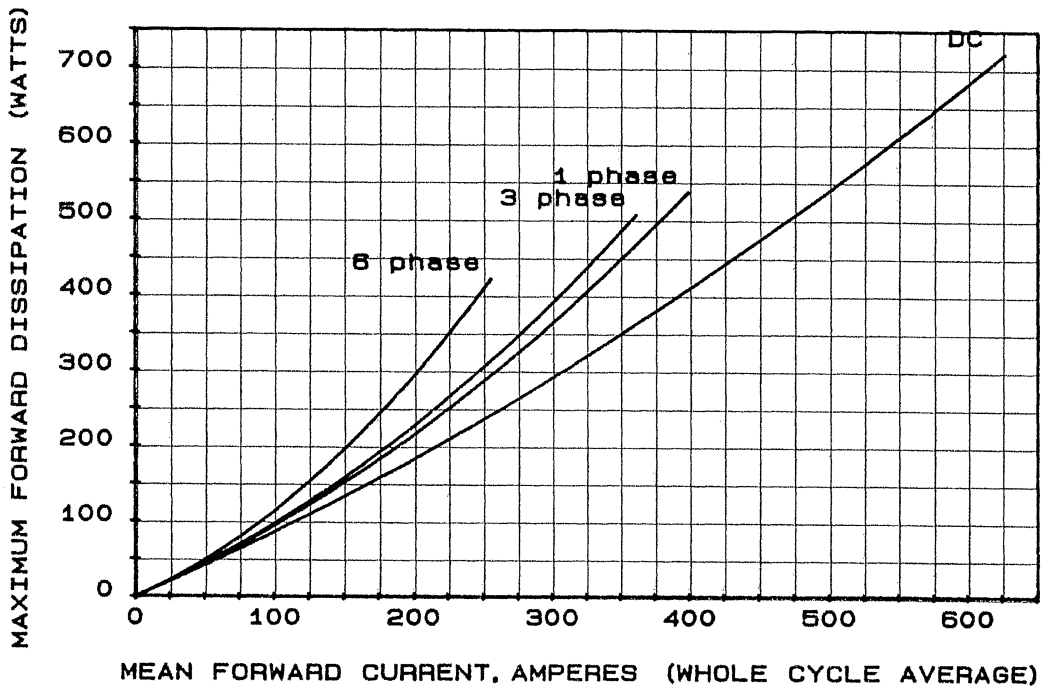
pp 5-8 : Re-drawn

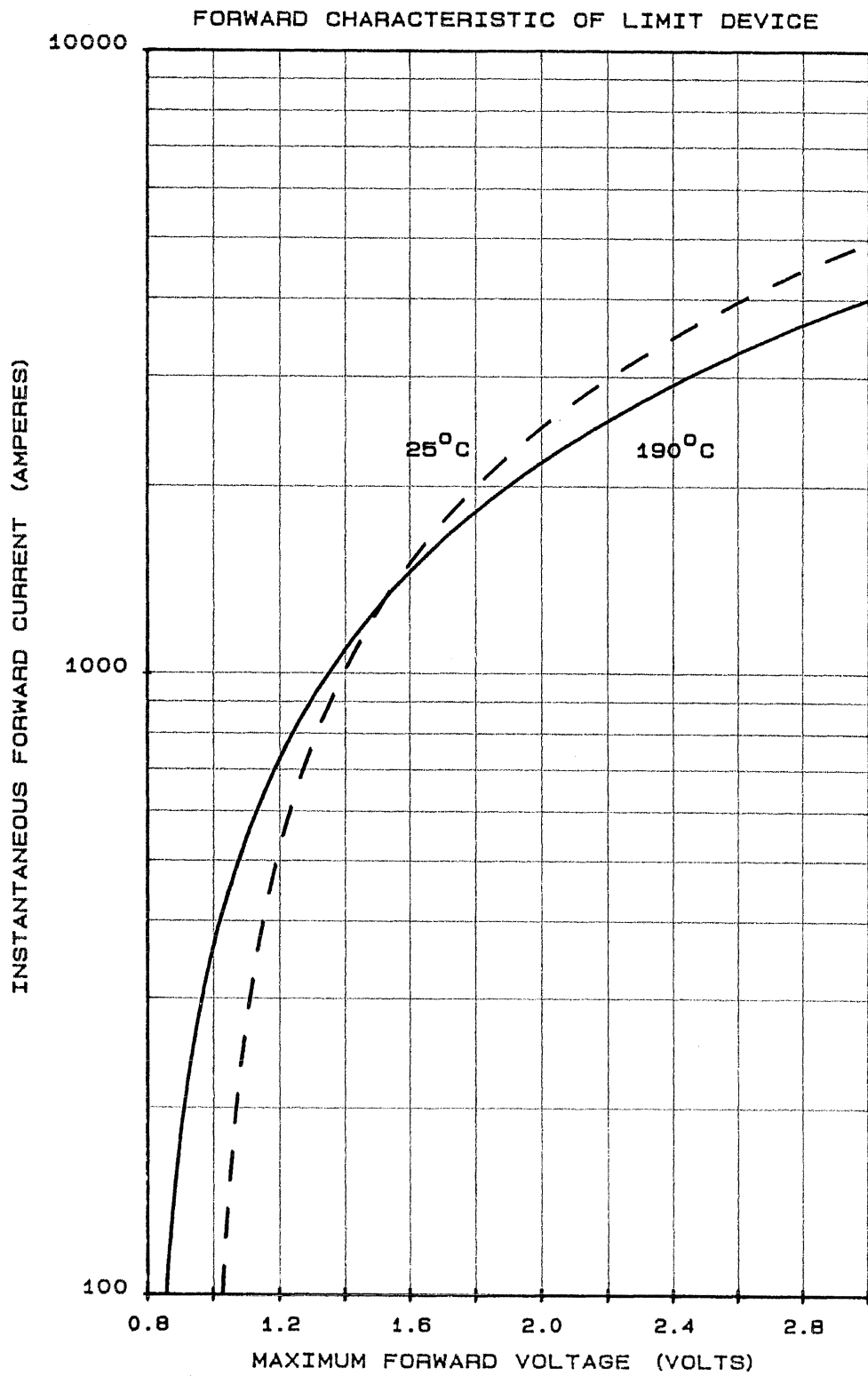
p9: Updated

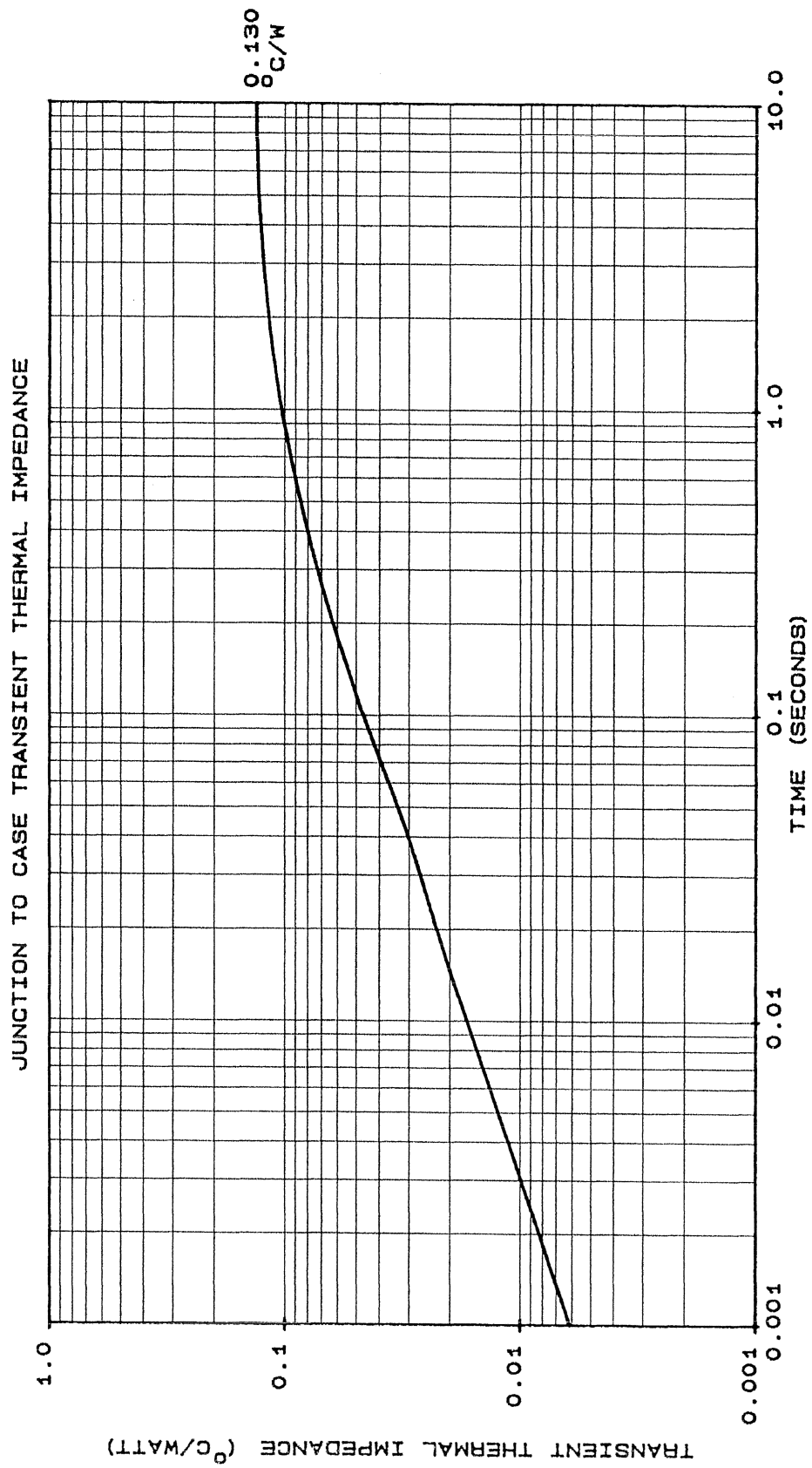
Voltage Ratings

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.

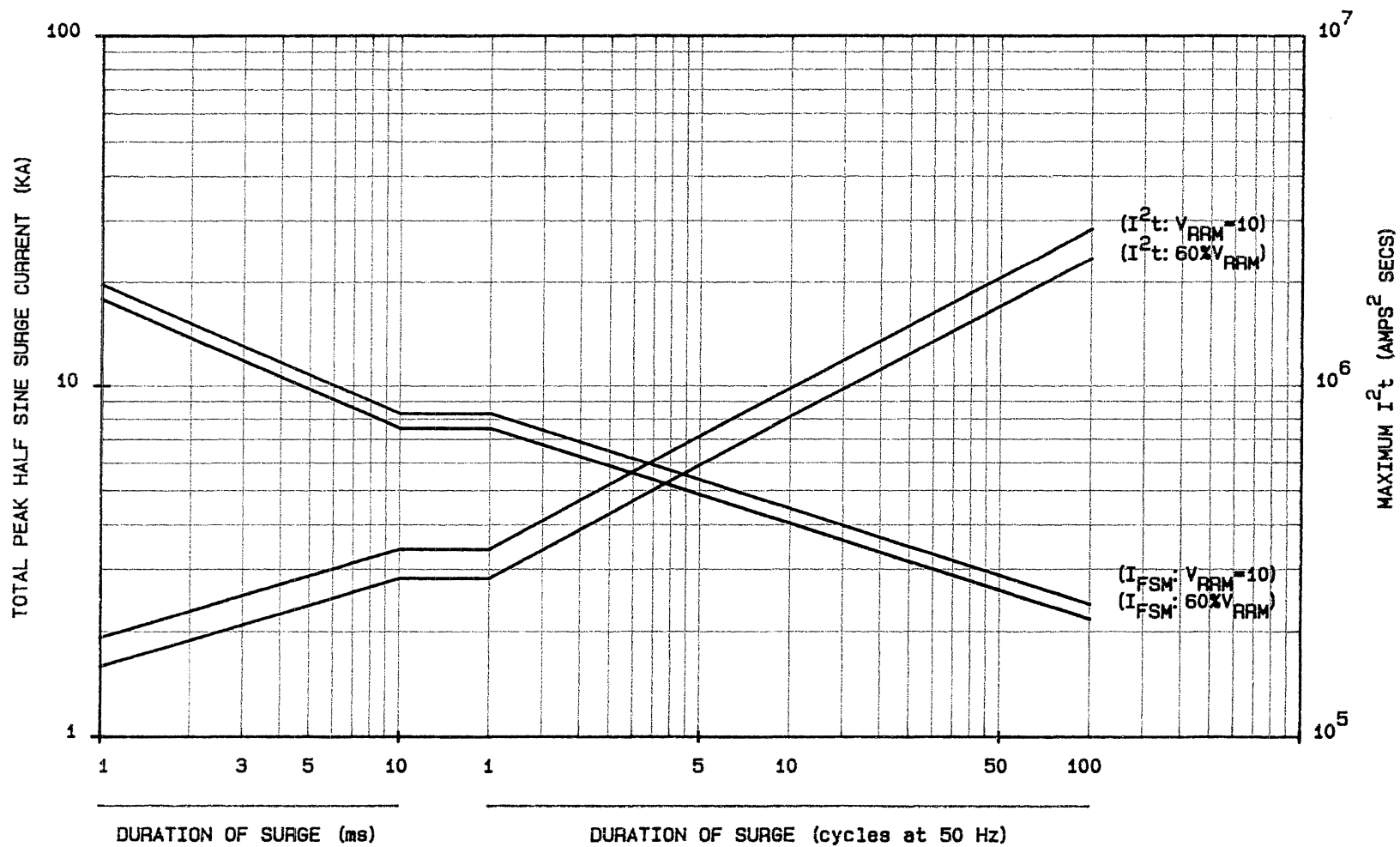








MAXIMUM NON REPETITIVE SURGE CURRENT AT INITIAL JUNCTION TEMPERATURE 190°C

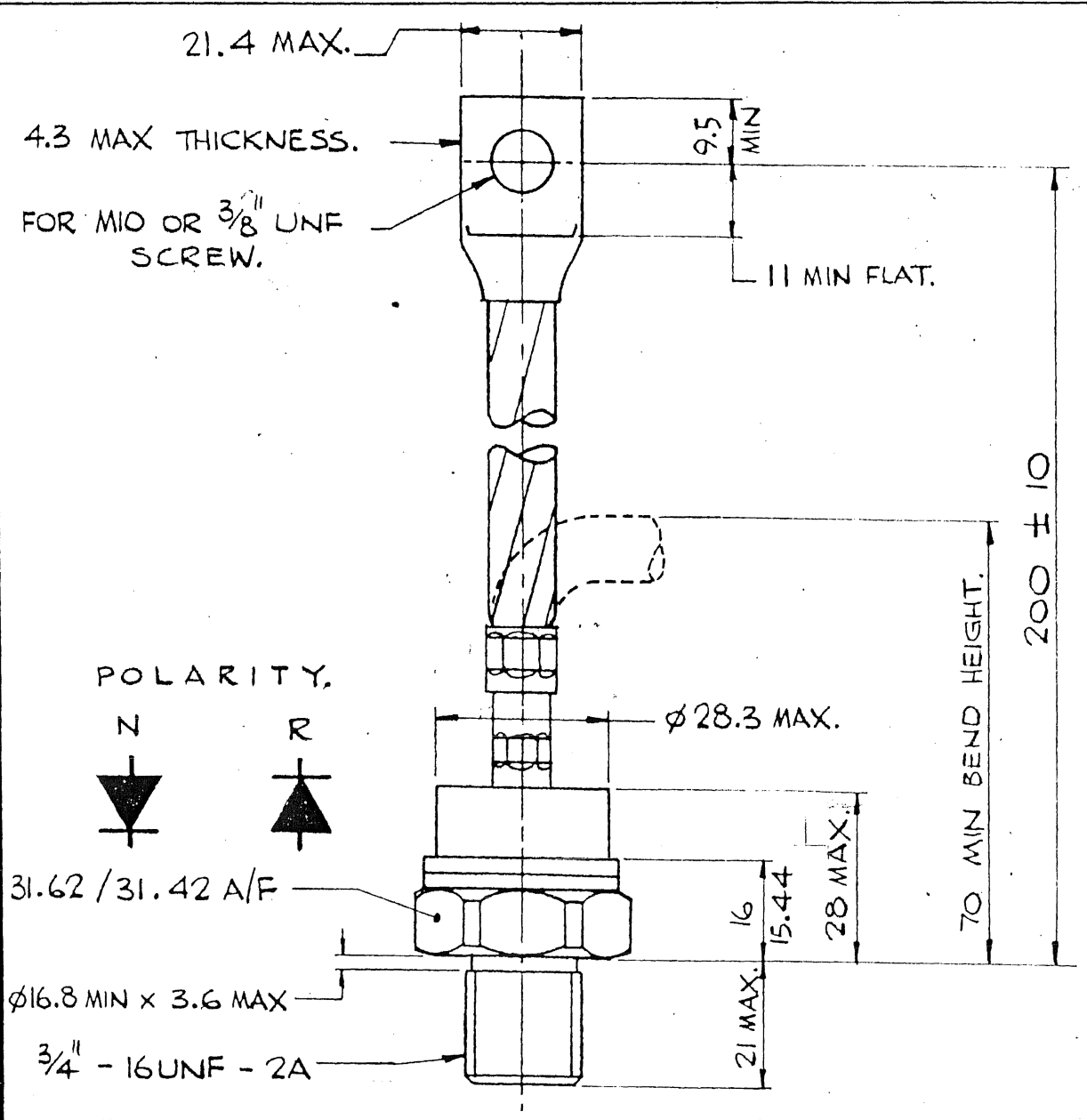


SCALE	1/1
DRN	Ed
CHKD	
APPD	
S	A
S	NI

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

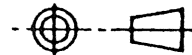


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WESTCODE<sup>®</sup>  
 SEMICONDUCTORS

THIRD ANGLE PROJECTION



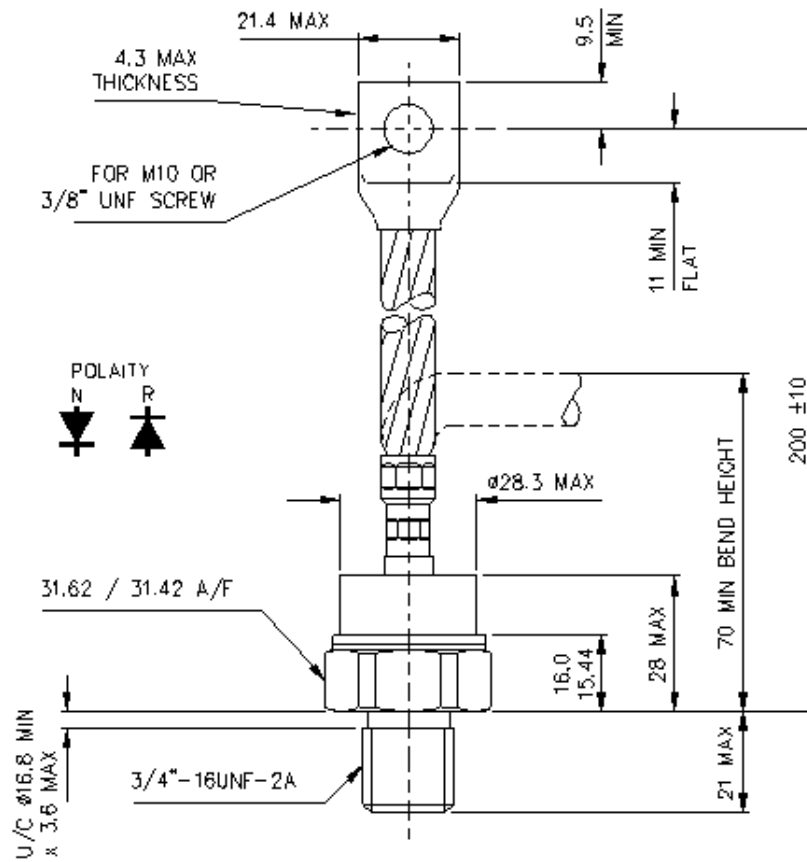
DIMNS. IN MILLIMETRES

DRG. No.

100A281

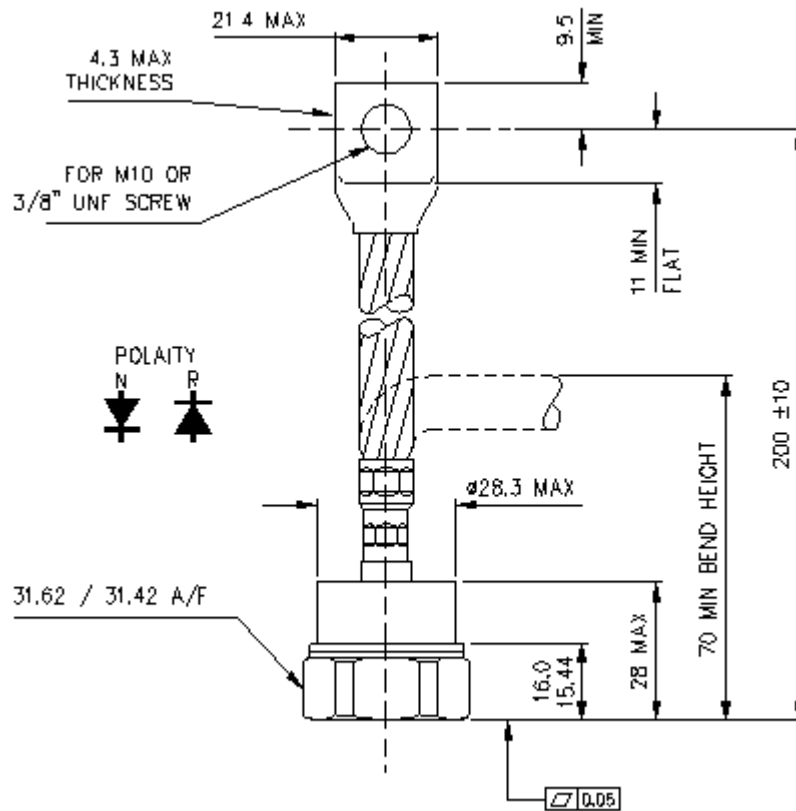
ISS	REVISIONS
1	11.9.78
4	12.12.79 M806 REDRAWN.
	DRG No WAS 100A257.
5	27.11.84 M218 FIN WAS ET

**Drawing Number – W23**  
**Outline Number – 100A281**



**Weight 250g**

**Drawing Number – W27**  
**Outline Number – 100A284**



**Weight 250g**