DELPHI

MICROELECTRONICS

# Delphi Keyboard Display Driver

## Description

The Delphi Keyboard Display Driver (KDD) is a custom IC which is capable of driving a Vacuum Fluorescent display of up to 17 segments. Three grid outputs are provided to support both duplex- and triplex-mode VF tubes. A scanning keyboard decoder allows detection of both pushbutton and rotary encoder activations. Currently two rotary encoders and 16 pushbutton switches can be accommodated. For the rotary encoders, both the direction and the amount of rotation are provided. Segment display information and keyboard switch activations are communicated to an external processor via a bi-directional low-speed serial port. An on-chip oscillator generates the necessary timing to perform full range digital dimming of the display. A default display is used to alert the user in the event of port communication loss.

## Features

- Serial microcontroller interface
- Supports duplex or triplex Vacuum Fluorescent displays with up to 17 segments
- Full range display dimming
- Keyboard decoding for 3 rotary encoders and 16 pushbutton switches
- Internal oscillator and voltage regulator

## Packaging

- Available in a 42-pin molded SDIP with 0.070" lead pitch
- A third rotary encoder can be supported if a 44-pin package is utilized

## Typical Applications

- Air Controls
- Audio

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| Recommended Operating Conditions | | | |
|---|---|---|---|
| **Characteristics** | **Symbol** | **Value** | **Unit** |
| Supply Voltage | Vignp | 8.0 to 16 | V |
| Operating Temp. Range, Ambient | Ta | -40 to +85 | °C |

| Absolute Maximum Ratings | | | |
|---|---|---|---|
| **Characteristic** | **Symbol** | **Value** | **Unit** |
| Supply Voltage | Vignp | -0.6 to +28.0 | V |
| Input Voltage | Vin | -0.3 to +9.0 | V |
| Storage Temp. Range | Tstg | -65 to +150 | °C |
| Max. Junction Temp. | | +150 | °C |

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