3.3 V/5 V ECL Differential Receiver/Driver with High Gain

MC100EP16VA

Description

The EP16VA is a world-class differential receiver/driver. The device is functionally equivalent to the EP16 and LVEP16 devices but with high gain output. Q_{HG} and $\overline{Q_{HG}}$ outputs have a DC gain several times larger than the DC gain of an EP16.

The V_{BB} pin, an internally generated voltage supply, is available to this device only. For single-ended input conditions, the unused differential input is connected to V_{BB} as a switching reference voltage. V_{BB} may also rebias AC coupled inputs. When used, decouple V_{BB} and V_{CC} via a 0.01 μF capacitor and limit current sourcing or sinking to 0.5 mA. When not used, V_{BB} should be left open.

Under open input conditions (pulled to V

Table 3. MAXIMUM RATINGS

Symbol	Parameter	Condition 1	Condition 2	Rating	Unit
				–	
			≤ ≥		

Table 4. 100EP DC CHARACTERISTICS, PECL

Symbol	Characteristic	−40°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
											μ
											μ

–

Ω –

Table 5. 100EP DC CHARACTERISTICS, PECL

Symbol	Characteristic	−40°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
											μ
											μ

–

Ω –

Table 6. 100EP DC CHARACTERISTICS, NECL – –

Symbol	Characteristic	−40°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
		–	–	–	–	–	–	–	–	–	
		–	–	–	–	–	–	–	–	–	

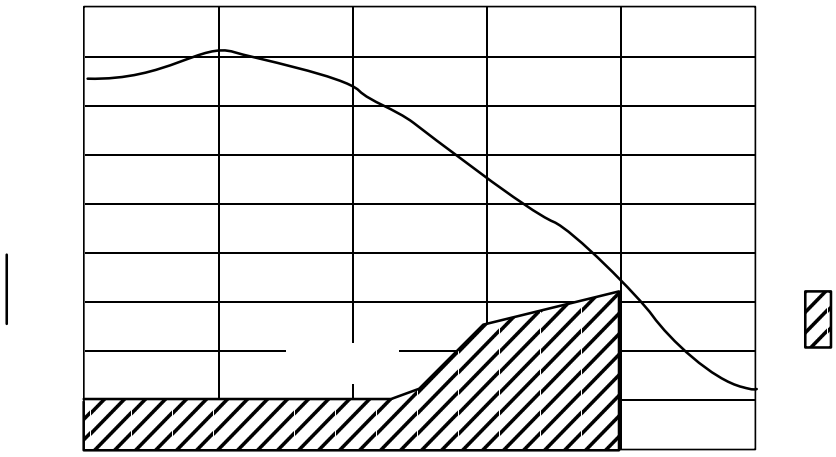


Figure 2. F_{max}/Jitter

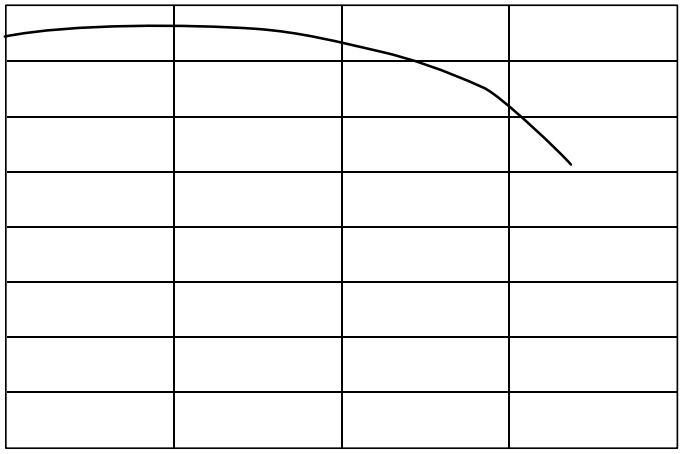
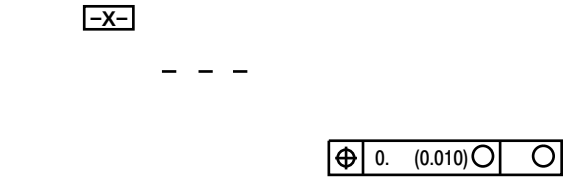


Figure 3. Gain vs. Input Voltage (50 MHz)



C	1.35	1.75	0.053	0.069
D	0.33	0.51	0.013	0.020
G	1.27 BSC		0.050 BSC	
H	0.10	0.25	0.004	0.010
J	0.19	0.25	0.007	0.010
K	0.40	1.27	0.016	0.050
M	0	8	0	8
N	0.25	0.50	0.010	0.020
S	5.80	6.20	0.228	0.244

0. (0.010) 1 0 1 1 0 0 1 . 0 0 0 0 . 1 1 0 1 1 . 1 0 . 0 0 0 1 . 1 1 0 0 1 1 0 ( ) 0 1 . 1 1 0 0 1 1 . 1 1 . 1 0 0 . 0 0 0 . 1 1 . 1 0 0 . 0 0 0 1 1 . 1 0 0 0 1 0 0 0 0 .)

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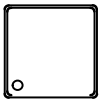

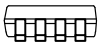

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A				