

**Features**

- Complete primary rate 2048kbit/s E1 line driver and receiver with clock recovery
- Meets ETSI requirements [ETSI ETS 300 011, NET 5]
- Built-in selectable termination impedance (120Ω/75Ω)
- Onboard pulse transformers for transmit and receive
- No external crystal required for clock recovery
- Loss of signal indication
- Compatible with MT8979, MT9079 and other E1 Framers
- Single +5V operation

**Applications**

- Primary rate ISDN network Interfaces
- Multiplexer equipment
- E1 Digital Loop Carrier (DLC) equipment
- Digital Cross-connect Systems (DCS)

DS5419

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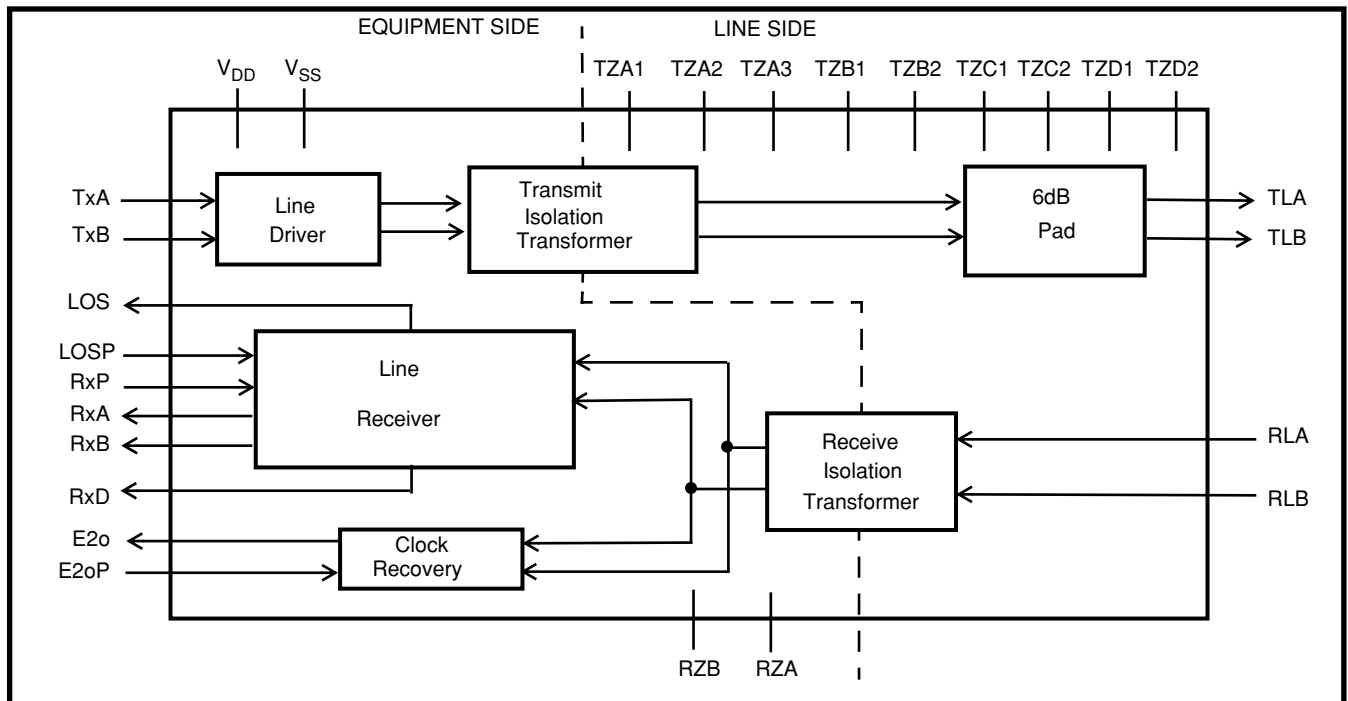
**Ordering Information**

 MH89793 28 Pin DIL Package  
 0°C to +70°C

**Description**

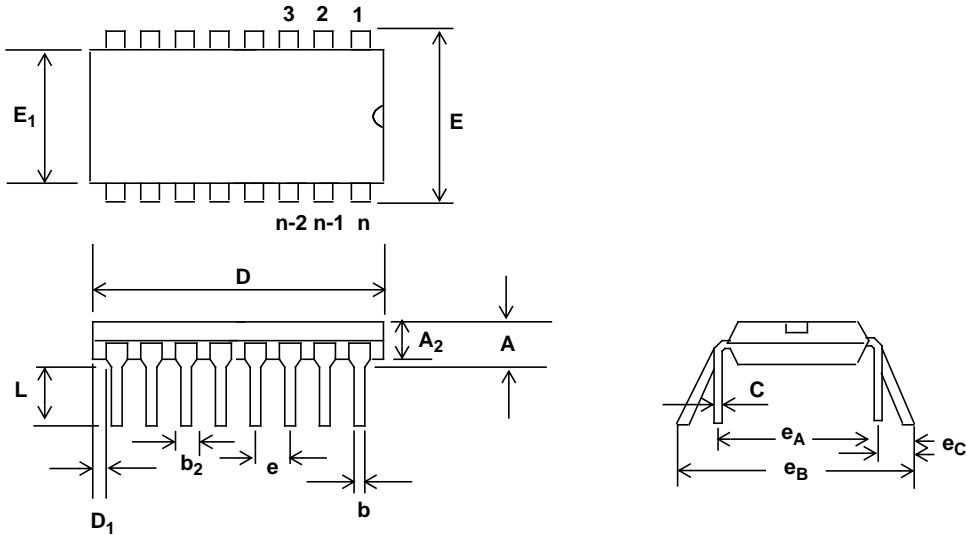
The Zarlink MH89793 is an E1 Line Interface Unit (LIU) designed to meet the requirements of G.703 2048 kbits/s transmission. It incorporates all of the analog front-end components necessary to realize a complete, fully compliant short-haul E1 analog termination. These include, clock extractor, line driver/receiver, impedance matching resistors, and line transformers. The device is suitable for both 120Ω and 75Ω applications, by external hardware control. No external components, such as crystals, inductors or transformers are required. An external clock reference is also not required.

The MH89793 is compatible with the Zarlink MT8979 and MT9079 E1 digital framers, as well as other commercially available E1 framers. The MH89793 requires only a single 5 volt supply.


**Figure 1 - Functional Block Diagram**

Notes:

# Package Outlines

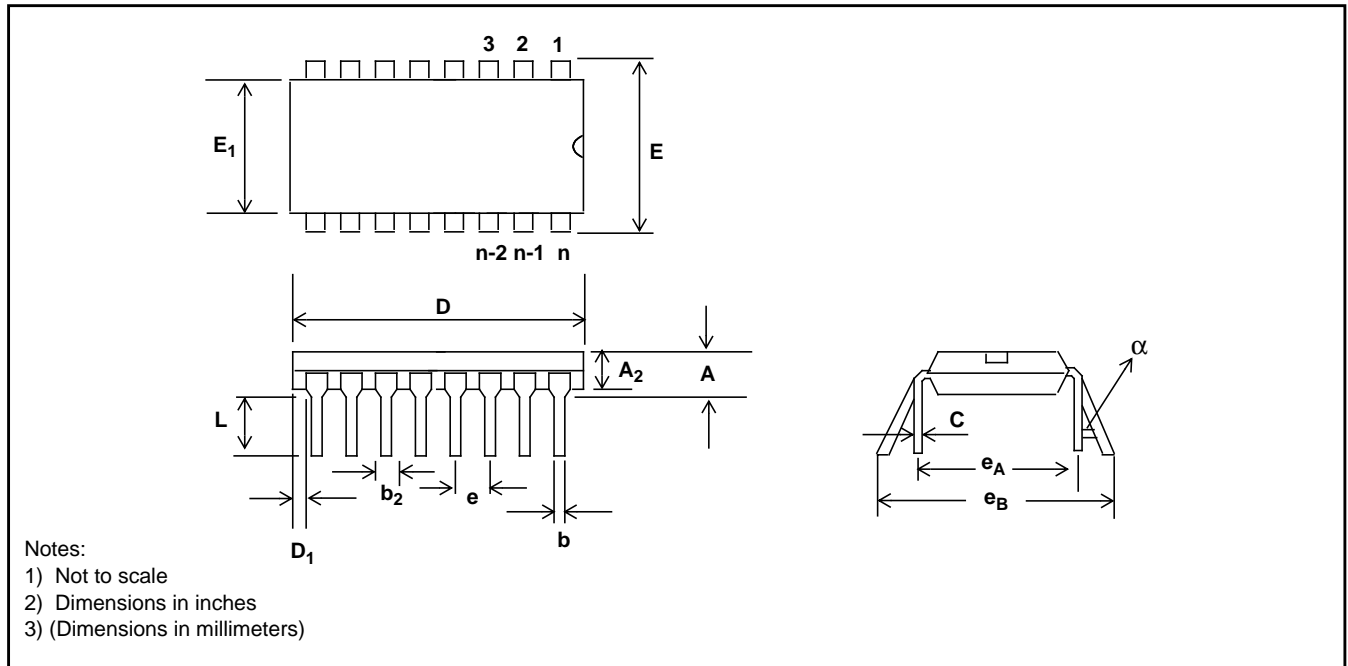


- Notes:
- 1) Not to scale
  - 2) Dimensions in inches
  - 3) (Dimensions in millimeters)

**Plastic Dual-In-Line Packages (PDIP) - E Suffix**


DIM	8-Pin		16-Pin		18-Pin		20-Pin	
	Plastic		Plastic		Plastic		Plastic	
	Min	Max	Min	Max	Min	Max	Min	Max
<b>A</b>		0.210 (5.33)		0.210 (5.33)		0.210 (5.33)		0.210 (5.33)
<b>A<sub>2</sub></b>	0.115 (2.92)	0.195 (4.95)	0.115 (2.92)	0.195 (4.95)	0.115 (2.92)	0.195 (4.95)	0.115 (2.92)	0.195 (4.95)
<b>b</b>	0.014 (0.356)	0.022 (0.558)	0.014 (0.356)	0.022 (0.558)	0.014 (0.356)	0.022 (0.558)	0.014 (0.356)	0.022 (0.558)
<b>b<sub>2</sub></b>	0.045 (1.14)	0.070 (1.77)	0.045 (1.14)	0.070 (1.77)	0.045 (1.14)	0.070 (1.77)	0.045 (1.14)	0.070 (1.77)
<b>C</b>	0.008 (0.203)	0.014 (0.356)	0.008 (0.203)	0.014 (0.356)	0.008 (0.203)	0.014 (0.356)	0.008 (0.203)	0.014 (0.356)
<b>D</b>	0.355 (9.02)	0.400 (10.16)	0.780 (19.81)	0.800 (20.32)	0.880 (22.35)	0.920 (23.37)	0.980 (24.89)	1.060 (26.9)
<b>D<sub>1</sub></b>	0.005 (0.13)		0.005 (0.13)		0.005 (0.13)		0.005 (0.13)	
<b>E</b>	0.300 (7.62)	0.325 (8.26)	0.300 (7.62)	0.325 (8.26)	0.300 (7.62)	0.325 (8.26)	0.300 (7.62)	0.325 (8.26)
<b>E<sub>1</sub></b>	0.240 (6.10)	0.280 (7.11)	0.240 (6.10)	0.280 (7.11)	0.240 (6.10)	0.280 (7.11)	0.240 (6.10)	0.280 (7.11)
<b>e</b>	0.100 BSC (2.54)		0.100 BSC (2.54)		0.100 BSC (2.54)		0.100 BSC (2.54)	
<b>e<sub>A</sub></b>	0.300 BSC (7.62)		0.300 BSC (7.62)		0.300 BSC (7.62)		0.300 BSC (7.62)	
<b>L</b>	0.115 (2.92)	0.150 (3.81)	0.115 (2.92)	0.150 (3.81)	0.115 (2.92)	0.150 (3.81)	0.115 (2.92)	0.150 (3.81)
<b>e<sub>B</sub></b>		0.430 (10.92)		0.430 (10.92)		0.430 (10.92)		0.430 (10.92)
<b>e<sub>C</sub></b>	0	0.060 (1.52)	0	0.060 (1.52)	0	0.060 (1.52)	0	0.060 (1.52)

**NOTE: Controlling dimensions in parenthesis ( ) are in millimeters.**



**Plastic Dual-In-Line Packages (PDIP) - E Suffix**

DIM	22-Pin		24-Pin		28-Pin		40-Pin	
	Plastic		Plastic		Plastic		Plastic	
	Min	Max	Min	Max	Min	Max	Min	Max
<b>A</b>		0.210 (5.33)		0.250 (6.35)		0.250 (6.35)		0.250 (6.35)
<b>A<sub>2</sub></b>	0.125 (3.18)	0.195 (4.95)	0.125 (3.18)	0.195 (4.95)	0.125 (3.18)	0.195 (4.95)	0.125 (3.18)	0.195 (4.95)
<b>b</b>	0.014 (0.356)	0.022 (0.558)	0.014 (0.356)	0.022 (0.558)	0.014 (0.356)	0.022 (0.558)	0.014 (0.356)	0.022 (0.558)
<b>b<sub>2</sub></b>	0.045 (1.15)	0.070 (1.77)	0.030 (0.77)	0.070 (1.77)	0.030 (0.77)	0.070 (1.77)	0.030 (0.77)	0.070 (1.77)
<b>C</b>	0.008 (0.204)	0.015 (0.381)	0.008 (0.204)	0.015 (0.381)	0.008 (0.204)	0.015 (0.381)	0.008 (0.204)	0.015 (0.381)
<b>D</b>	1.050 (26.67)	1.120 (28.44)	1.150 (29.3)	1.290 (32.7)	1.380 (35.1)	1.565 (39.7)	1.980 (50.3)	2.095 (53.2)
<b>D<sub>1</sub></b>	0.005 (0.13)		0.005 (0.13)		0.005 (0.13)		0.005 (0.13)	
<b>E</b>	0.390 (9.91)	0.430 (10.92)	0.600 (15.24)	0.670 (17.02)	0.600 (15.24)	0.670 (17.02)	0.600 (15.24)	0.670 (17.02)
<b>E</b>			0.290 (7.37)	.330 (8.38)				
<b>E<sub>1</sub></b>	0.330 (8.39)	0.380 (9.65)	0.485 (12.32)	0.580 (14.73)	0.485 (12.32)	0.580 (14.73)	0.485 (12.32)	0.580 (14.73)
<b>E<sub>1</sub></b>			0.246 (6.25)	0.254 (6.45)				
<b>e</b>	0.100 BSC (2.54)		0.100 BSC (2.54)		0.100 BSC (2.54)		0.100 BSC (2.54)	
<b>e<sub>A</sub></b>	0.400 BSC (10.16)		0.600 BSC (15.24)		0.600 BSC (15.24)		0.600 BSC (15.24)	
<b>e<sub>A</sub></b>			0.300 BSC (7.62)					
<b>e<sub>B</sub></b>				0.430 (10.92)				
<b>L</b>	0.115 (2.93)	0.160 (4.06)	0.115 (2.93)	0.200 (5.08)	0.115 (2.93)	0.200 (5.08)	0.115 (2.93)	0.200 (5.08)
<b>α</b>		15°		15°		15°		15°

 Shaded areas for 300 Mil Body Width 24 PDIP only



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