

## Product Brief IEC4-T

### PEB 24902/01

ISDN Echocancellation Circuit  
4-Channel for 4B3T Line Code



The ISDN 4B3T Echocancellation Circuit 4-channel (IEC4-T) is an optimized chipset featuring 4 times ISDN basic rate access. It consists of the analog frontend PEB 24902 and the digital frontend PEB 24901. This chipset fulfills all relevant standards.

Auxiliary functions like relay drivers and status inputs are provided. An IOM<sup>®</sup>-2 interface is used to provide data and control access to the PEB 24901 thus easing the PCB layout. The IEC4-T chipset is pin compatible to the IEC4-Q chipset. A sophisti-

cated power management system allows to reduce the application's power consumption to a minimum. Siemens Semiconductor offers also a broad range of other telecom ICs making it easy to integrate the IEC4-T into a complete system solution.

#### Potential Applications

- Central office digital linecards
- Access networks linecards

#### Features

- Two chip solution featuring 4 channel full duplex data transmission and reception over two-wire metallic subscriber loops providing ISDN basic rate access at 144 kbit/s
- Fully compliant to:
  - FTZ guideline 1TR 220
  - ETSI ETR 080 (1996)
  - Recommendation ITU-T G.961
- 4B3T block code at 120 kHz symbol rate
- LT mode for linecards

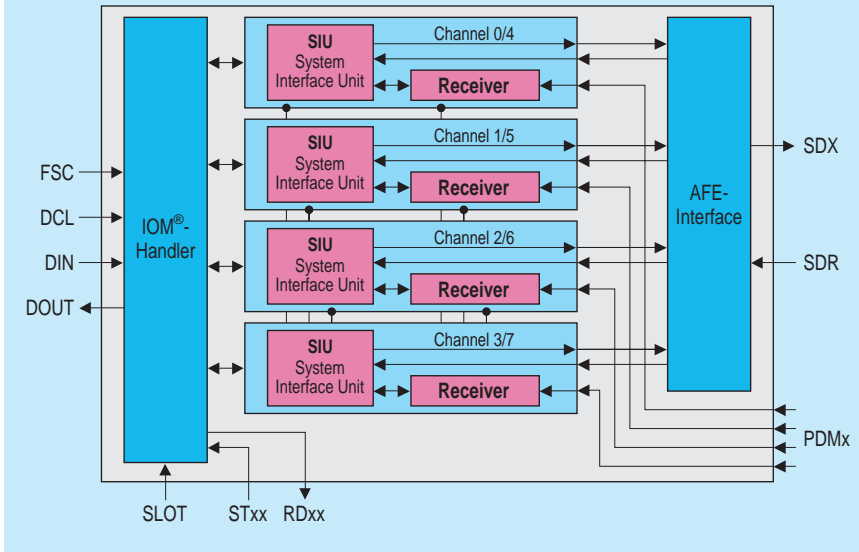
- Low power consumption
- IOM<sup>®</sup>-2 interface for stand alone mode featuring different clock speeds
- 1 kbit/s maintenance channel
- Integrated wake-up unit
- Monitoring of transmission errors
- Maximum loop length:
  - 4.2 km with 0.4 mm wire
  - 8.0 km with 0.6 mm wire
- Absorption of up to 18  $\mu$ s peak to peak phase jitter
- Switching of analog testloops
- Activation and deactivation
- Masterclock generation by PLL
- Automatic polarity adaption
- Automatic gain control

- Adaptive echocancellation
- Adaptive equalization
- 4 drivers per channel to switch relays or a power controller
- 2 status inputs per channel
- Extended temperature range available
- JTAG boundary scan
- P-MQFP-64 package
- Part of the Siemens Semiconductor group system solution

#### Documentation and Support Package

- Data Sheets
- Application Note
- SMART 2000 based demonstration board system

# DFE-T Block Diagram



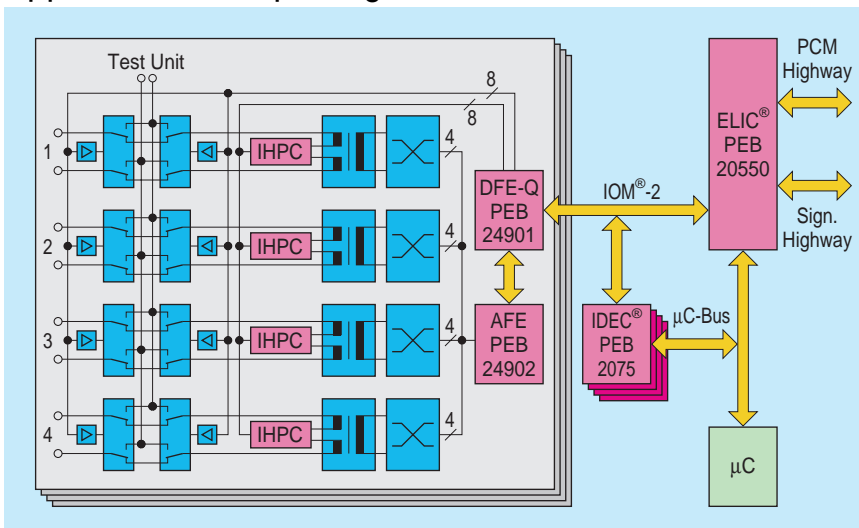
## Ordering Information

Sales Code	Package	Ordering Code	Availability
PEB 24902 H V2.1	P-MQFP-64	Q67101-H6849	Production
PEF 24902 H V2.1	P-MQFP-64	Q67101-H6850	Production
PEB 24901 H V1.2	P-MQFP-64	Q67233-H1067	Production
PEF 24901 H V1.2	P-MQFP-64	Q67233-H1068	Production

## Tools and Documentation

Name	Ordering Code	Status
Data Sheet PEB 24902 V1.1		05.96
Delta Sheet PEB 24902 V1.2		06.97
Delta Sheet PEB 24902 V2.1		09.98
Data Sheet PEB 24901 V1.1		02.95
Delta Sheet PEB 24901 V1.2		06.96
Application note "Digital Linecard"		03.96
SMART 24901 demoboard	Q67230-H1091	Development

## Application Example Digital Linecard



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