HD81904 —HITACHI/ (LINEAR DEVICES) 68E D — **Preliminary**

V.29, V.27ter Single Chip MODEM with DTMF Receiver

The HD81904 is a CMOS single chip MODEM LSI for G3FAX with answerphone and pin compatible with HD81900.

This LSI is equal to the HD81900 except having ADPCM function, can give outputs at 14.4 kbps bit rate in maximum recording mode.

And this LSI, built in DTMF receiver function, can construct a system of G3FAX with answerphone easily.

Features

- Applicable to GroupIII facsimile
- CCITT V.29, V.27ter, V.21, T.30A, T.4
- V.21 Flag Detection function
- Full-Duplex (4-wire)/Half-Duplex (2-wire)
- TX/RX Filter
- Tone Generation/detection
  (Arbitrary frequency can be concurrently detected)
- DTMF Generation
- DTMF Receiver
- Transmit output level (0 dBm to –31 dBm)
- Selectable receiver sensitivity
- Equalization
  — Automatic adaptive
  — Compromise cable (selectable)
- DTE interface
  — Parallel
  — Serial (V.24)
- I/O ports for NCU control (3 inputs, 3 outputs)
- Loop test (V.54)
- EYE pattern generation signal
- Low power consumption (350 mW, typical)
- +5 V single power supply
- HD81900 pin compatible
- Package
  — 64 pin plastic shrink DIP (DP-64P)
  — 80 pin QFP (FP-80B)
  — 68 pin PLCC (CP-68)

Function

- CCITT (Data trasfer speed)
  — V.29:   9600/2400/1200 bps
  — V.27 ter: 4800/2400 bps
  — V.21:   300 bps
- DTMF transmission/detection
- Transmission and detection each tone
  — 400 Hz detection
  — Detection of DTMF and tone simultaneously
  — Detection of DTMF and CNG signal simultaneously
  — Detection of DTMF signal during talking
  — Detection of CED signal during talking
- ADPCM mode support

Mode	Sampling Frequency	Digit bit	Bit rate
Mode 1	9.6 kHz	PCM 8 bit	76.8 kbps
Mode 2	4.8 kHz	PCM 4 bit	38.4 kbps
Mode 3	9.6 kHz	ADPCM 4 bit	38.4 kbps
Mode 4	9.6 kHz	ADPCM 3 bit	28.8 kbps
Mode 5	4.8 kHz	ADPCM 4 bit	19.2 kbps
Mode 6	4.8 kHz	ADPCM 3 bit	14.4 kbps

Ordering Information

Type No.	Package
HD81904PS	DP-64S
HD81904CPS	CP-68
HD81904FS	FP-80B