Z86129/130/131

NTSC LINE 21 DECODER

FEATURES

Devices	Speed (MHz)	Pin Count/ Package Types	Standard Temp. Range	On-Screen Display & Closed Captioning	Automatic Data Extraction V-Chip	Time of Day
Z86129	12	18-Pin DIP, SOIC	0° to +70°C	Yes	Yes	Yes
Z86130	12	18-Pin DIP, SOIC	0° to +70°C	No	Yes	Yes
Z86131	12	18-Pin DIP, SOIC	0° to +70°C	No	No	Yes

- Complete Stand-Alone Line 21 Decoder for Closed-Captions and Extended Data Services (XDS).
- Preprogrammed to Provide Full Compliance with EIA-608 Specifications for Extended Data Services.
- Automatic Extraction and Serial Output of Special XDS Packets such as Time of Day, Local Time Zone, and Program Rating (**V-Chip**).
- Cost-Effective Solution for NTSC Violence Blocking inside Picture-in-Picture (PiP) Windows.
- Minimal Communications and Control Overhead Provides Simple Implementation of Violence Block, Closed Caption, and Auto Clock Set Features.
- Programmable, Full Screen On-Screen Display (OSD) for Creating OSD or Captions inside a Picture-in-Picture (PiP) Window (Z86129 only).
- I^2C Serial Data and Control Communication
- User-Programmable Horizontal Display Position for easy OSD Centering and Adjustment (Z86129 only).

GENERAL DESCRIPTION

The Z86129/130/131 is a stand-alone integrated circuit, capable of processing Vertical Blanking Interval (VBI) data from both fields of the video frame in data conforming to the transmission format defined in the Television Decoder Circuits Act of 1990 and in accordance with the Electronics Industry Association specification 608 (EIA-608).

The Line 21 data stream can consist of data from several data channels multiplexed together. Field 1 has four data channels, two Captions and two Text. Field 2 has five additional data channels, two Captions, two Text and Extended Data Services (XDS). XDS data structure is defined in EIA-608. The Z86129 can recover and display data transmitted on any of these nine data channels. The Z86130 and Z86131 are derivatives of the Z86129 which can recover XDS data and output the recovered data via the serial port. The Z86130 and Z86131 do not have OSD capability, but are ideally suited for Line 21 data slicer applications.

The Z86129/130/131 can recover and output to a host processor via the I^2C serial bus any XDS data packet defined in EIA-608. On-chip XDS filters are fully programmable, enabling recovery of only those XDS data packets selected by the user, making the Z86129/130 an ideal choice for implementing NTSC Violence Block. The Z86131 is designed especially for extracting XDS time information for Automatic Clock-Set features in TVs, VCRs, and Set-Top boxes.

In addition, the Z86129/130 is ideally suited to monitor Line 21 of video displayed in a PiP window for violence blocking purposes. A block diagram of the Z86129/130/131 is shown in Figure 1.

GENERAL DESCRIPTION (Continued)

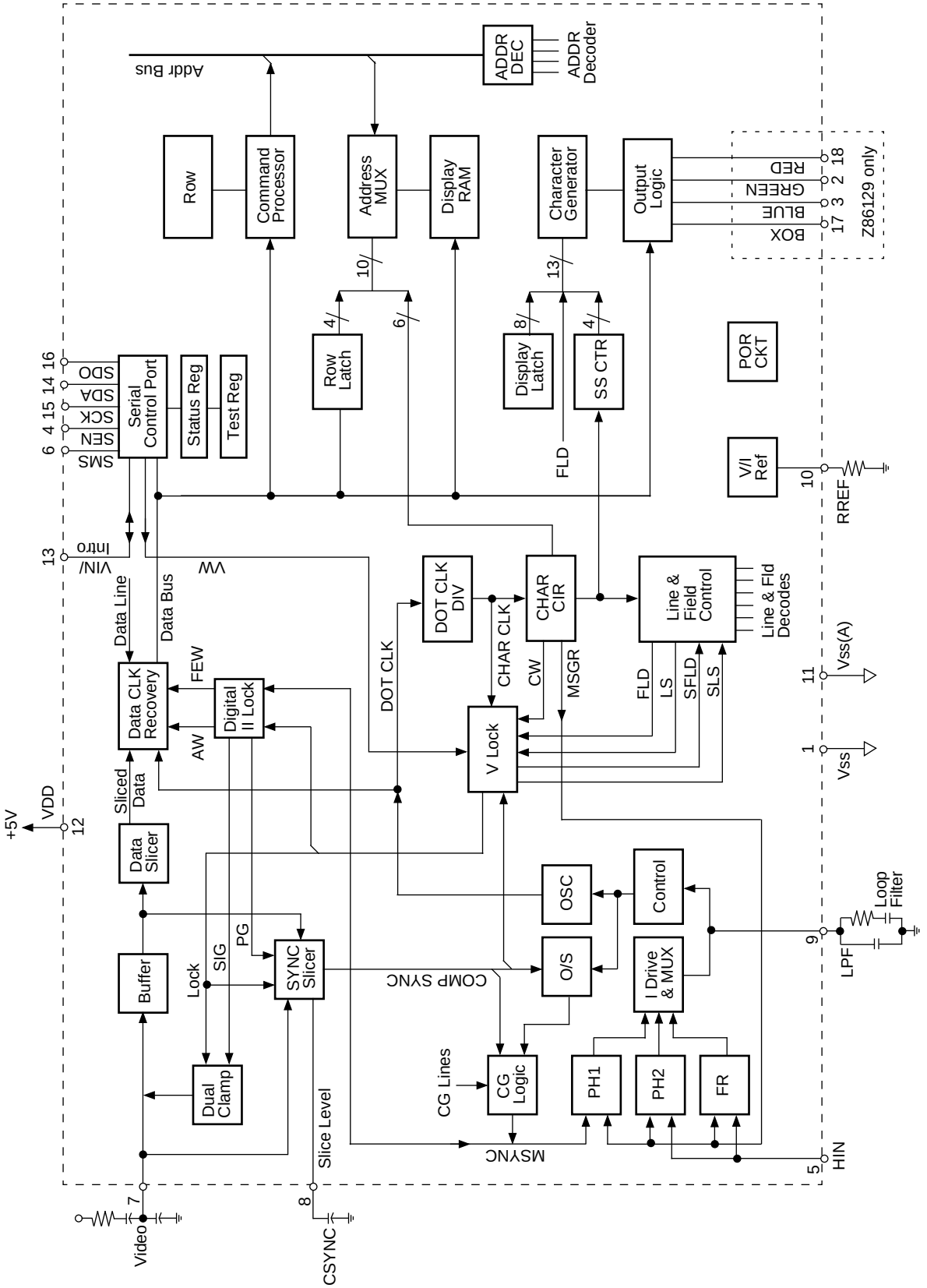

Figure 1. Z86129 Block Diagram