

Rectifier Diode

Types W5838Z#120 to W5838Z#220

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

(Rating Report 91NR2 Issue 1)

This data reflects the old part number for this product which is: SW12-22CXC26C.
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 ZC outline drawing (W7) in datasheet
No reverse recovery information 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

W5838	Z#	◆◆	0
Fixed Type Code	ZC – 37mm clamp height capsule ZD – 26mm clamp height capsule	Voltage code $V_{RRM}/100$ 12-22	Fixed Code

Typical Order Code: W5838ZC140, 37mm clamp height capsule, 1400V 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: 91NR2

Date: 16th April, 1991

Origin: Q.E.L.

Pages: 10

Diode Type SW12-22CXC26C

Written by: M. Davies

Checked: *BA*

Approved: *B/C D H.*

This diode consists of a diffused 76 mm diameter silicon slice mounted in a cold weld capsule housing.

Ratings

Voltage Grades	:	12-22
V_{RSM}	:	1300 - 2300V
V_{RRM}	:	1200 - 2200V
$I_F(AV)$: Single Phase; 50 Hz, 180° half sinewave;		
Double side cooled $T_{HS} = 55^\circ C, 100^\circ C$	:	5843A; 4300A
Single side cooled $T_{HS} = 100^\circ C$	:	2654A
I_F (rms) max.)	:	10560A
) Double side cooled $T_{HS} = 25^\circ C$	:	9206A
I_F max.)	:	
I_{FSM} : t = 10ms half sinewave; T_J (initial) = 175°C;		
$V_{RM} = 0.6 V_{RRM}(Max)$	:	64 KA
I_{FSM} ; t = 10ms half sinewave; T_J (initial) = 175°C; $V_{RM} \leq 10V$	:	70 KA
I^2t : t = 10ms; T_J (initial) = 175°C; $V_{RM} = 0.6 V_{RRM}(Max)$	:	$20.5 \times 10^6 A^2 SEC$
I^2t : t = 10ms; T_J (initial) = 175°C; $V_{RM} \leq 10V$	:	$24.5 \times 10^6 A^2 SEC$
I^2t : t = 3ms; T_J (initial) = 175°C; $V_{RM} \leq 10V$	:	$18.26 \times 10^6 A^2 SEC$
T_{HS} Operating range	:	-40 to +175°C
T_{stg} ; Non-operating	:	-40 to +175°C

Characteristics

(Maximum values unless otherwise stated)

V_0	: 0.80 V
r_s	: 0.074 m Ω
A : $T_J = 25^\circ\text{C}$	: 0.4752258
B : $T_J = 25^\circ\text{C}$	: 9.528891E-2
C : $T_J = 25^\circ\text{C}$	: 7.841436E-5
D : $T_J = 25^\circ\text{C}$	: -6.220170E-3
A)	: 0.5234366
B) $V_F = A + B.\ln(i_F) + C.i_F + D \sqrt{i_F}$	: 4.457902E-2
C)	: 7.774867E-5
D)	: -1.697693E-3
V_{FM} at $I_{FM} = 6800$ A	: 1.30 V
$R_{th}(J-HS)$ Double side cooled) Steady-state d.c. and	: 0.011 K/W
Single side cooled) 1 ϕ a.c. resistive load.	: 0.022 K/W
I_{RRM} : at $V_{RRM}(\text{MAX})$	: 100 mA
V_{fr} : at $di_F/dt =$	: ---
Reverse recovery at $I_{FM} =$ A; $t_p =$ ms	: ---
Q_{RR} (total area)	: ---
Q_{RA} (50% chord)	: ---
t_{rr} (50% chord)	: ---
I_{RM}	: ---
Mounting Force	: 27 - 47 kN (2700 - 4700 kg.f)
Outline Drawing	: 100A293
JEDEC Outline No.	:

NOTE: All characteristics are at $T_{VJ} = T_{Jmax}$ operating unless stated otherwise.

CONTENTS	Page
Ratings	1
Characteristics	2
Contents	3
Voltage Ratings	4
Dissipation and Heatsink Temperature vs Mean Current	5 & 6
Limit Forward Voltage Characteristic	7
Transient Thermal Impedance Characteristic	8
Surge Current and I^2t vs Duration of Surge	9
Outline Drawing	10

Changes to R.R. 91NR2

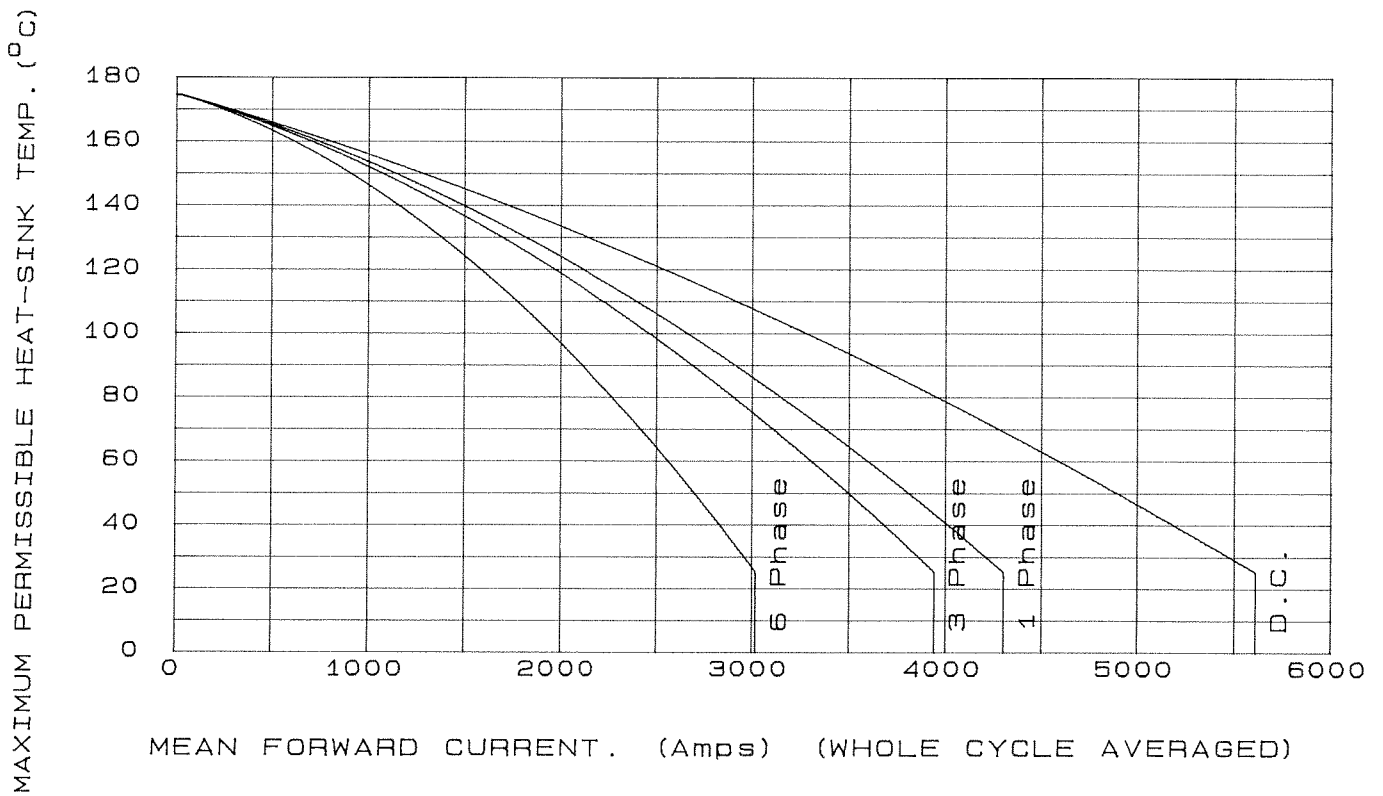
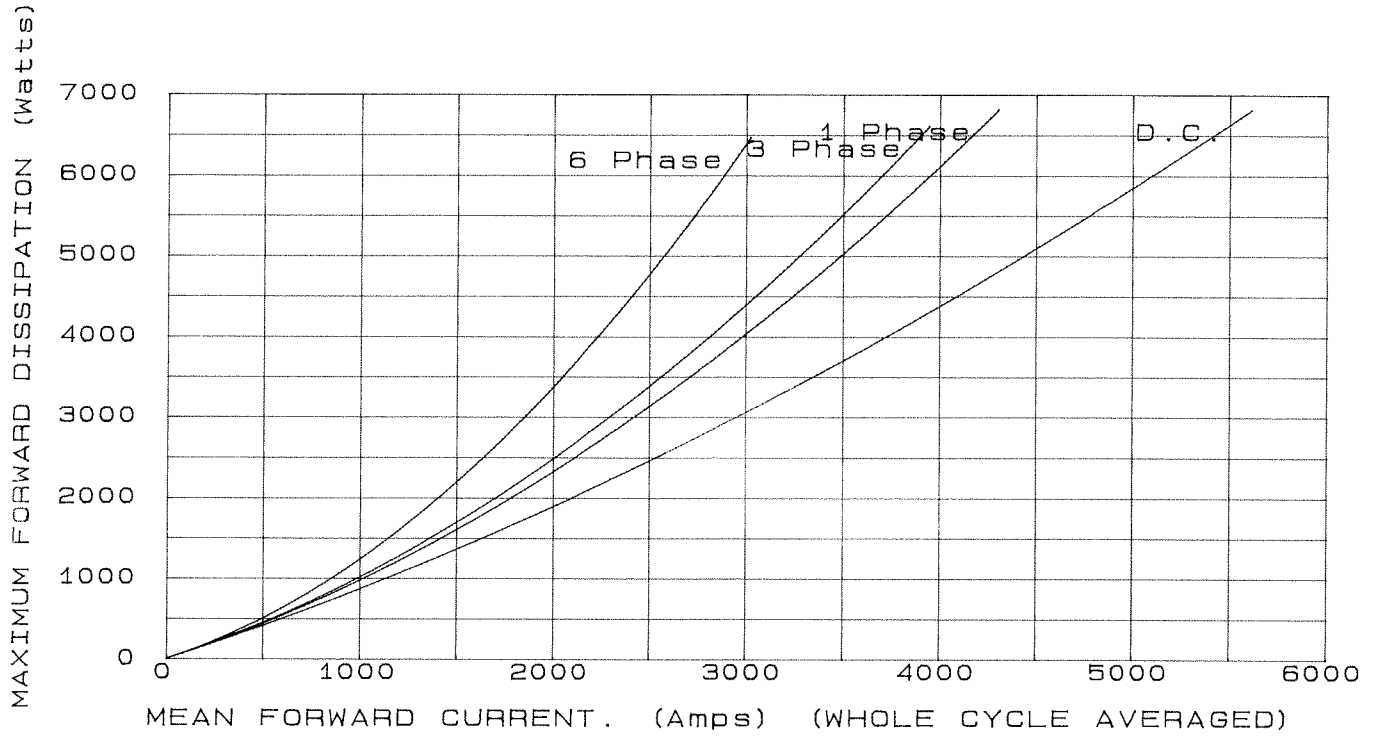
Page 2) Reissued Cold ABCD Co-efficients added
Page 3) Change list added
Page 7) Redrawn
Page 10) Redrawn

Voltage Ratings

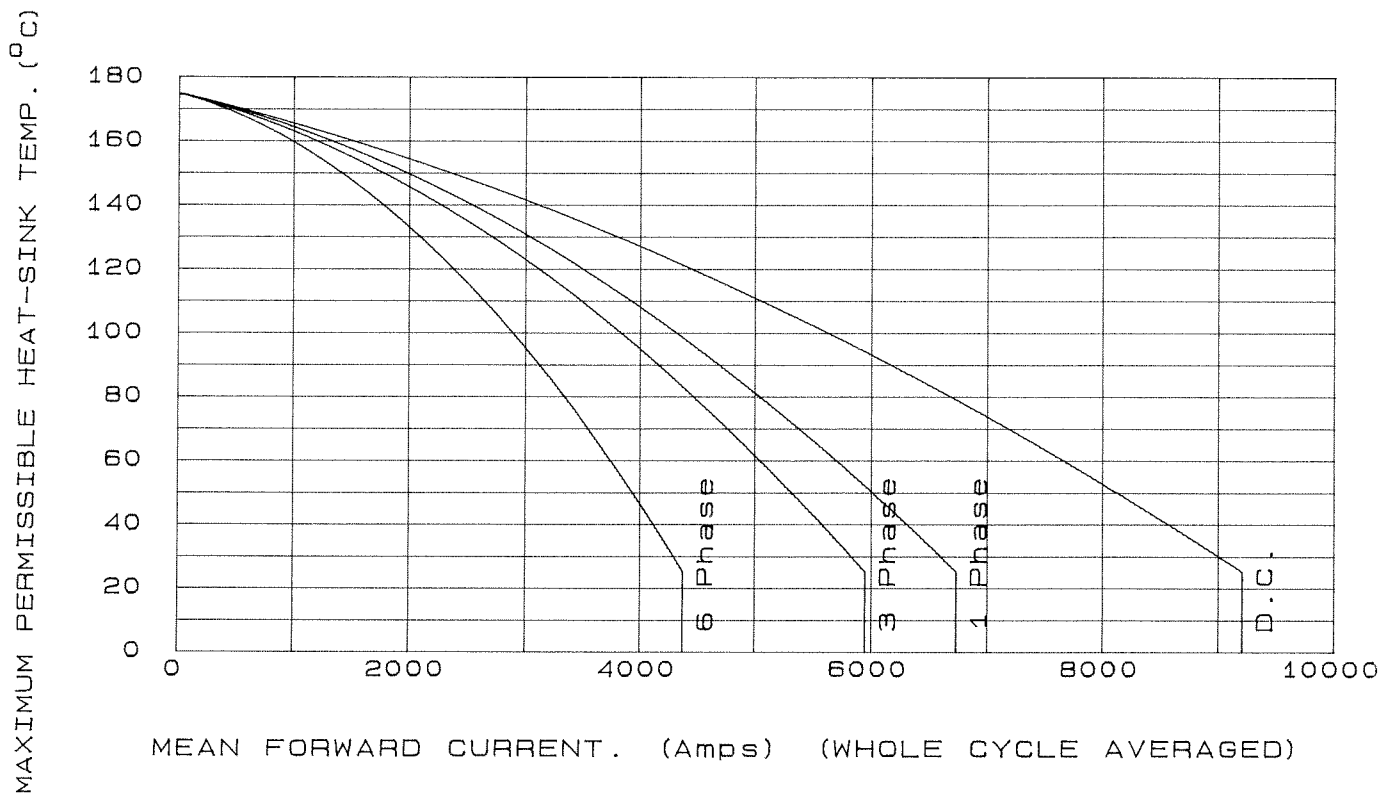
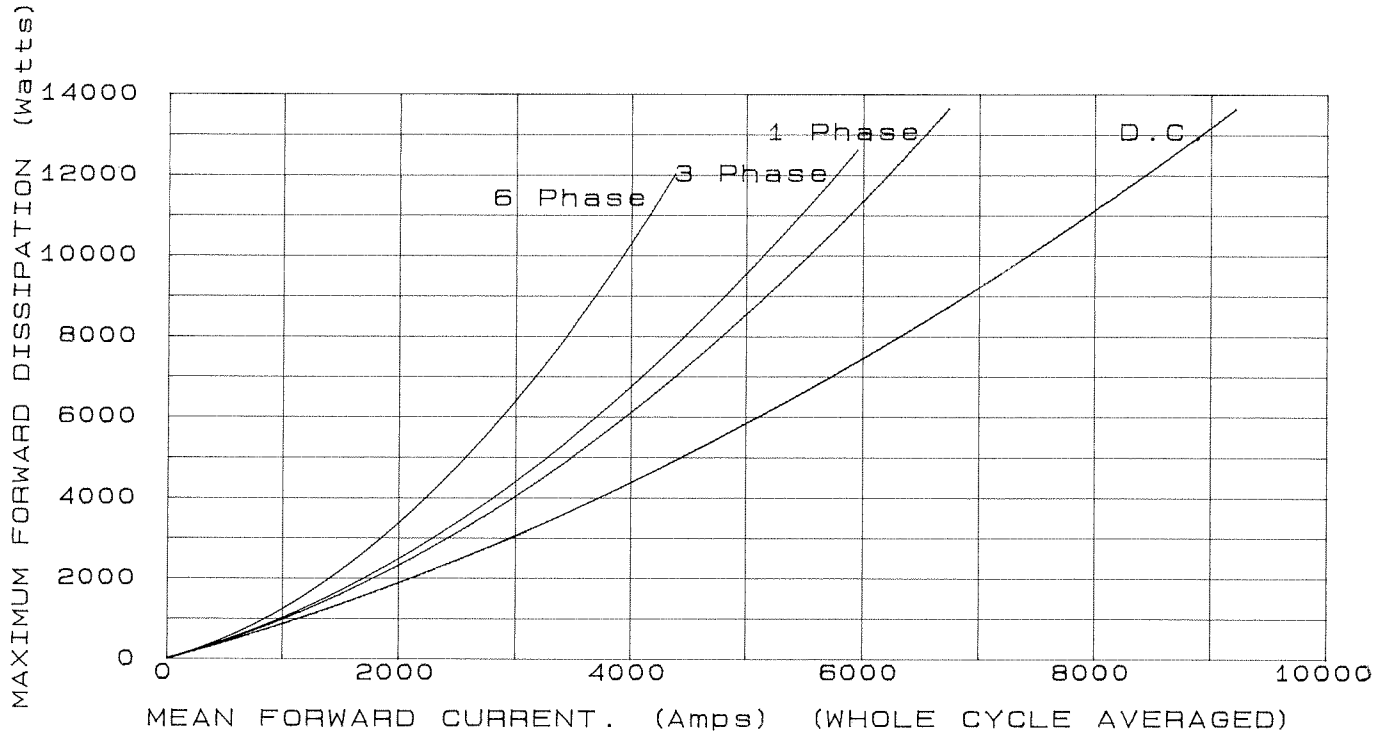
Voltage Class H	V_{RRM} V	V_{RSM} V
12	1200	1300
14	1400	1500
16	1600	1700
18	1800	1900
20	2000	2100
22	2200	2300

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

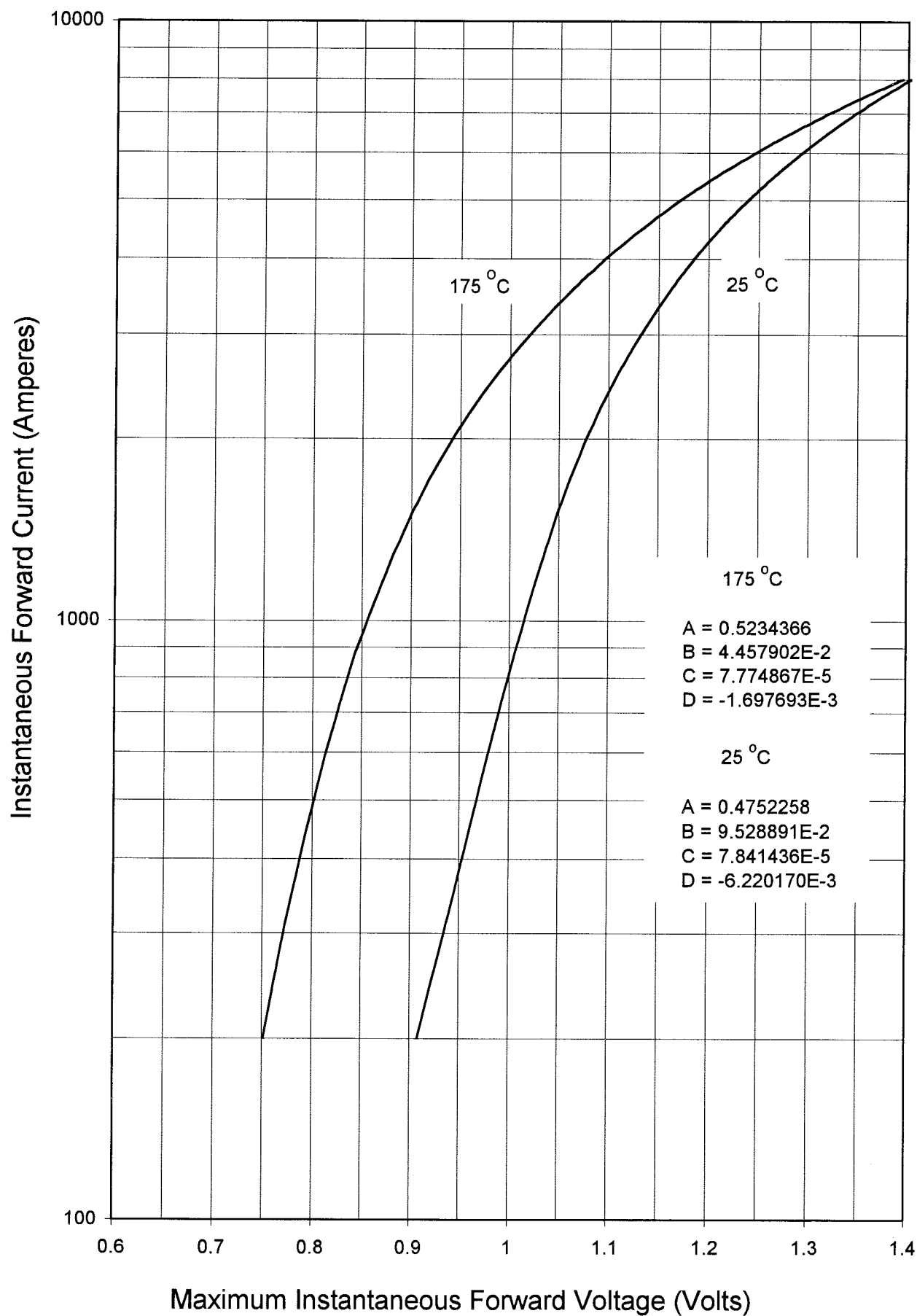
SINGLE SIDE COOLED

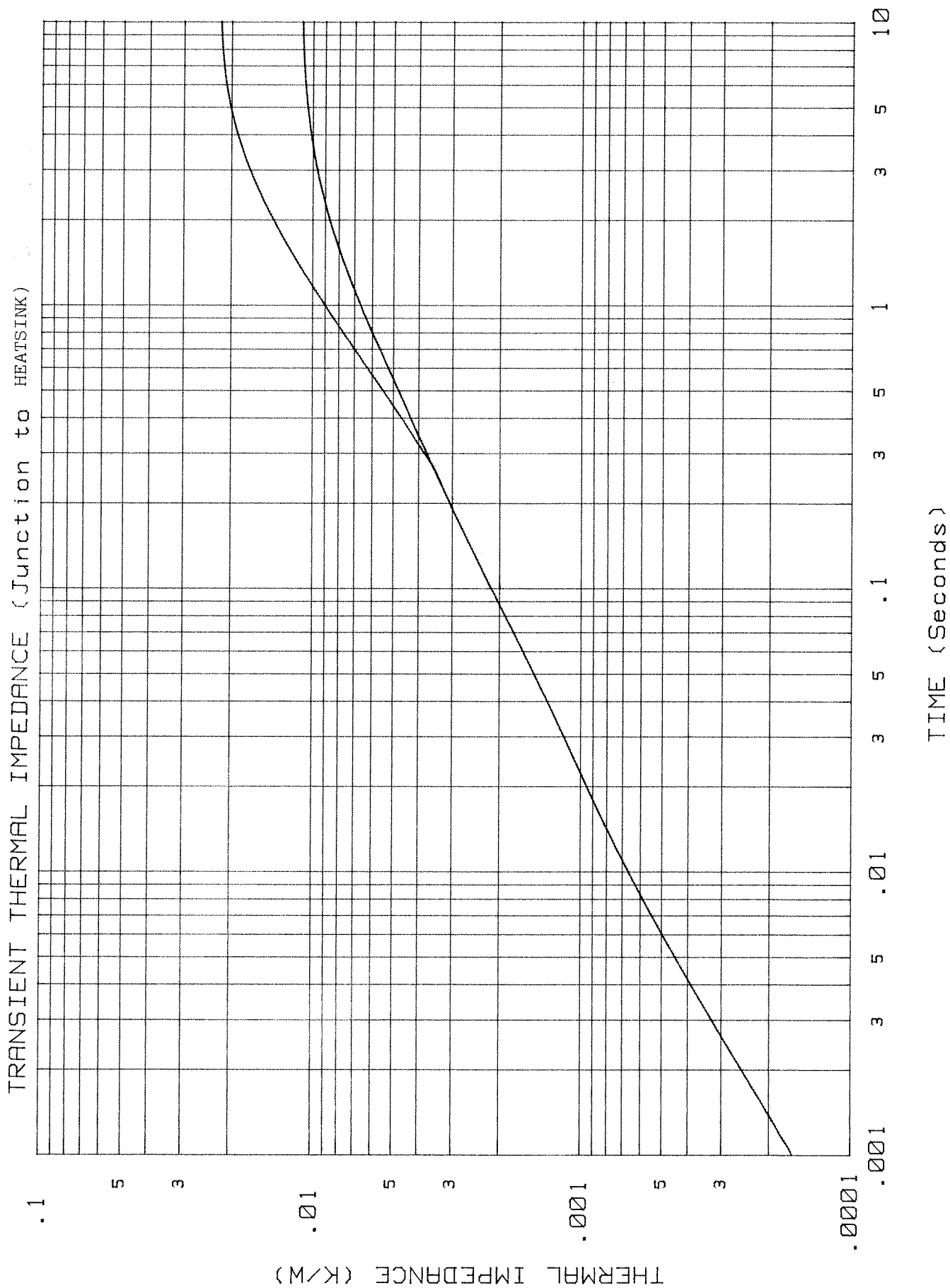


DOUBLE SIDE COOLED

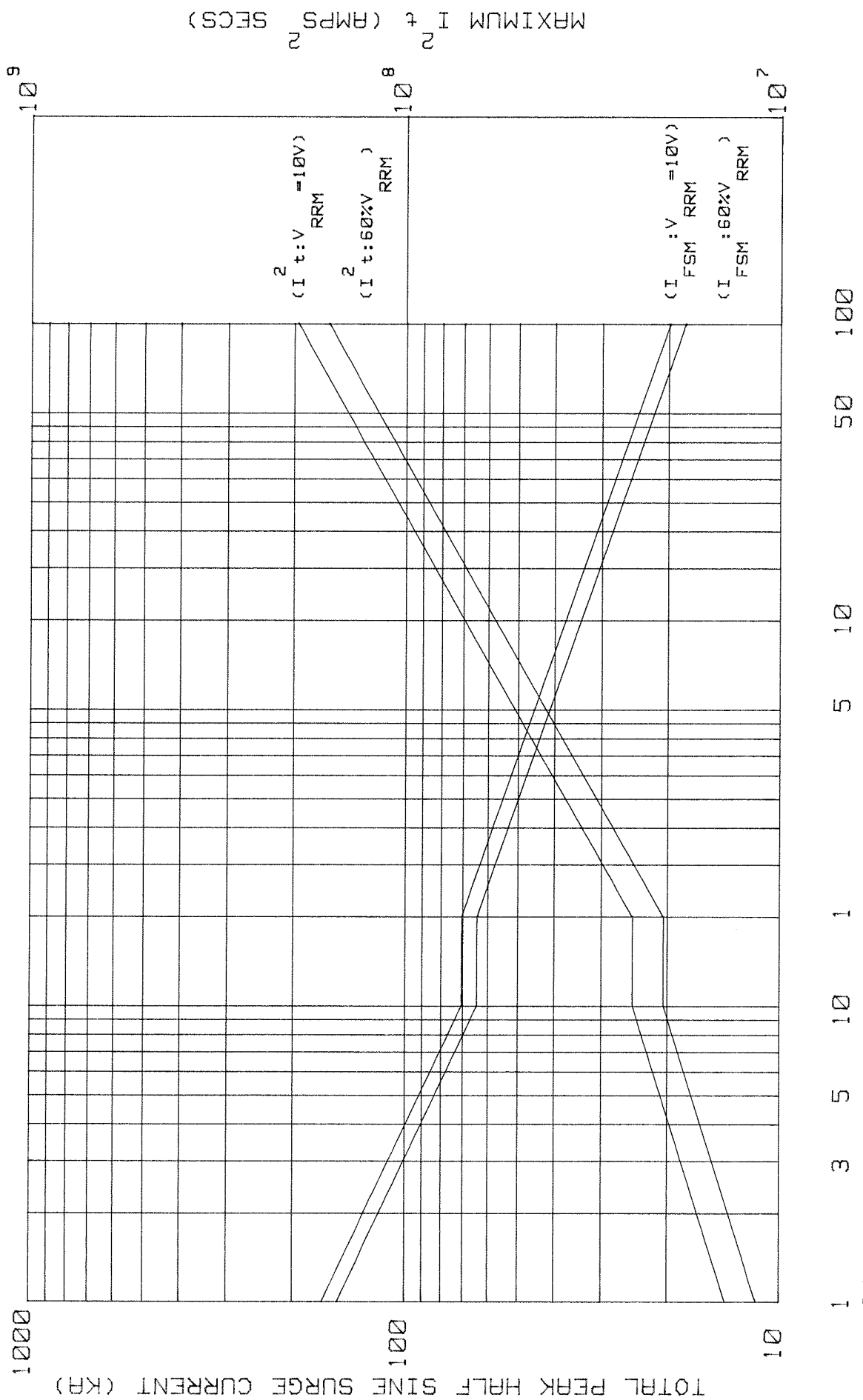


Forward Characteristic of Limit Device





MAXIMUM NON REPETITIVE SURGE CURRENT AT INITIAL JUNCTION TEMPERATURE 125 ° C



INTERNATIONAL OUTLINE No.

G.A. DWG No. 159B100H601

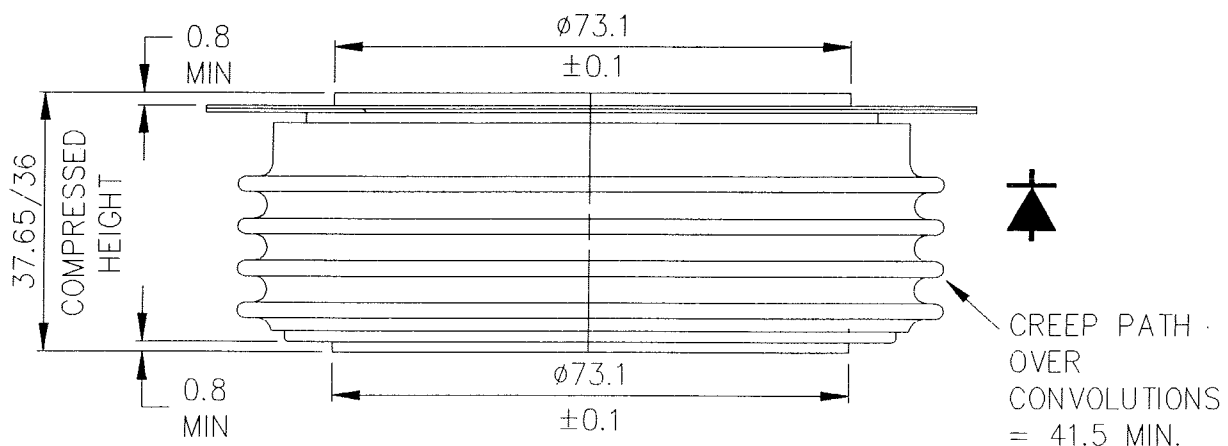
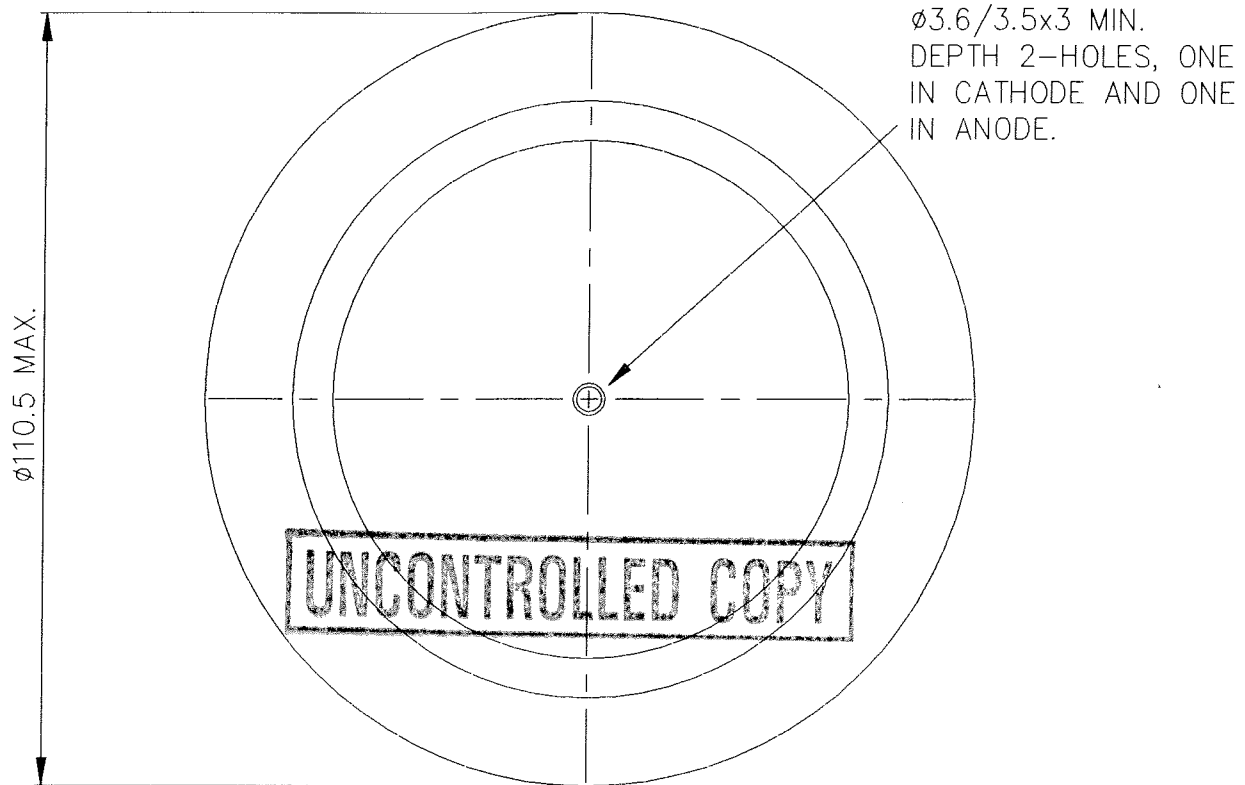
WEIGHT. 1.7kg

FINISH. NICKEL PLATE

- 10 -

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 = 3700 ± 1000 kgf. (37 ± 10 kN)

CXC974 CXC32C
CXC15C CXC2850
CXC18C
CXC20C
CXC21C
CXC26C
CXC30C



SCALE 1/1		ISS REVISIONS		THIRD ANGLE PROJECTION.	
DRAWN HDN	4	13-09-90	REDRAWN ON	DWG. COMPLIES WITH BS 308.	
DIST: A			CAD HDN	DIMNS. IN MILLIMETRES.	
	5	M1644. TYPE No.		DWG No.	
		CXC26C ADDED		100A293	
	6D	26.8.93. M2312.			
		CXC18C ADDED.			
	7D	11.1.94. M2408.			
		CXC974 ADDED.			
	8E	25.7.96. M3035.			
		CXC2850 ADDED.			
		B.B.B.			



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