



# VINETIC™-LTC128/MLT16/Smart SLIC™-T16

## Metallic Line Test Controller / Multiplexer for MELT

### VINETIC™-LTC Features

- Support of up to 8 MLT16/Smart SLIC™-T16 devices thus providing 128 channels
- Support of up to 8 channels tested in parallel
- Generation of complete test sequence
- Performance of all test signals and result calculation without external  $\mu$ C interaction
- Calculation of physical line parameters
- Firmware update via RAM downloads
- Low-power design

### MLT16/Smart SLIC™-T16 Features

- Multiplexer for 16 channels
- Integrated PWM controller for DC/DC converter
- Low-power design, meeting Code of Conduct requirements
- High-impedance state (MLT16 only), suitable for migration topologies from POTS/ISDN to all-digital loops

LantIQ's MELT family is fully compliant with the ITU-T G.996.2 (G.It) standard, "single ended line testing for digital subscriber lines (DSL)".

Support of VDSL2, ADSL2+ and SHDSL flavors from LantIQ and third-party DSL vendors (VINETIC™-LTC128/3p).

The MELT family provides revolutionary metallic line testing capabilities for all-digital loops (ADL) in next generation networks. The MELT family consists of the VINETIC™-LTC combined with the MLT16 or Smart SLIC™-T16.

This chipset replaces traditional test heads or enables line testing on DSL linecards where metallic line testing over POTS is no longer available.

### Metallic Line Testing Features

- Foreign AC and DC voltage measurements
- Measurement of line parameters representing the resistance and capacitance network
- Metallic line testing in parallel with DSL (no impact of testing or wetting on DSL transmission)
- Detection algorithm for various terminations and signatures, e.g. ETSI signature according to ETSI TR 101 728
- Fast testing time (below 30 seconds/channel), allowing on-line loop diagnostics during service calls

### Additional Features

- Wetting current capability
- Search tone (pair identification tone) generation with DC offset
- Low power design
- ITU-T K.20 (enhanced test levels) compatible without requiring additional protection elements
- MLT16/Smart SLIC™-T16 acts as mixed signal test head, while VINETIC™-LTC128 is controller and signal processor of MELT chipset

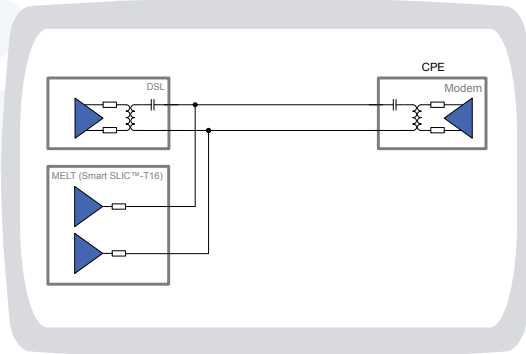
### System Package, Design and Documentation

- xDSL MELT API software package, design guide and schematics for fast hardware and software development
- Linux® 2.6 and VxWorks® 5.4 Board Support Package
- Complete system documentation including description of network parameter model, calibration techniques and accuracy specification

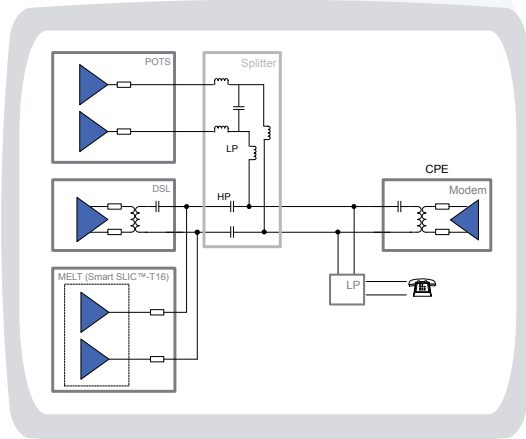
# VINETIC™-LTC128/MLT16/Smart SLIC™-T16

## Metallic Line Test Controller/Multiplexer for MELT

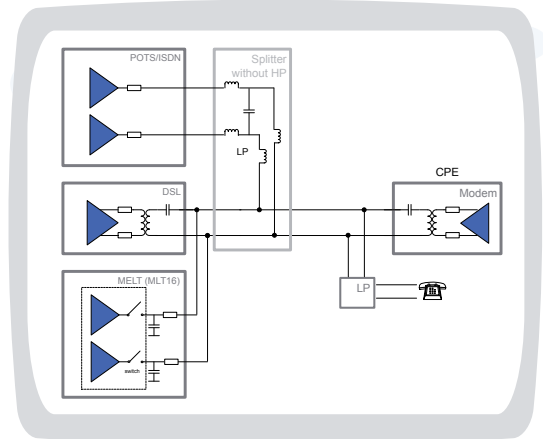
### Standard MELT Application: All-Digital Loop



### MELT Migration Scenarios to All-Digital: Passive MELT Deployments Where POTS/ISDN is Still in Active Mode



Migration Scenario 1: Smart SLIC™-T16 with high pass filter in the splitter



Migration Scenario 2: MLT16 without high pass filter in the splitter

### Product Summary

Sales Code	PEF 39000	PEF 38000
Product name	VINETIC™-LTC128	VINETIC™-LTC128/3p
Functionality	controller and digital signal processor	
Package	LQFP-100	
Granularity	up to 8 MLT16/Smart SLIC™-T16 (128 channels)	
DSL support	Lantiq DSL	third-party DSL
DSL technologies	VDSL/ADSL/SHDSL	
Smart SLIC™ interfaces	8x	
Serial Peripheral Interface (SPI), Mode 3	yes	
JTAG Interface for Boundary Scan	yes	
General Purpose Output (GPO) Interface	yes	
Supply voltage	1.5 V, 3.3 V	

Sales Code	PEF 49100	PEF 49000
Product name	MLT16	Smart SLIC™-T16
Functionality	high voltage mixed signal test head	
Package	LFBGA-119	
Granularity	16-channel multiplexer	
DSL support	Lantiq/third-party DSL	
DSL technologies	VDSL/ADSL/SHDSL	
Smart SLIC™ interfaces	yes	
Wetting current	yes	
DC/DC converter	yes	
Input voltage for DC/DC converter	15 .. 25 V	
Supply voltage	1.5 V, 3.3 V	



How to reach us: <http://www.Lantiq.com>

Published by Lantiq  
85579 Neuburg, Germany

© 2013 Lantiq. All Rights Reserved.

**Legal Disclaimer** The information given in this Product Brief shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Lantiq hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

**Information** For further information on technology, delivery terms and conditions and prices, please contact the nearest Lantiq Office ([www.Lantiq.com](http://www.Lantiq.com)).

**Warnings** Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Lantiq Office. Lantiq components may be used in life-support devices or systems only with the express written approval of Lantiq, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

Order Number: PB-e-0050-v2