



ICs for Communications

Framing and Line Interface Component for PCM 30 and PCM 24
FALC54

PEB 2254

Addendum / Corrections 10.97 to the Data Sheet 11.96

DS 1

| | | |
|-------------------------------|------------------------------|--|
| PEB 2254 | | |
| Revision History: | | 10.97 |
| Previous Version: | | None |
| Page (in previous Version) | Page (in current Version) | Subjects (major changes since last revision) |
| | | |
| | | |

Edition 10.97

This edition was realized using the software system FrameMaker®.

**Published by Siemens AG,
HL TS,
Balanstraße 73,
81541 München**

© Siemens AG 1997.
All Rights Reserved.

Attention please!

As far as patents or other rights of third parties are concerned, liability is only assumed for components, not for applications, processes and circuits implemented within components or assemblies.

The information describes the type of component and shall not be considered as assured characteristics.

Terms of delivery and rights to change design reserved.

For questions on technology, delivery and prices please contact the Semiconductor Group Offices in Germany or the Siemens Companies and Representatives worldwide (see address list).

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Siemens Office, Semiconductor Group.

Siemens AG is an approved CECC manufacturer.

Packing

Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales office. By agreement we will take packing material back, if it is sorted. You must bear the costs of transport.

For packing material that is returned to us unsorted or which we are not obliged to accept, we shall have to invoice you for any costs incurred.

Components used in life-support devices or systems must be expressly authorized for such purpose!

Critical components¹ of the Semiconductor Group of Siemens AG, may only be used in life-support devices or systems² with the express written approval of the Semiconductor Group of Siemens AG.

- 1 A critical component is a component used in a life-support device or system whose failure can reasonably be expected to cause the failure of that life-support device or system, or to affect its safety or effectiveness of that device or system.
- 2 Life support devices or systems are intended (a) to be implanted in the human body, or (b) to support and/or maintain and sustain human life. If they fail, it is reasonable to assume that the health of the user may be endangered.

Addendum / Corrections 10.97 to the Data Sheet 11.96

Background to the Corruption of Received Data in the Digital Line Interface Mode

The following application information is provided to assist designers using the FALC54 family of parts.

This bulletin deals with external components connected to pin 3, REFR. Several customers have observed "Corruption of Received Data in Digital Line Interface Mode" as described in Errata Sheets V1.2 and V1.3.

As a result of the analysis of this problem the data corruption is eliminated by inclusion of a small capacitor connected to pin #3. Other benefits accrue from the addition of this external component as well.

Recommendations

Inclusion of the capacitor at pin 3 is optional for existing designs using FALC54 V1.2, V1.3, V1.3R and V1.4 with analog inputs.

Siemens recommends inclusion of the capacitor at pin #3 for all existing V1.2, V1.3, V1.3R and V1.4 designs which use the dual rail or optical interface.

Siemens recommends inclusion of the capacitor at pin #3 for all new FALC54 designs, regardless of input mode, because of the benefits described below.

Implementation details

FALC54 V1.2, V1.3, V1.3R and V1.4

Please refer to pin #3, RFER, described on pages 13 and 152 of the Data Sheet 11.96.

1. In addition to the resistor, a capacitor should be connected as close as practical to pin #3 of the FALC54. The other ends of these components should be connected to Vssr, the analog ground, using short connections.
2. The capacitor should have a value between 680 and 5000 picofarads, inclusive.
3. This resistor controls a reference voltage used in the analog circuitry of the FALC54.
4. The capacitor filters the reference voltage which reduces the level sensitivity of the analog transmit signals to variations of Vdd.
5. The capacitor improves the input jitter tolerance of the FALC54.
6. The capacitor filters noise at the digital or optical inputs, pins 2 and 4. This condition is listed as "Corruption of Received Data in Digital Line Interface Mode" in errata sheets V1.2 and V1.3.