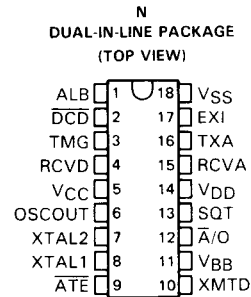## PRODUCT SUMMARY

This data is excerpted from the *TMS99532A/TMS99534A Modem Products Data Manual*
Copyright 1984, Literature Code: SPPS004.

- Compatible with Bell Standard 103
- On-Chip Filtering, Modulation, and Demodulation
- Simplex, Half-Duplex, and Full-Duplex Capability
- Originate and Answer Modes
- Data Rates from 0 to 300 Bits per Second
- Adjustable Carrier Detect Timing
- On-Chip Crystal-Controlled Oscillator
- Analog Loopback Test Mode
- Automatically Disables Bell-Echo Suppressor
- TTL-Compatible Digital Interface
- N-Channel Silicon Gate Process
- Switched-Capacitor Technology

```
                  N
        DUAL-IN-LINE PACKAGE
            (TOP VIEW)

     ALB  [ 1   U  18 ]  VSS
     DCD  [ 2      17 ]  EXI
     TMG  [ 3      16 ]  TXA
    RCVD  [ 4      15 ]  RCVA
     VCC  [ 5      14 ]  VDD
  OSCOUT  [ 6      13 ]  SQT
   XTAL2  [ 7      12 ]  A/O
   XTAL1  [ 8      11 ]  VBB
     ATE  [ 9      10 ]  XMTD
```

description

The TMS99532A frequency-shift-keyed (FSK) modem is a telecommunication device that transmits and receives binary serial data over the U.S. public switched telephone network using frequency-shift-keyed modulation. The TMS99532A is compatible with the Bell 103 Series data sets and will communicate at up to 300 bits per second. It provides all the necessary modulation, demodulation, and filtering required to implement a serial asynchronous communication link. It is designed for users who are not experts in the telecommunications field. This device is an easily implemented cost-effective alternative to standard discrete modem design. Large-scale integration NMOS technology provides the advantages of small size, low power, and increased reliability. The TMS99532A modem design assures compatibility with a broad installed base of low-speed modems and acoustic couplers. Applications include interactive terminals, desk-top computers, point-of-sale (POS) terminals and credit-verification systems.

The TMS99532A is characterized for operation from 0 °C to 70 °C.

2 Telecommunications Circuits

TEXAS INSTRUMENTS
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PIN		I/O	DESCRIPTION
NAME	NO.		
ALB	1	I	Analog Loopback input. When high, data on the XMTD input will appear on the RCVD output.
ATE	9	I	When low, the CCITT V.25 answer tone (2100 Hz) is enabled and RCVD is in a high-impedance state.
A/O	12	I	Answer/Originate input. When high, the originate mode is selected. When low, the answer mode is selected.
DCD	2	O	Data Carrier Detect output. When low, a valid carrier signal is being detected by the TMS99532A.
EXI	17	I	External input. Any external analog signal to be transmitted is connected to the EXI input. A coupling capacitor is required.
OSCOUT	6	O	Oscillator output. The master clock output frequency is 4.032 MHz.
RCVA	15	I	Received analog carrier signal from the telephone network. A coupling capacitor is required.
RCVD	4	O	Received Digital output. When the ATE input is low, RCVD goes to a high-impedance state.
SQT	13	I	Squelch transmitter input. When high, some signals at the TXA output are disabled.
TMG	3		This pin is used to set the carrier detect turn-on and turn-off times.
TXA	16	O	Transmitted Analog output. Transmitted analog carrier output to the telephone network. A coupling capacitor is required.
V_BB	11		Supply voltage, −5 volts nominal
V_CC	5		Supply voltage, 5 volts nominal
V_DD	14		Supply voltage, 12 volts nominal
V_SS	18		Ground
XMTD	10	I	Transmitted Digital input. Serial data input line
XTAL1	8	I	Crystal connection for internal oscillator. Can be used for optional external clock input.
XTAL2	7		Crystal connection for internal oscillator

functional block diagram

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