

MICRON SEMICONDUCTOR LIMITED

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US – UNITED STATES

17th December 2013

INVOICE NO 14335
VAT No: GB 376 8710-14

[E-Mail: finance@nscl.msu.edu]

REF: PURCHASE ORDER NO C-96374 Rev 1

[Shipped to: Professor William Lynch; E-M: lynch@nscl.msu.edu
Tel: 517-333-6319]

Supply:

Quantity 1, **BB7(DS)-1500 SILICON DETECTOR**, Type 2M/2M
Drawing No: A-3893
Serial No: 2942-23 [1537 μ m]

UNIT PRICE: \$8,500.00

\$8,500.00

TOTAL INVOICE VALUE: \$8,500.00

ORDER COMPLETE

Prices: US Dollars, FOB East Lansing, USA

Payment Terms: Net 30 Days

Payment: / US\$ cheque to above address OR wire transfer to:

Barclays Bank plc, North Street, Brighton, BN1 1RU, UK.

Sort Code: 20-12-75, Account No: 82949877

IBAN No: GB90 BARC20127582949877, SWIFT BIC: BARCGB22

Tariff Code: Unit is supplied for US Entry on Tariff Code 8541-10-0080; Diode: Other NSPF (not PHOTSN).

EXEMPT FROM STATE/FEDERAL TAX ID # 38-6005984

Warranty: 12 months manufacturing/specification defects attributed to Micron Semiconductor Limited from INVOICE DATE.

Origin: This detector was manufactured wholly in the UK (EEC) at Micron Semiconductor Works, Lancing, England, UK.

COLIN D WILBURN, DIRECTOR



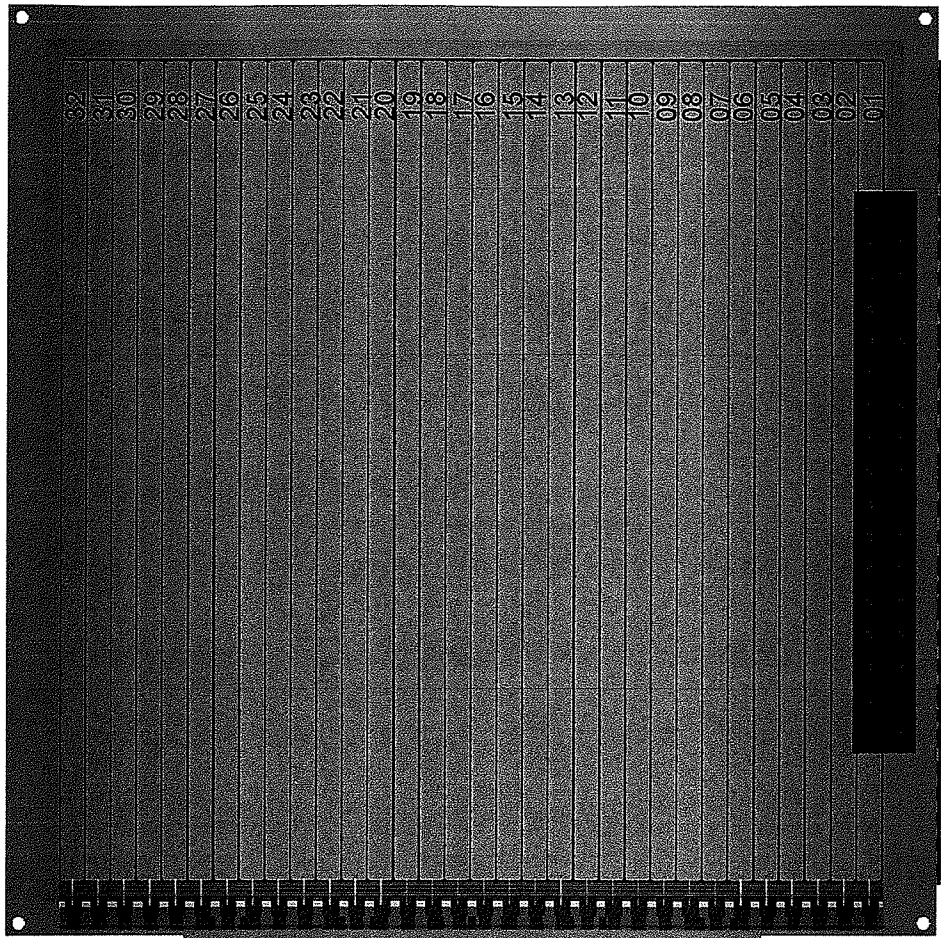
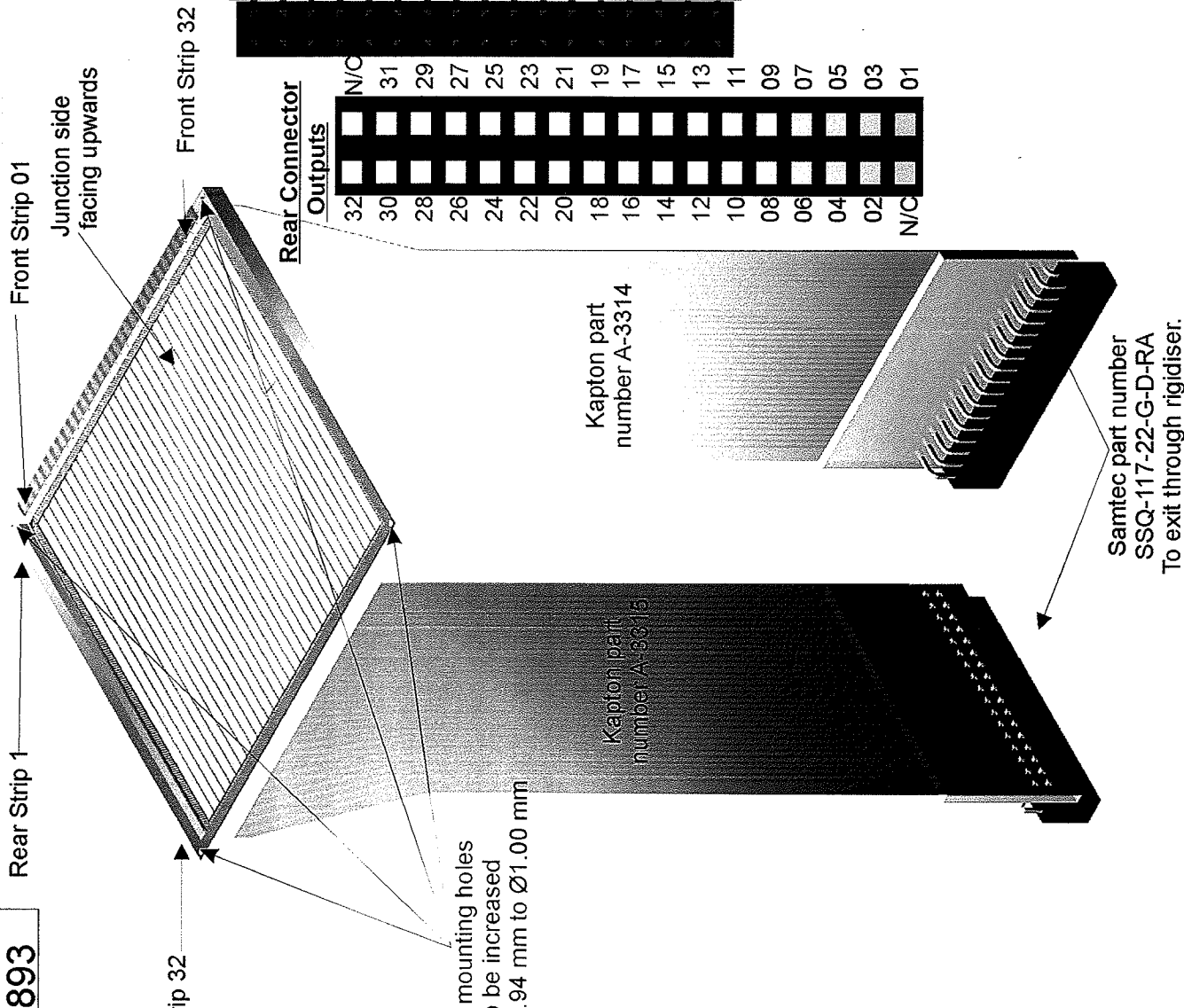
DETECTOR HANDLING INSTRUCTIONS

These detectors are fragile and are sensitive to contamination from sodium transferred from fingers and mucous.

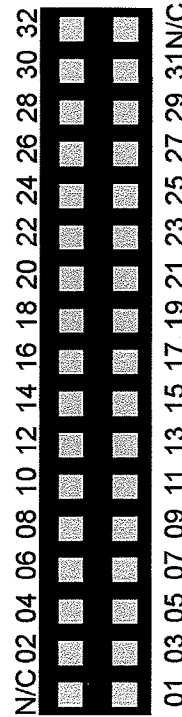
1. Always wear a pair of close fitting nitrile gloves and a face mask when handling the detector.
2. Remove any tape carefully (glue from the tape can also contaminate the detector) change gloves if necessary.
3. Remove the nuts or screws from the shipping case carefully ensuring that they do not fall onto the surface of the detector. Be careful not to touch the wire bonds.
4. Hold the detector on the sides of the printed circuit board when taking out of the box.
5. Place in a clean dry area.
6. When plugging in the detector hold the edge of the detector making sure to keep the fingers away from the wire bonds, make sure that the ends of cables do not scratch the chip surface.

Supplies of nitrile gloves can be sourced from Kimtech (www.kimtech.com) and face masks from Berkshire (berkshire.com/products/11-face-masks)

Failure to follow these instructions may invalidate your warranty.



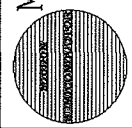
Front Connector Outputs



Title:

BB7 Minimum Area Frame.
3D Assembly.

Checked	Date	Outputs Via: Samtec part number SSQ-117-22-G-D-RA
W	03/11/2010	Mating connector: Samtec TSM, MTSW, MTLW, LCM, EW, ZW, TSS, ZSS, TSM, TSSH ranges.
		Potted Wire Bonds: No
		Flexi Part Numbers: A-3314 and A-3315
		Substrate Material: 5mm Thick unplated FR4 PCB material
		Connector Orientation: Junction side connector to exit inside of Kapton, ohmic connector to exit outside of Kapton.



MICRON SEMICONDUCTOR LIMITED

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graphics@micronsemiconductor.co.uk

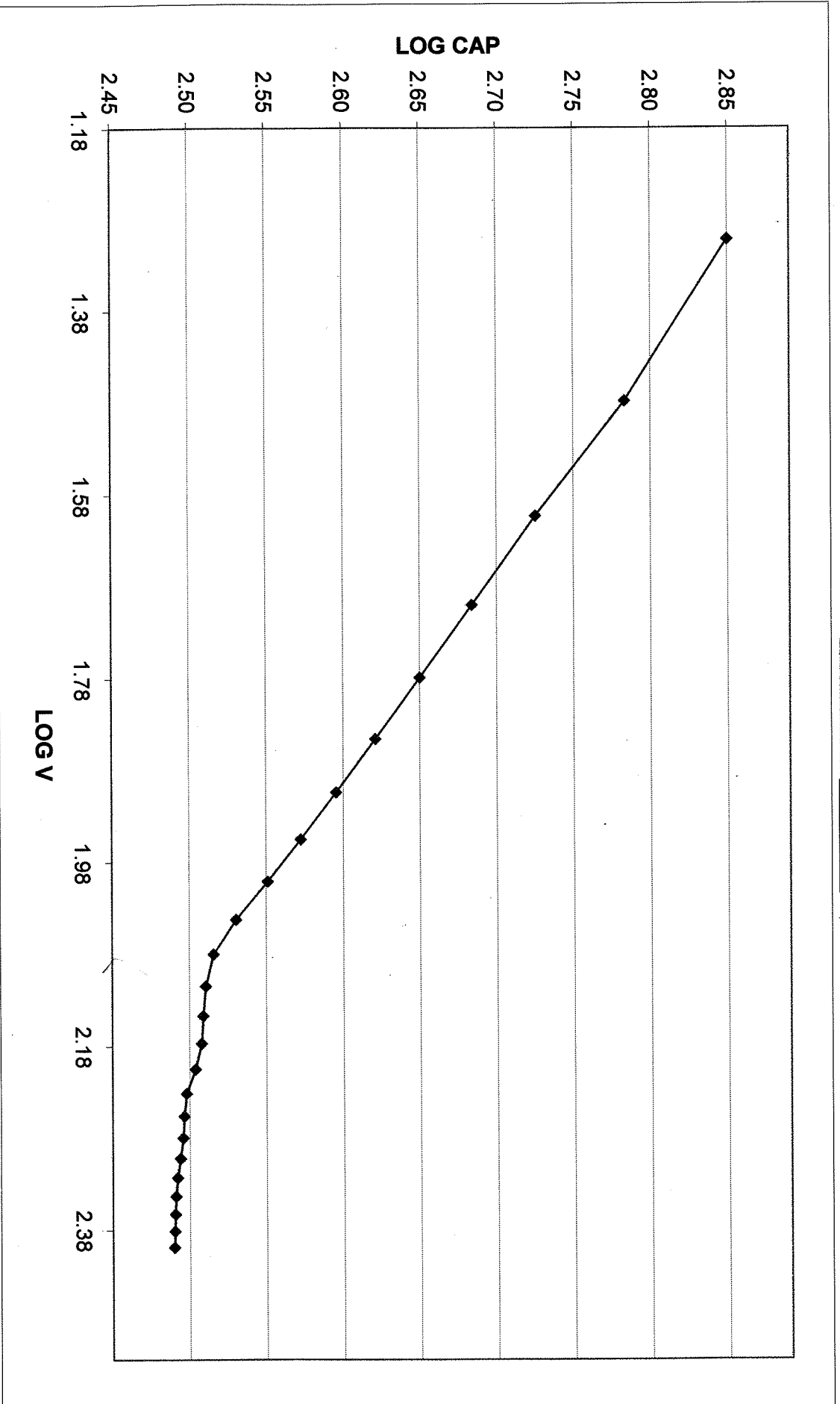
Scale N/A Dims in. mm Dwg No A-3893

Depletion Plot

BB7-1500

Wafer No.: **2942-23**

Thickness: **1537** μm
Depletion: **180** Volts



Resolution Plot

DESIGN BB7-1500

Wafer No.: **2942-23**

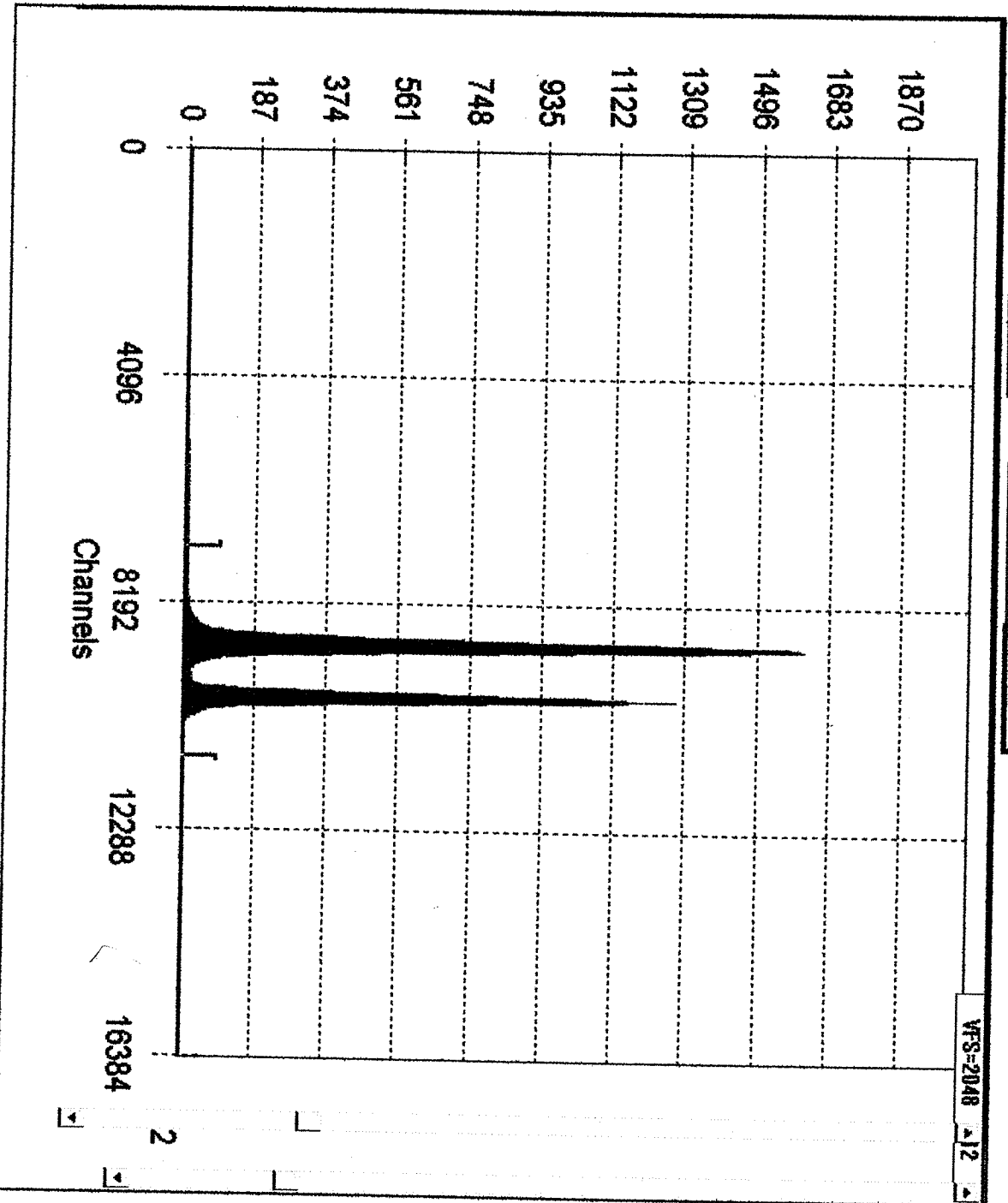
Thickness: **1537** μm

JUNCTION

DET LINE: **124** KeV
SYSTEM: **98.5** KeV
CAL: **75.3** KeV

OHMIC

DET LINE: **128** KeV
SYSTEM: **99.2** KeV
CALC: **80.9** KeV



BIAS VOLTS = **28** V

Leakage **2847** nA

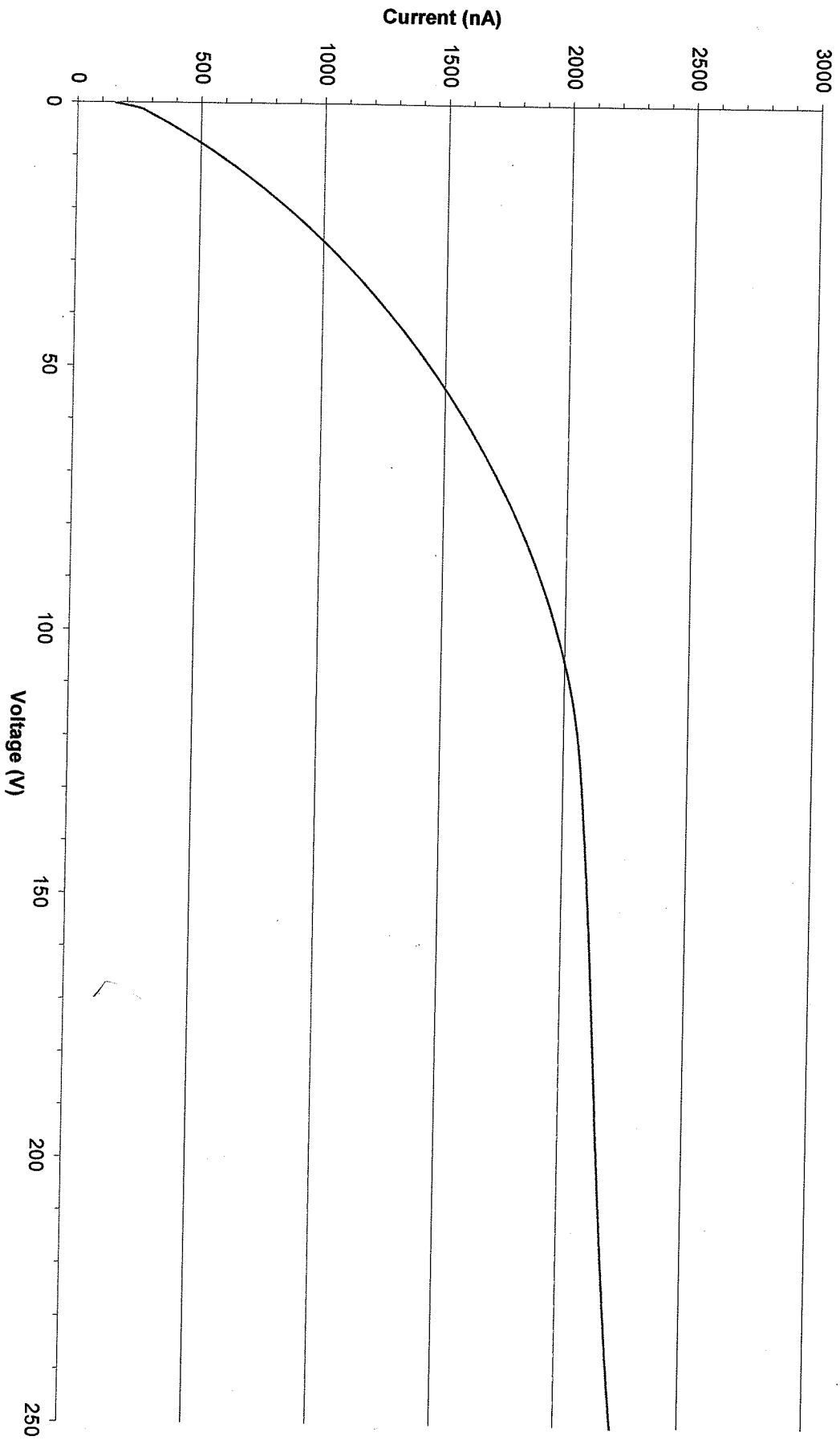
VFS-2048 A12

Source
Am 241

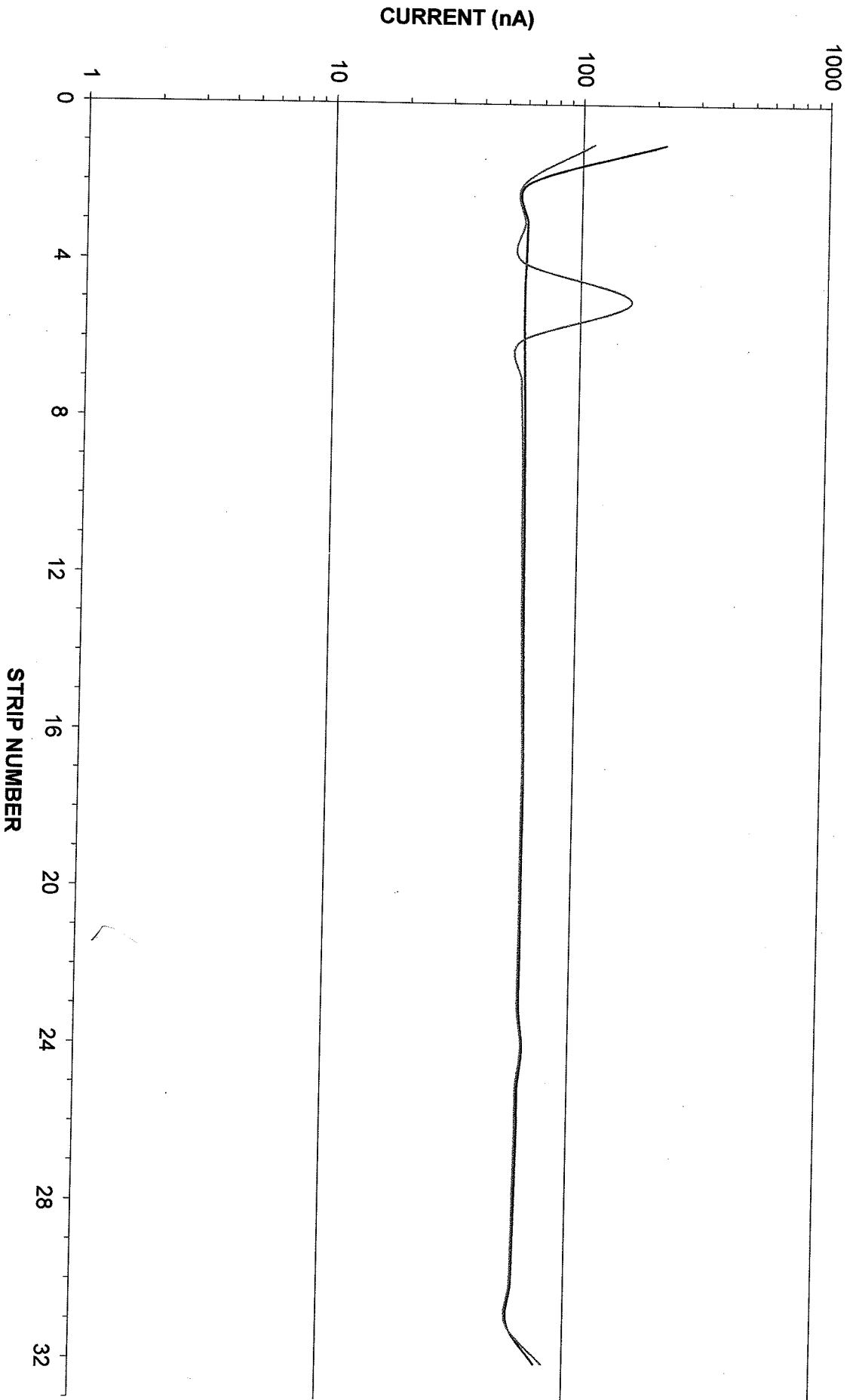
Rise Time
1

Flat Top
0

BB7-1500
2942-23 TOTAL DETECTOR IV
Dep=180V Thickness=1537um

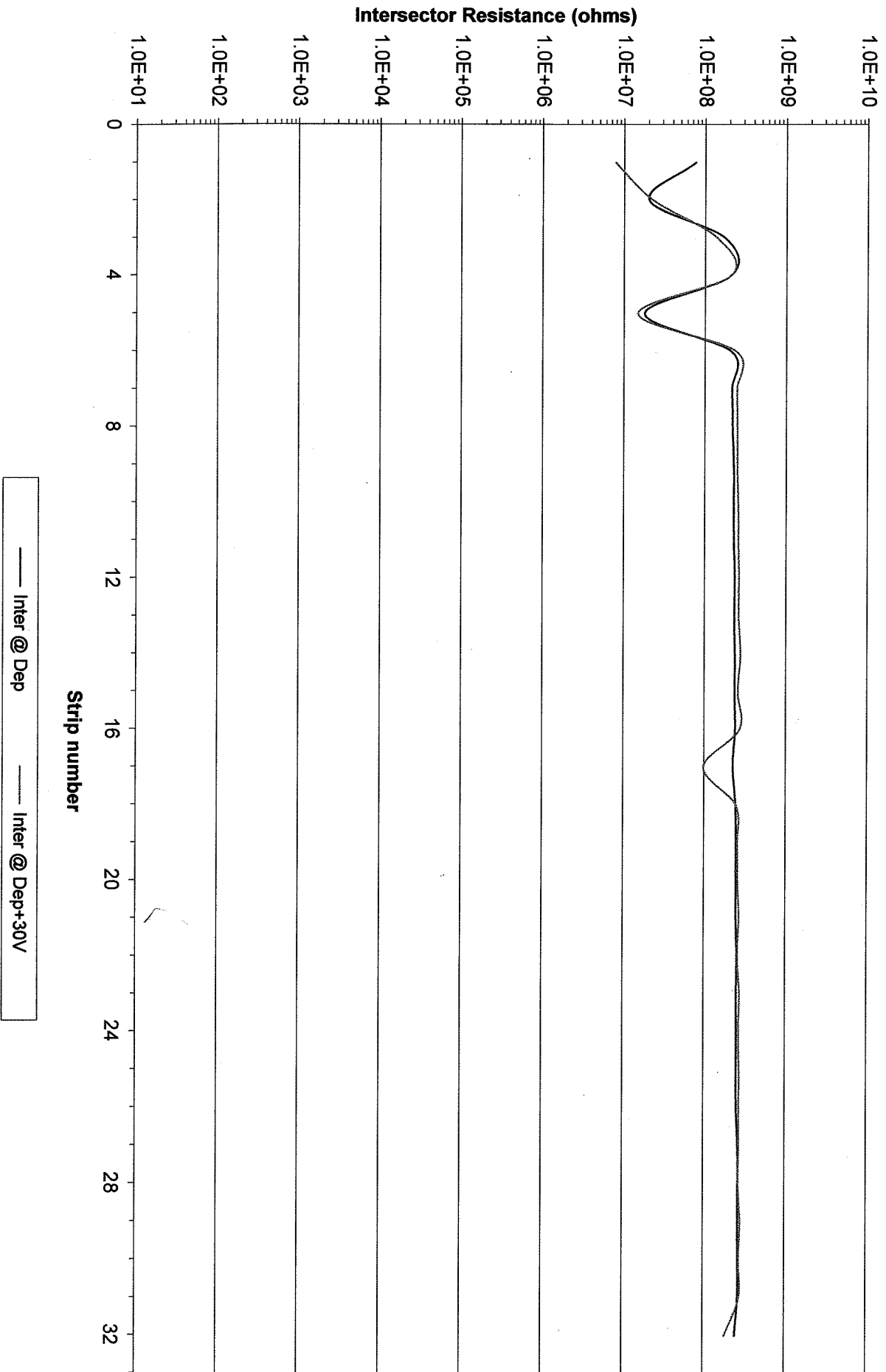


BB7-1500
2942-23 Junction side Dep=180V

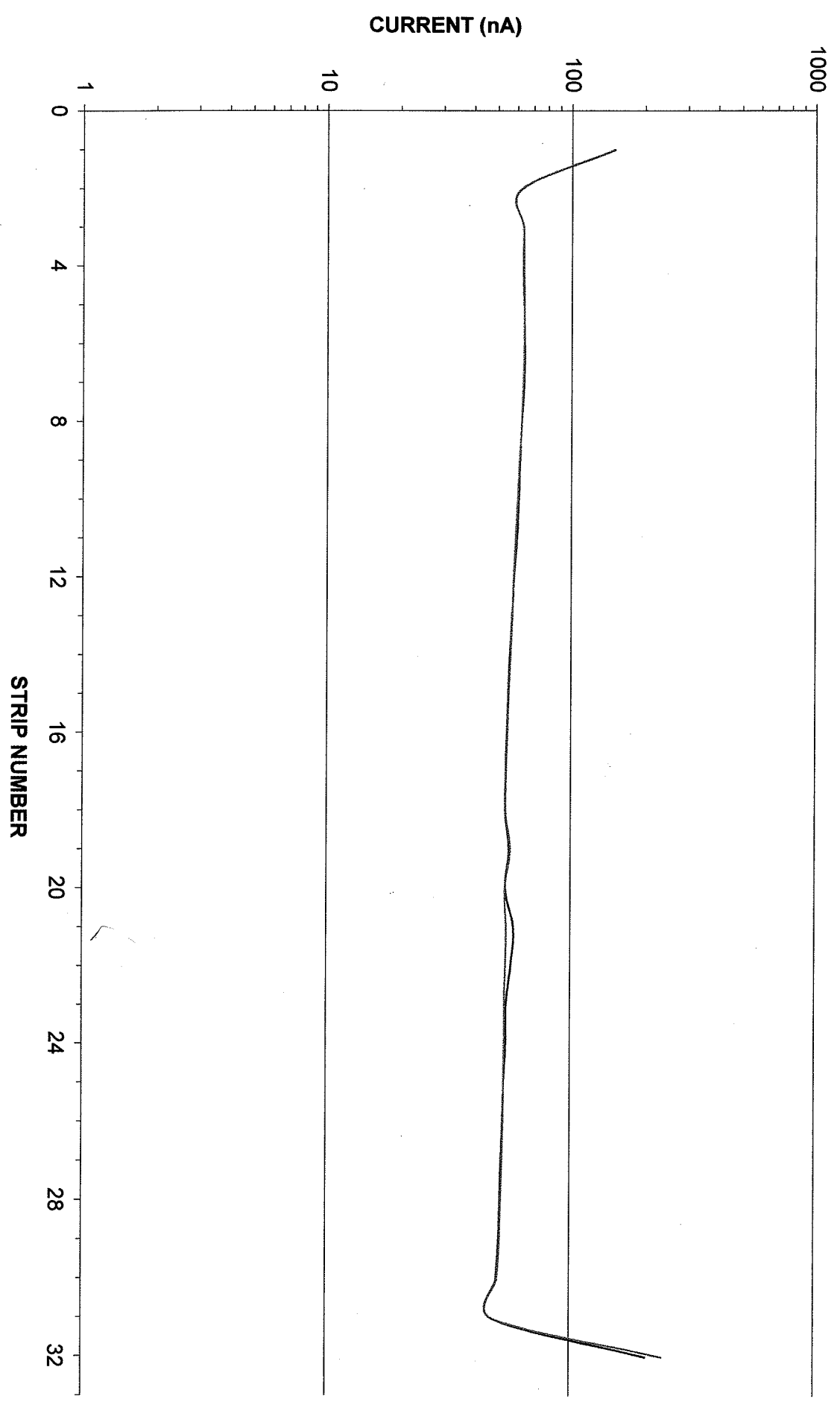


— current @ Dep - - - current @ Dep+30V

BB7-1500
2942-23 Junction side Dep=180V



BB7-1500
2942-23 Ohmic side Dep=180V



— current @ Dep — current @ Dep+30V

BB7-1500
2942-23 Ohmic side Dep=180V

