CMX865A

DTMF / FSK Combo IC

DTMF Codec and FSK Modem Signalling Device

Introduction

Dual Tone Multi Frequency (DTMF) signalling is fundamental to telephone line connectivity and interconnect. The CMX865A provides a unique combination of an industrial standard DTMF encoder/decoder combined with a multi-standard FSK modem.

This configuration enables basic call setup and call progress functionality followed by data signalling for remote control, status notification and data acquisition in a wide variety of applications.
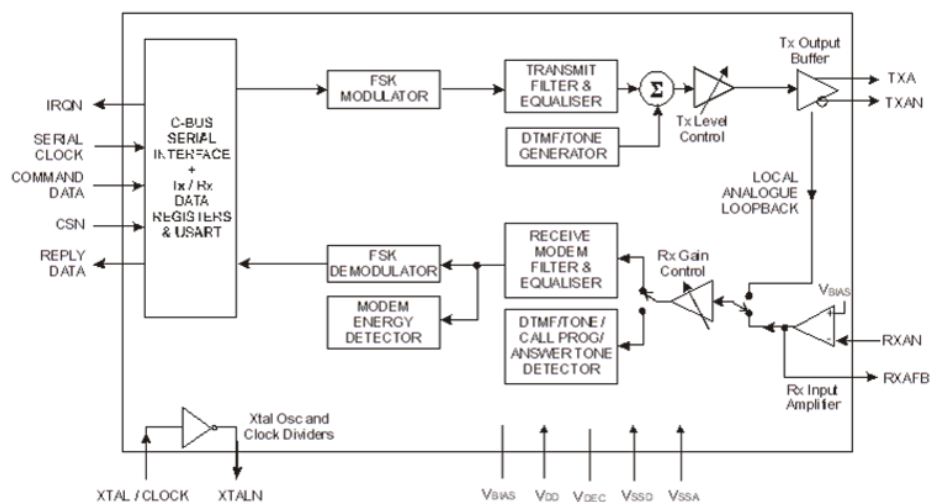
Applications

- Wireless local loop
- Wireless data terminals
- Security systems
- Lift communications
- Alarm panels
- Call blockers
- SMS phones
- PABX/PBX
- Feature phones
- Industrial control
- General DTMF signalling
- Remote meter reading
- Repeater systems
- POS terminals

Brief Description

The CMX865A combines a high performance DTMF encoder/decoder with a V.23/V.21/Bell 103/Bell 202 FSK modem, in a single IC.

The high-quality DTMF decoder has excellent immunity to falsing on voice and includes a standard DTMF encoder. Alternatively, these blocks can be used to transmit and detect user-specific, programmed single and dual-tone signals, simple melodies, call progress signals or modem calling and answering tones. The multi-standard telephone line modem is ideally suited to telephone-based information and telemetry systems. A flexible line driver, hybrid and receiver circuits are integrated on chip, requiring only passive external components to build a 2- or 4-wire line interface. Host control and data transfer is via a serial bus that operates in normal and Powersave modes and is compatible with most types of µC serial interface. An embedded USART allows multi-format asynchronous data and unformatted synchronous data to be received or transmitted as 8-bit bytes. The CMX865A operates from a single 3.0V to 3.6V supply over a temperature range of -40°C to +85°C and is available in 16-pin SOIC (D4) and 16-pin TSSOP (E4) packages.
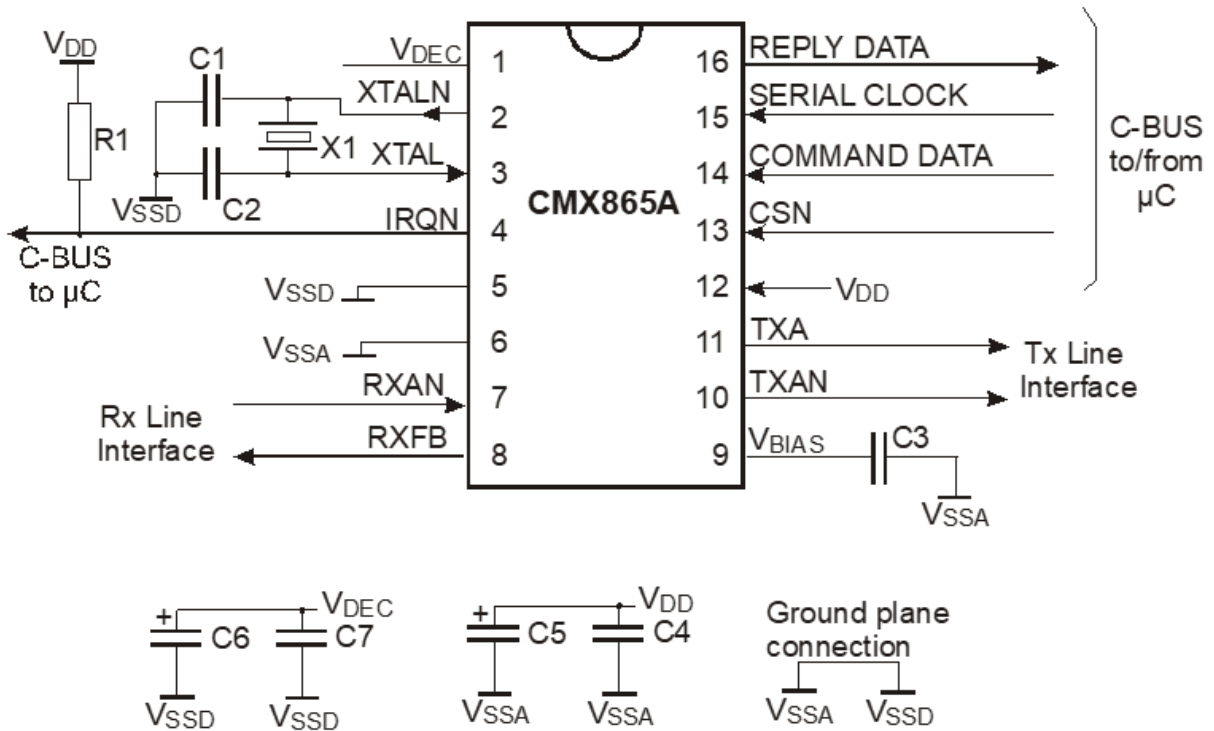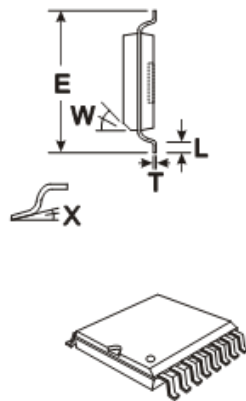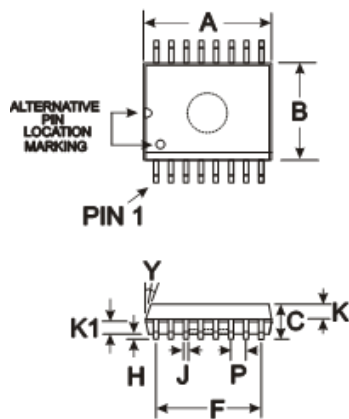
Functional Block Diagram

CMX865A Features

- High Performance DTMF Encoder/Decoder
- Low Voice falsing
- User-programmable tones
- Multi-standard modem
  - V.23 1200/75, 1200/1200, 75, 1200 bps FSK
  - Bell 202 1200/150, 1200/1200, 150, 1200 bps FSK
  - V.21 or Bell 103 300/300 bps FSK
- Call progress tone detection
- Modem calling/answer tones
- Serial bus interface to host
- Low power 3.0V - 3.6V operation
- Embedded USART
- Multi-formatted asynchronous data transfer
- Unformatted synchronous data transfer

CMX865A Pin-out

CMX865A Packages

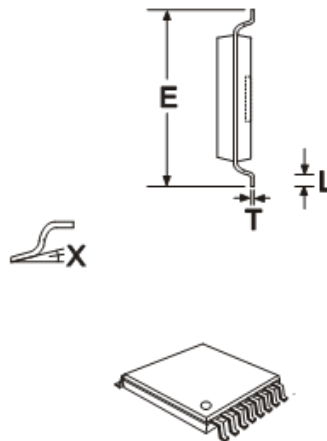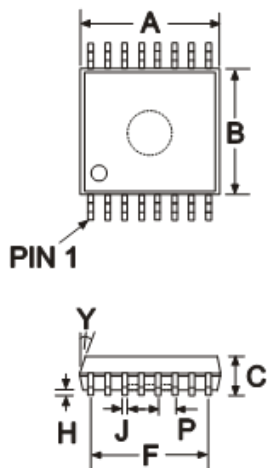| DIM.	MIN.	TYP.	MAX.
* A	0.395 (10.03)		0.413 (10.49)
* B	0.286 (7.26)		0.299 (7.59)
C	0.088 (2.24)		0.105 (2.67)
E	0.390 (9.90)		0.419 (10.64)
F		0.350 (8.89)	
H	0.003 (0.08)		0.020 (0.51)
J	0.013 (0.33)		0.020 (0.51)
K		0.041 (1.04)	
K1		0.041 (1.04)	
L	0.016 (0.41)		0.050 (1.27)
P		0.050 (1.27)	
T	0.009 (0.23)		0.0125 (0.32)
W		45°	
X	0°		10°
Y		7°	

NOTE :

* A & B are reference datum's and do not include mold deflash or protrusions.

All dimensions in inches (mm.)
Angles are in degrees
Co-Planarity of leads within 0.004" (0.1mm)

16-pin SOIC (D4) Mechanical Outline: *Order as part no. CMX865AD4*

DIM.	MIN.	TYP.	MAX.
* A	4.90		5.10
* B	4.30		4.50
C	--------		1.20
E	6.20		6.60
F		4.55	
H	0.05		0.15
J	0.17		0.30
L	0.45		0.75
P		0.65	
T	0.08		0.20
X	0°		8°
Y		12°	

NOTE :

* A & B are reference data and do not include mold deflash or protrusions.

All dimensions in mm
Angles are in degrees

16-pin TSSOP (E4) Mechanical Outline: *Order as part no. CMX865AE4*

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