AM24LC21

Dual Mode, 1K-bits (128 x 8)
2-Wire Serial EEPROM

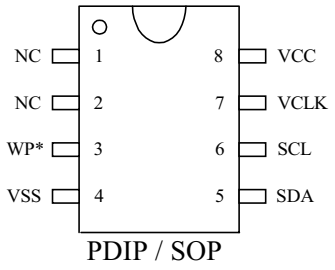
(Preliminary)

Analog Technology, Inc.

■ Features

- Single supply with operation down to 2.5V
- Completely implements DDC1/DDC2 interface for monitor identification, including recovery to DDC1
- Low power CMOS technology
- 1 mA typical active current
- 10 mA standby current typical at 5.5V
- 2-wire serial interface bus, I2CÔ compatible
- 100 kHz (2.5V) and 400 kHz (5V) compatibility
- Self-timed write cycle (including auto-erase)
- Hardware write-protect pin
- Page-write buffer for up to eight bytes
- 1,000,000 erase/write cycles guaranteed
- Data retention > 200 years
- ESD Protection > 4000V
- 8-pin PDIP and SOIC package
- Available for extended temperature ranges
- Commercial (C): 0°C to +70°C
- Industrial (I): -40°C to +70°C

■ Connection Diagram



PDIP / SOP

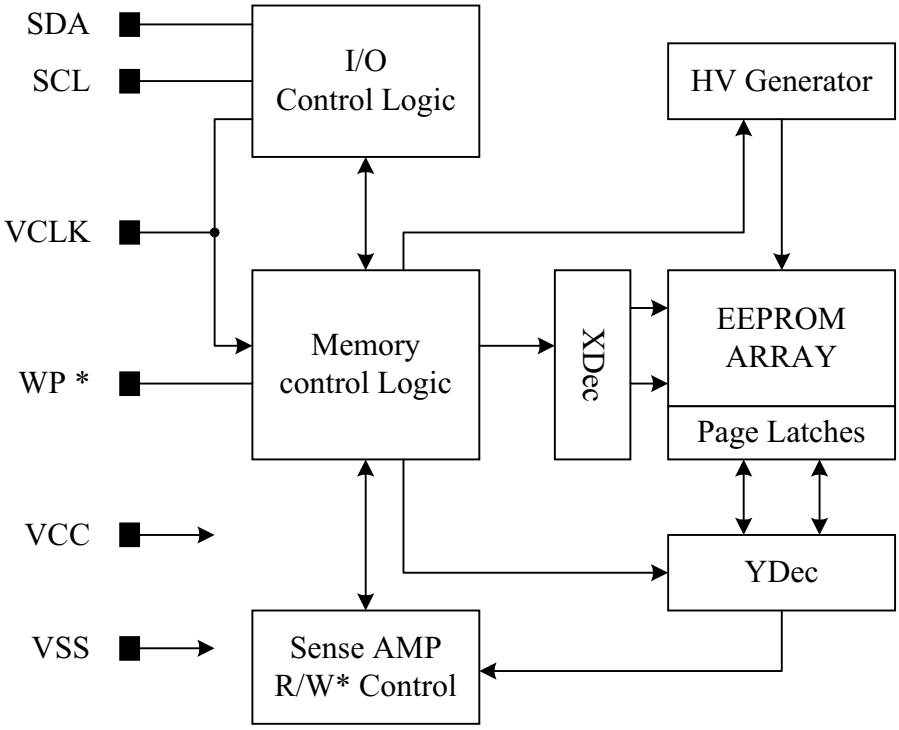
■ General Descriptions

The Microchip Technology Inc. 24LCS21A is a 128 x 8-bit dual-mode Electrically Erasable PROM. This device is designed for use in applications requiring storage and serial transmission of configuration and control information. Two modes of operation have been implemented: Transmit-Only Mode and Bi-directional Mode. Upon power-up, the device will be in the Transmit-Only Mode, sending a serial bit stream of the memory array from 00h to 7Fh, clocked by the VCLK pin. A valid high to low transition on the SCL pin will cause the device to enter the transition mode, and look for a valid control byte on the I2C bus. If it detects a valid control byte from the master, it will switch into Bi-directional Mode, with byte selectable read/write capability of the memory array using SCL. If no control byte is received, the device will revert to the Transmit-Only Mode after it receives 128 consecutive VCLK pulses while the SCL pin is idle. The 24LCS21A also enables the user to write-protect the entire memory array using its write-protect pin. The 24LCS21A is available in a standard 8-pin PDIP and SOIC package in both commercial and industrial temperature ranges.

■ Pin Assignments

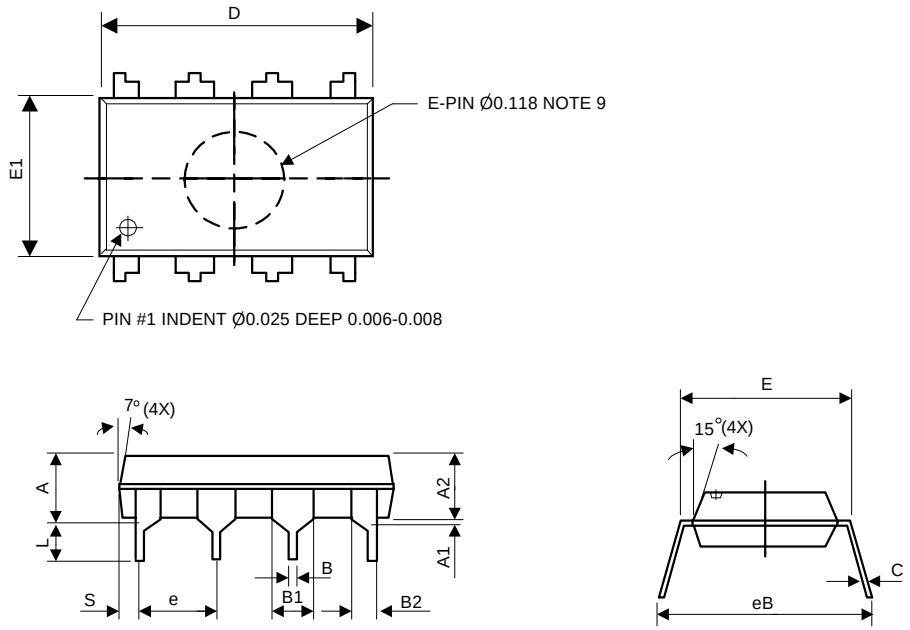
Name	Description
NC	No Connection
VSS	Ground
SDA	Data I/O
SCL	Clock input
WP*	Write Protect (Active Low)
VCC	Power Supply

■ Block Diagram



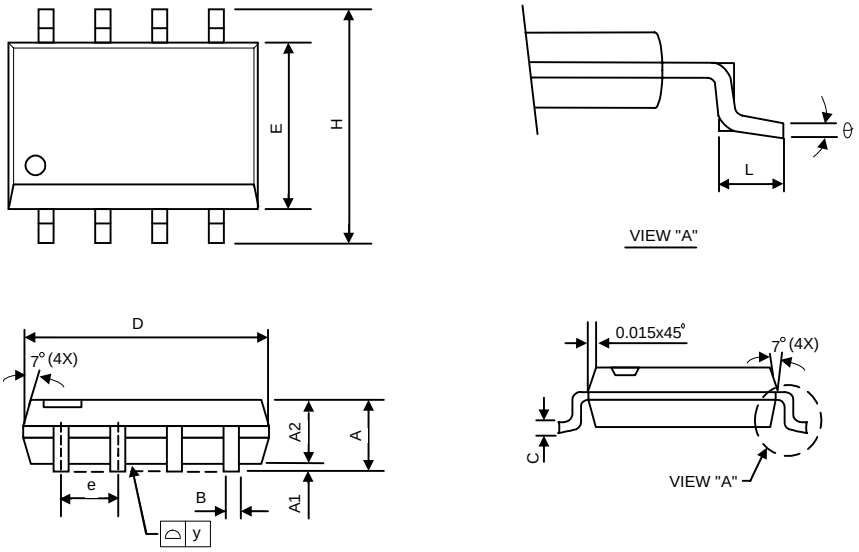
■ Package Diagrams

(1). Plastic Dual-in-line Package (PDIP-8L)



SYMBOLS	DIMENSIONS IN MILLIMETERS			DIMENSIONS IN INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	—	—	5.33	—	—	0.210
A1	0.38	—	—	0.015	—	—
A2	3.25	3.30	3.45	0.128	0.130	0.136
B	0.36	0.46	0.56	0.014	0.018	0.022
B1	1.14	1.27	1.52	0.045	0.050	0.060
B2	0.18	0.99	1.17	0.032	0.039	0.046
C	0.20	0.25	0.33	0.008	0.010	0.013
D	9.12	9.30	9.53	0.359	0.366	0.375
E	7.62	—	8.26	0.300	—	0.325
E1	6.20	6.35	6.60	0.244	0.250	0.260
e	—	2.54	—	—	0.100	—
L	3.18	—	—	0.125	—	—
eB	8.38	—	9.40	0.330	—	0.370
S	0.71	0.84	0.97	0.028	0.033	0.038

(2). JEDEC Small Outline Package (SOP-8L)



SYMBOLS	DIMENSIONS IN MILLIMETERS			DIMENSIONS IN INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.47	1.60	1.73	0.058	0.063	0.068
A1	0.10	—	0.25	0.004	—	0.010
A2	—	1.45	—	—	0.057	—
B	0.33	0.41	0.51	0.013	0.016	0.020
C	0.19	0.20	0.25	0.0075	0.008	0.0098
D	4.80	4.85	4.95	0.189	0.191	0.195
E	3.81	3.91	3.99	0.150	0.154	0.157
e	—	1.27	—	—	0.050	—
H	5.79	5.99	6.20	0.228	0.236	0.244
L	0.38	0.71	1.27	0.015	0.028	0.050
y	—	—	0.10	—	—	0.004
θ	0°	—	8°	0°	—	8°