



PRODUCT GROUP INFORMATION LETTER (GIL)

GIL APG-BOD/07/2664
Notification Date 09/25/2007

**Vanadium addition on Nickel layer of back-side metal of
VIPower M03 Products**

APG - APG

Production process involved	see enclosed
Production process details	Generic
Description	Looking at the continuous improvement approach in terms of quality and service, will be implemented on VIPower M03 Technology products processed in CT6 (Catania wafer FAB), the addition of Vanadium (V) in Nickel (Ni) layer of back-side metallization. Addition of vanadium has no impact in terms of Quality and Reliability of the products and thickness of metals layers remains unchanged.
Forecasted date of implementation	31-Oct-2007
Forecasted date of samples for customer	30-Sep-2007
Forecasted date for STMicroelectronics change Qualification Plan results availability	18-Sep-2007
Description of qualification program	See Attached Qualification Plan
Involved ST facilities	CT6-L1 Catania wafer Fab.

DOCUMENT APPROVAL

Name	Function
Russo, Alfio	Division Marketing Manager
Parrino, Emanuele	Division Q.A. Manager
Giummo, Francesca	Process Owner



PRODUCT GROUP INFORMATION LETTER (GIL)[®]

CAR BODY DIVISION - VIPower Business Unit - Catania

**Subject: Vanadium addition on Nickel layer of back-side metal of
VIPOWER M03 Technology products.**

INVOLVED P&L FAMILY: 30

WHAT: Looking at the continuous improvement approach in terms of quality and service, will be implemented on VIPower M03 Technology products processed in CT6 (Catania wafer FAB), the addition of Vanadium (V) in Nickel (Ni) layer of back-side metallization.
Addition of vanadium **has no impact in terms of Quality and Reliability of the products and thickness of metals layers remains unchanged.**

WHY: In [sputtering](#)* back metallization process, the addition of Vanadium (=7%) in Nickel modifies the magnetic properties of the target, improving the magnetic field distribution on the entire surface of the target itself. This permits to use higher thickness targets, increasing its lifetime and reducing machine down for maintenance.

WHO: All customers using the VIPower M03 products processed in CT6 Catania wafer Fab.

WHEN: The change will be implemented within October 2007.

WHERE: The plant involved CT6 (Catania).

[*See below details.](#)

Sputtering Deposition Process

Sputter deposition is a method of depositing thin films by **sputtering** a block of source material (**target**) onto a "substrate".

Sputtered atoms ejected into the gas phase are not in their thermodynamic equilibrium state, and tend to deposit on all surfaces in the vacuum chamber. A substrate (such as a silicon wafer) placed in the chamber will be coated with a thin film. Sputtering usually uses an argon plasma.

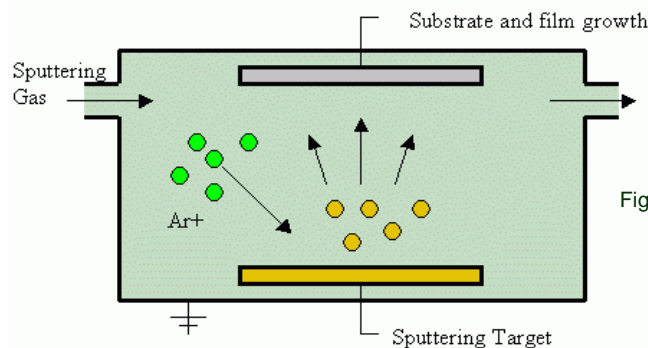


Fig.1 Sputtering chamber

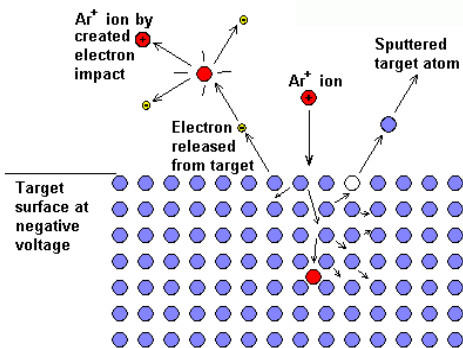


Fig.2 Sputtering process

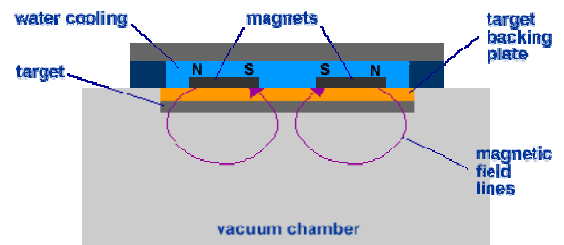
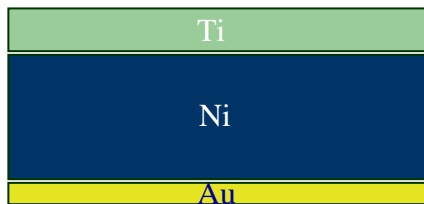


Fig.3 magnetic field in sputtering process

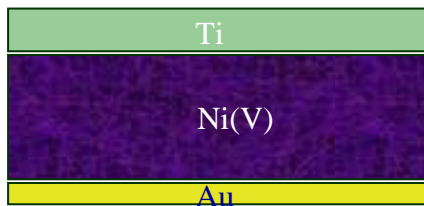
M03 Die Finish Back Side

current back-side metal



Ti	1000 Å
Ni	4000 Å
Au	500 Å

new back-side metal



Ti	1000 Å
Ni (plus 7% of V)	4000 Å
Au	500 Å

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS EXPRESSLY APPROVED IN WRITING BY AN AUTHORIZED ST REPRESENTATIVE, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners

© 2007 STMicroelectronics - All rights reserved.

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com



LINE	COMMERCIAL PRODUCT
----	-----
V69D03	VN69D7
V73H01	VN73D1
V73I03	VN73D2(V050)
V73L03	VN73D7(V054)
V79M01	VND7NV04D8
V95D01	VN950D7(V036)
VB6H03	VNB6D1
VB6I03	VNB6D2(V040)
VB6L03	VNB6D7(V037)
VH2303	VH23SP30-E
VH2303	VH23SP30TR-E
VH5703	VN5770AK-E
VH5703	VN5770AKTR-E
VN1301	VNC14NV04T
VN1301	VNC14NV04T-E
VN1301	VNC14NV04T13TR
VN1301	VNC14NV04TTTR-E
VN5801	VN1160
VN5801	VN1160-1
VN5801	VN1160-1-E
VN5801	VN1160-E
VN5801	VN116013TR
VN5801	VN1160C
VN5801	VN1160C-1-E
VN5801	VN1160C-E
VN5801	VN1160CTR
VN5801	VN1160CTR-E
VN5801	VN1160T
VN5801	VN1160T-E
VN5801	VN1160TR-E
VN5801	VN580
VN5801	VN580-1
VN5801	VN580-1-E
VN5801	VN580-E
VN5801	VN580T-E
VN6001	09391187
VN6001	9391187TR-E
VN6001	VN60D7(V028)
VN6001	VND600
VN6001	VND600-E
VN6001	VND60013TR
VN6001	VND600SP
VN6001	VND600SP-E
VN6001	VND600SP13TR
VN6001	VND600SPTR-E
VN6001	VND600TR-E
VN6001	VNQ600
VN6001	VNQ600-E
VN6001	VNQ60013TR
VN6001	VNQ600TR-E
VN6101	VN610D4(V021)
VN6101	VN610SP
VN6101	VN610SP-E
VN6101	VN610SP13TR
VN6101	VN610SPTR-E
VN6101	VN61D7
VN6601	4827128SP
VN6601	4827128SP-E
VN6601	4827128SP13TR
VN6601	4827128SPTR-E
VN6601	VNQ660SP

VN6601	VNQ660SP-E
VN6601	VNQ660SP13TR
VN6601	VNQ660SPTR-E
VN6701	4827347SP
VN6701	4827347SP-E
VN6701	4827347SP13TR
VN6701	4827347SPTR-E
VN6701	VND670SP
VN6701	VND670SP-E
VN6701	VND670SP13TR
VN6701	VND670SPTR-E
VN6901	VN755
VN6901	VN755-B5
VN6901	VN755-B513TR
VN6901	VN755-E
VN6901	VN755B5-E
VN6901	VN755BTR-E
VN6901	VN755PT
VN6901	VN755PT-E
VN6901	VN755PT13TR
VN6901	VN755PTTR-E
VN6901	VN755S
VN6901	VN755S-E
VN6901	VN755S13TR
VN6901	VN755STR-E
VN7301	09399028-E
VN7301	4844562U02TR-E
VN7301	9399028
VN7301	VND1NV04
VN7301	VND1NV04-1
VN7301	VND1NV04-1-E
VN7301	VND1NV04-E
VN7301	VND1NV0413TR
VN7301	VND1NV04TR-E
VN7301	VNN1NV0413TR
VN7301	VNN1NV04TR-E
VN7301	VNS1NV04
VN7301	VNS1NV04-E
VN7301	VNS1NV0413TR
VN7301	VNS1NV04D
VN7301	VNS1NV04D-E
VN7301	VNS1NV04D13TR
VN7301	VNS1NV04DTR-E
VN7301	VNS1NV04TR-E
VN7501	09382501
VN7501	4833500AA
VN7501	4833500AA-E
VN7501	9382501-E
VN7501	9401436TR
VN7501	9401436TR-E
VN7501	VN750
VN7501	VN750(012Y)
VN7501	VN750-12-E
VN7501	VN750-B5
VN7501	VN750-B5(8958)TR
VN7501	VN750-B513TR
VN7501	VN750-E
VN7501	VN750B5-E
VN7501	VN750B5TR-58-E
VN7501	VN750B5TR-E
VN7501	VN750D4(8956)
VN7501	VN750PT
VN7501	VN750PT-E
VN7501	VN750PT13TR
VN7501	VN750PTTR-E

VN7501	VN750S
VN7501	VN750S-E
VN7501	VN750S13TR
VN7501	VN750STR-E
VN7601	VN76D7
VN7601	VNB35NV04
VN7601	VNB35NV04-E
VN7601	VNB35NV0413TR
VN7601	VNB35NV04D4-V033
VN7601	VNB35NV04TR-E
VN7601	VNP35NV04
VN7601	VNP35NV04-E
VN7601	VNV35NV04
VN7601	VNV35NV04-E
VN7601	VNV35NV0413TR
VN7601	VNV35NV04TR-E
VN770A	9399338
VN770A	9399338-E
VN770A	VN770K
VN770A	VN770K-E
VN770A	VN770K13TR
VN770A	VN770KTR-E
VN770B	VN771K
VN770B	VN771K-E
VN770B	VN771K13TR
VN770B	VN771KTR-E
VN770C	0939933913TR
VN770C	09399339TR-E
VN770C	VN772K
VN770C	VN772K-E
VN770C	VN772K13TR
VN770C	VN772KTR-E
VN7801	12200798
VN7801	12200798-E
VN7801	9401403TR-E
VN7801	VN78D7(V038)
VN7801	VNB14NV04
VN7801	VNB14NV04-E
VN7801	VNB14NV0413TR
VN7801	VNB14NV04TR-E
VN7801	VND14NV04
VN7801	VND14NV04-1
VN7801	VND14NV04-1-E
VN7801	VND14NV04-E
VN7801	VND14NV0413TR
VN7801	VND14NV04TR-E
VN7801	VNP14NV04
VN7801	VNP14NV04-E
VN7801	VNS14NV04
VN7801	VNS14NV04-E
VN7801	VNS14NV0413TR
VN7801	VNS14NV04TR-E
VN7901	09401225
VN7901	28006923
VN7901	28006923-E
VN7901	4833505AA
VN7901	4833505AA-E
VN7901	9401225TR-E
VN7901	VNA7NV04D
VN7901	VNA7NV04D-E
VN7901	VNA7NV04D13TR
VN7901	VNA7NV04DTR-E
VN7901	VND7NV04
VN7901	VND7NV04-1
VN7901	VND7NV04-1-E

VN7901	VND7NV04-E
VN7901	VND7NV0413TR
VN7901	VND7NV04D1 (V023)
VN7901	VND7NV04TR-E
VN7901	VNN7NV0413TR
VN7901	VNN7NV04TR-E
VN7901	VNS7NV04
VN7901	VNS7NV04-E
VN7901	VNS7NV0413TR
VN7901	VNS7NV04TR-E
VN8001	28025508
VN8001	9399937
VN8001	VN800PT
VN8001	VN800PT-E
VN8001	VN800PT13TR
VN8001	VN800PTTR-E
VN8001	VN800S
VN8001	VN800S(8961)
VN8001	VN800S(8961)TR
VN8001	VN800S-61-E
VN8001	VN800S-E
VN8001	VN800S13TR
VN8001	VN800STR-61-E
VN8001	VN800STR-E
VN8101	09401881
VN8101	9401881TR-E
VN8101	VND810
VN8101	VND810-E
VN8101	VND81013TR
VN8101	VND810SP
VN8101	VND810SP-E
VN8101	VND810SP13TR
VN8101	VND810SPTR-E
VN8101	VND810TR-E
VN8101	VNQ810
VN8101	VNQ810-E
VN8101	VNQ81013TR
VN8101	VNQ810TR-E
VN8201	09399376
VN8201	9399376-E
VN8201	VN820
VN8201	VN820(011Y)
VN8201	VN820(012Y)
VN8201	VN820-11-E
VN8201	VN820-12-E
VN8201	VN820-B5
VN8201	VN820-B513TR
VN8201	VN820-E
VN8201	VN820B5-E
VN8201	VN820B5TR-E
VN8201	VN820PT
VN8201	VN820PT-E
VN8201	VN820PT13TR
VN8201	VN820PTTR-E
VN8201	VN820SO
VN8201	VN820SO-E
VN8201	VN820SO13TR
VN8201	VN820SOTR-E
VN8201	VN820SP
VN8201	VN820SP-E
VN8201	VN820SP13TR
VN8201	VN820SPTR-E
VN8301	09399375
VN8301	4836731SP13TR
VN8301	4836731SPTR-E

VN8301	9399375-E
VN8301	9401404TR
VN8301	9401404TR-E
VN8301	9401631TR
VN8301	9401631TR-E
VN8301	VND830
VN8301	VND830-E
VN8301	VND83013TR
VN8301	VND830SP
VN8301	VND830SP-E
VN8301	VND830SP13TR
VN8301	VND830SPTR-E
VN8301	VND830TR-E
VN8301	VNQ830
VN8301	VNQ830-E
VN8301	VNQ83013TR
VN8301	VNQ830TR-E
VN8401	V84BD1 (V053)
VN8401	VND3NV04
VN8401	VND3NV04-1
VN8401	VND3NV04-1-E
VN8401	VND3NV04-E
VN8401	VND3NV0413TR
VN8401	VND3NV04TR-E
VN8401	VNN3NV0413TR
VN8401	VNN3NV04TR-E
VN8401	VNS3NV04
VN8401	VNS3NV04-E
VN8401	VNS3NV0413TR
VN8401	VNS3NV04D
VN8401	VNS3NV04D-E
VN8401	VNS3NV04D13TR
VN8401	VNS3NV04DTR-E
VN8401	VNS3NV04TR-E
VN8701	VND810MSP
VN8701	VND810MSP-E
VN8701	VND810MSP13TR
VN8701	VND810MSPTR-E
VN8701	VNQ810M
VN8701	VNQ810M-E
VN8701	VNQ810M13TR
VN8701	VNQ810MTR-E
VN8801	VND830MSP
VN8801	VND830MSP-E
VN8801	VND830MSP13TR
VN8801	VND830MSPTR-E
VN8801	VNQ830M
VN8801	VNQ830M-E
VN8801	VNQ830M13TR
VN8801	VNQ830MTR-E
VN9201	09395356
VN9201	0939879013TR
VN9201	9395356TR-E
VN9201	9398790TR-E
VN9201	9399333TR
VN9201	9399333TR-E
VN9201	VN920
VN9201	VN920 (012Y)
VN9201	VN920-12-E
VN9201	VN920-B5
VN9201	VN920-B513TR
VN9201	VN920-B5H13TR
VN9201	VN920-E
VN9201	VN920B5-E
VN9201	VN920B5TR-E

VN9201	VN920D4 (V029)
VN9201	VN920SO
VN9201	VN920SO-E
VN9201	VN920SO13TR
VN9201	VN920SOTR-E
VN9201	VN920SP
VN9201	VN920SP-E
VN9201	VN920SP13TR
VN9201	VN920SPTR-E
VN9201	VN92D7 (V035)
VN9201	VND920
VN9201	VND920-E
VN9201	VND92013TR
VN9201	VND920TR-E
VN9301	VND810LSP
VN9301	VND810LSP-E
VN9301	VND810LSPTR-E
VN9501	VN950SP
VN9501	VN950SP-E
VN9501	VN950SP13TR
VN9501	VN950SPTR-E
VN9601	VN750SM
VN9601	VN750SM-E
VN9601	VN750SM13TR
VN9601	VN750SMTR-E
VNA201	VNQ600A
VNA201	VNQ600A-E
VNA201	VNQ600A13TR
VNA201	VNQ600ATR-E
VNA501	VNQ05XSP16
VNA501	VNQ05XSP16-E
VNA501	VNQ05XSP1613TR
VNA501	VNQ05XSP16TR-E
VNB601	VN920D-B5
VNB601	VN920D-B513TR
VNB601	VN920DB5-E
VNB601	VN920DB5TR-E
VNB601	VN920DSO
VNB601	VN920DSO-E
VNB601	VN920DSO13TR
VNB601	VN920DSOTR-E
VNB601	VN920DSP
VNB601	VN920DSP-E
VNB601	VN920DSP13TR
VNB601	VN920DSPTR-E
VNC501	VN575SP
VNC501	VN575SP-E
VNC501	VN575SP13TR
VNC501	VN575SPTR-E
VNC601	VND830A
VNC601	VND830A-E
VNC601	VND830A13TR
VNC601	VND830AEP-E
VNC601	VND830AEPTR-E
VNC601	VND830ASP
VNC601	VND830ASP-E
VNC601	VND830ASP13TR
VNC601	VND830ASPTR-E
VNC601	VND830ATR-E
VNC601	VNQ830A
VNC601	VNQ830A-E
VNC601	VNQ830A13TR
VNC601	VNQ830ATR-E
VND101	VND830LSP
VND101	VND830LSP-E

VND101	VND830LSP13TR
VND101	VND830LSPTR-E
VND201	VN750LPT
VND201	VN750LPT-E
VND201	VN750LPT13TR
VND201	VN750LPTTR-E
VND201	VN750LS
VND201	VN750LS-E
VND201	VN750LS13TR
VND201	VN750LSTR-E
VND301	VNQ830PEP-E
VND301	VNQ830PEPTR-E
VND401	VNQ810PEP-E
VND401	VNQ810PEPTR-E
VND501	VNQ690SP
VND501	VNQ690SP-E
VND501	VNQ690SP13TR
VND501	VNQ690SPTR-E
VNE101	VND600PEP-E
VNE101	VND600PEPTR-E
VNE101	VNQ600P
VNE101	VNQ600P-E
VNE101	VNQ600P13TR
VNE101	VNQ600PTR-E
VNE201	VNQ600AP
VNE201	VNQ600AP-E
VNE201	VNQ600AP13TR
VNE201	VNQ600APTR-E
VNE301	VN920PEP-E
VNE301	VN920PEPTR-E
VNE301	VND920P
VNE301	VND920P-E
VNE301	VND920P13TR
VNE301	VND920PTR-E
VNE401	VND810P
VNE401	VND810P-E
VNE401	VND810P13TR
VNE401	VND810PEP-E
VNE401	VND810PEPTR-E
VNE401	VND810PTR-E
VNE501	VNQ810MN
VNE501	VNQ810MN-E
VNE501	VNQ810MN13TR
VNE501	VNQ810MNTR-E
VNE701	VN750PEP-E
VNE701	VN750PEPTR-E
VNE701	VN750PS
VNE701	VN750PS13TR
VNF101	VND830P
VNF101	VND830P13TR
VNF101	VND830PEP-E
VNF101	VND830PEPTR-E
VNF101	VNQ830P
VNF101	VNQ830P-E
VNF101	VNQ830P13TR
VNF101	VNQ830PTR-E
VNF201	VNQ830MN
VNF201	VNQ830MN-E
VNF201	VNQ830MN13TR
VNF201	VNQ830MNTR-E
VNF301	VNQ830LN
VNF301	VNQ830LN-E
VNF301	VNQ830LN13TR
VNF301	VNQ830LNTR-E
VNF601	VNQ500P-E

VNF601	VNQ500PEP-E
VNF601	VNQ500PEPTR-E
VNF601	VNQ500PTR-E
VNH201	VNH2SP30-E
VNH201	VNH2SP30TR-E
VNH301	VNH3SP30-E
VNH301	VNH3SP30TR-E
VNH901	VNH3ASP30-E
VNH901	VNH3ASP30TR-E
VNI201	VND830E
VNI201	VND830E-E
VNI201	VND830E13TR
VNI201	VND830ETR-E
VNI201	VNQ830E
VNI201	VNQ830E-E
VNI201	VNQ830E13TR
VNI201	VNQ830ETR-E
VNK401	VNQ661SP-E
VNK401	VNQ661SPTR-E
VNL603	VND1NV04P
VNL603	VND1NV04P-E
VNL603	VND1NV04P13TR
VNL603	VND1NV04PTR-E
VNL603	VNN1NV04P13TR
VNL603	VNN1NV04PTR-E
VNL603	VNS1NV04DP
VNL603	VNS1NV04DP-E
VNL603	VNS1NV04DP13TR
VNL603	VNS1NV04DPTR-E
VNL603	VNS1NV04P
VNL603	VNS1NV04P-E
VNL603	VNS1NV04P13TR
VNL603	VNS1NV04PTR-E
VNM703	VND830EH-E
VNM703	VND830EHTR-E
VNM703	VNQ830EH-E
VNM703	VNQ830EHTR-E
VNN103	VNHL3NV04D-E
VNN103	VNHL3NV04DTR-E
VNP803	VND3NV04T13TR
VNS203	VNN7NV04P-E
VNS203	VNN7NV04PTR-E
VNS203	VNS7NV04P-E
VNS203	VNS7NV04PTR-E
VP8B03	VNP8TD1 (V059)