

MA10

10 Gb/s Measurement Amplifier

PRELIMINARY
Product Information

MICRAM
MICROELECTRONIC

The MA10 is a versatile High-Speed Measurement Amplifier for data rates above 10 Gb/s. Key features are:

- single-ended and differential I/O operation,
- adjustable input threshold,
- adjustable input bias,
- switchable offset cancellation,
- adjustable output swing,
- dc coupled operation,
- single supply voltage.

The MA10 Amplifier consists of a fully symmetrical differential input buffer. This allows differential as well as single ended drive and is optimized for 50 Ω line termination.

For applications which require adjustable input bias or compensation of DC input currents (e.g. photodiodes) the MA10 allows to adjust the bias input current for each input independently. By an additional control input, the threshold level for H/L amplitude decision can be adjusted. This feature can e.g. be used for pulse shaping, duty cycle adjustment or vertical sampling-point adjustment.

The input signal, as well as the internal gain stages can be compensated for offsets by enabling the internal offset cancellation circuit. The upper cut-off frequency of this circuit can be adjusted by applying two external low cost capacitors.

The MA10 exhibits a fully symmetrical differential output buffer which provides either one differential output signal or two single ended output signals. For multi-purpose applications the output voltage swing can be adjusted in standard mode by a factor of 2.5 and optional by a factor of 4.

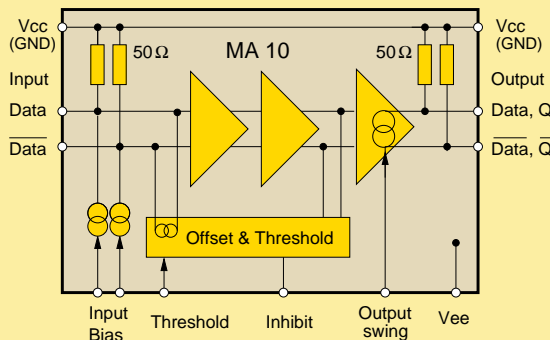
Main fields of application are:

- single-ended to differential conversion,
- differential to single-ended conversion,
- amplitude regeneration,
- pulse (re)shaping,
- duty cycle adjustment,
- active power/signal splitter,
- 50 Ω line driver.

Package:

The MA10 is available as ruggedized SMA connector module or as LCC assembly.

Block diagram of the MA10 :

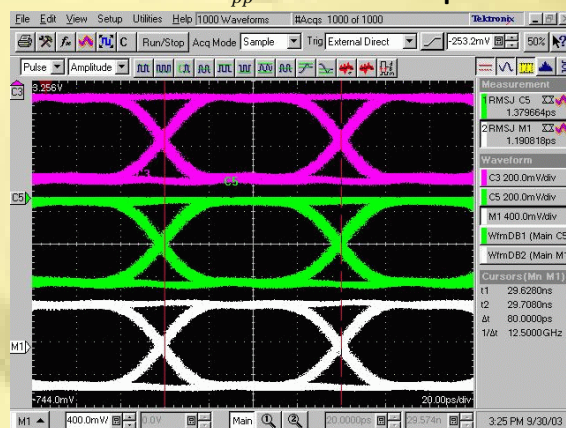


MA10 data:

Power supply, (V_{ee})	-4.5 ... -6 V
Current consumption	90 mA @ -5,5 V
S_{11} , S_{22} ($f < 12$) GHz	-12 dB
Input amplitude range	50 mV _{pp} - 1 V _{pp}
Output amplitude range	100 mV _{pp} - 1 V _{pp}

MA10 at 12.5 Gb/s single ended input:

Upper traces: Single ended outputs Q, Q-bar.
Bottom trace: 1 V_{pp} differential output.



MA10 SMA Module with LCC assembly (Top cover removed):



For further information on the MA10 please contact your MICRAM sales representative.

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