

OctalFALC™

Eight-channel E1/T1/J1 Framer and
LIU PEF 22558 E



The OctalFALC™ is the latest addition to Infineon's market-leading FALC® family of sophisticated E1/T1/J1 transceivers. As an eight port E1/T1/J1 framer and Line Interface Unit (LIU), the OctalFALC is optimized for all kinds of network equipment including Radio Network Controllers, Node B line cards, and PBX or SDH/SONET add/drop multiplexers.

The OctalFALC features a unique clock generation unit that accepts any reference clock between 1.02 and 20 MHz, as well as a very compact 17 x 17 mm PG-LBGA-256 package.

Using the industry-leading OctalFALC reference design support tools, system developers can shorten design cycles while creating a wide range of highly flexible, low BOM E1/T1/J1 line cards.

The OctalFALC is highly suited for wireless networks, as well as ISDN PRI, LAN/WAN and Internet access networks.

Applications

- Wireless Base Stations
- Routers
- Multi-service Access Platforms
- Digital Loop Carriers
- Remote access servers/concentrators
- SONET/SDH Add/Drop Multiplexers

Analog Line Interfaces

- Eight independent E1/T1/J1 long haul / short haul LIUs
- Software programmable T1/E1/J1
- Integrated analog switch for impedance matching or protection switching
- Crystal-less wander and jitter attenuation/compensation according to:
 - TR 62411
 - ETS-TBR 12/13
- Clock generation unit accepts any reference clock from 1.02 MHz to 20 MHz
- Programmable transmit pulse shape for flexible pulse generation
- Receiver sensitivity values exceed -36 dB at 772 kHz, or -43 dB at 1024 kHz

Frame Aligners

- ITU-T G.704 frame alignment/ synthesis for 2048/1544 kbit/s
- Programmable frame formats include:
 - E1 - double and CRC4 multi-frame
 - T1 - F4, F12 (D4) ext. super frame (ESF), F72 (SLC96)
- Detects and generates LOS, AIS and RAI alarms
- CRC-4 performance monitoring
- PRBS generation and monitoring
- Scalable system bus data rate from 1.544 MHz up to 16 MHz

HDLC Controllers

- 24 HDLC controllers (three per channel) including 128-byte FIFO buffers
- CAS controller with microprocessor or system interface serial access
- Supports signaling system #7
- ANSI T1.403 bit-oriented messages (BOM), generates periodical performance reports

General Features

- QuadFALC® compatibility mode
- Meets Japanese standards including JT G.703, 704, 706, I.431
- Intel® or Motorola® type 8/16-bit microcontroller interface
- Serial SPI bus and serial SCI bus
- Low power (150 mW per channel)
- Dual voltage 1.8 V/3.3 V power supply
- 17 x 17 mm PG-LBGA-256 package with 1.0 mm ball pitch
- Operating range from -40°C to 85°C

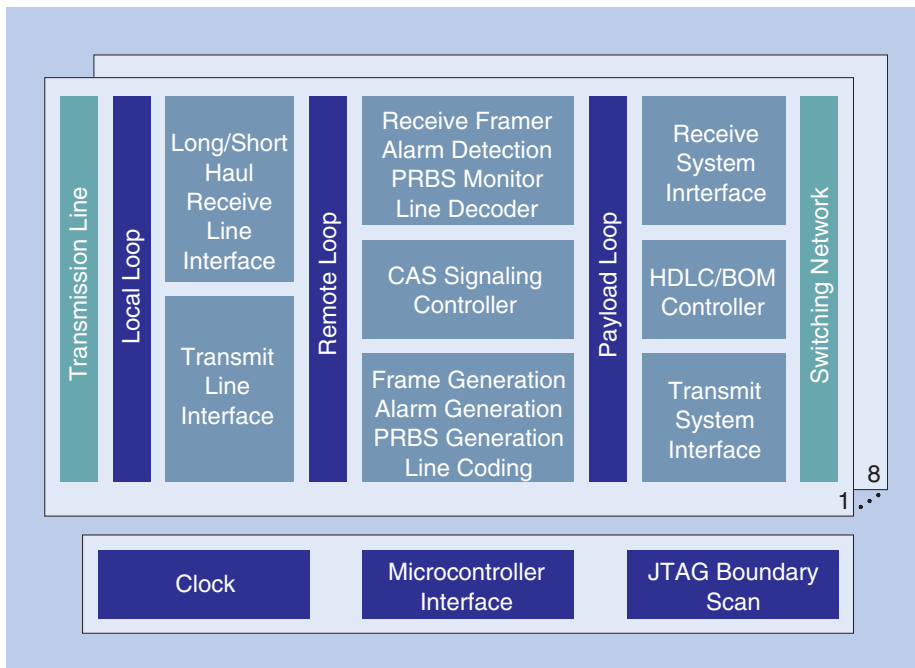
www.infineon.com/falc

Wireline Communications



Never stop thinking.

Block Diagram OctalFALC



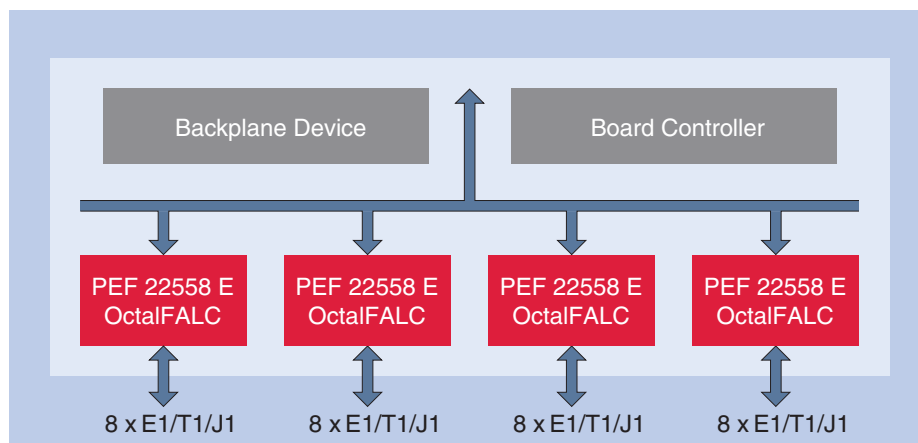
Ordering Information

OctalFALC IC

Product Sales Code	Description	Package
PEF 22558 E	OctalFALC eight-channel E1/T1/J1 Framer and Line Interface Unit	PG-LBGA-256

OctalFALC Reference Design System

Product Sales Code	Description	Package
EASY 22558	OctalFALC reference design system	One board, software, and documentation



Application Example 32-channel E1/T1/J1 Line Card with OctalFALC

How to reach us:

<http://www.infineon.com>

Published by
Infineon Technologies AG
St.-Martin-Strasse 53
81669 München

© Infineon Technologies AG 2004.
All Rights Reserved.

Template: pb_tmplt.fm/4

Attention please!

The information herein is given to describe certain components and shall not be considered as a guarantee of characteristics. Terms of delivery and rights to technical change reserved. We hereby disclaim any and all warranties, including but not limited to warranties of non-infringement, regarding circuits, descriptions and charts stated herein.

Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office.

Warnings

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, 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.