

# Model TA1800 Fast Pulse/ Timing Preamplifier, 1.8 GHz, DC-coupled

**FAST**

## FEATURES

- Small signal bandwidth DC ... 1800MHz
- Voltage gain 20dB (x10)
- DC coupling
- Closed loop OP-Amp design
- Low noise
- High output drive
- Single supply operation / internally generated bipolar supply / internal supply regulation

## APPLICATIONS

- Pre-amp for ultra fast detectors (MCP, PMT, ...)
- Oscilloscope and transient recorder pre-amp
- Photon-/Ion- counting
- Wideband signal processing

## DESCRIPTION

The TA1800 is a fast pulse preamplifier with a small signal bandwidth of 1.8GHz. A unique feature for such high speed amplifiers is the DC coupling. DC coupling avoids count rate effects due to non DC balanced pulse trains and the corresponding coupling capacitor charging.



A test with a 30mV<sub>p-p</sub> pulse and a P7889 100ps TOF analyzer showed an improvement of 10...15% in peak width (FWHM) when a TA1800 was used for amplification of the small pulse signal.

## SPECIFICATIONS

**Voltage gain:** 20 dB / x10, non inverting

**Input:** BNC, 50 Ohm, DC coupled

**Outputs:** BNC, low impedance, DC coupled

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$$V_{OUT} = \pm 1.3V \text{ max, } I_{OUT} = \pm 150mA \text{ max.}$$

**Small signal bandwidth:** 1800 MHz,  $V_{OUT} = 200mV_{RMS}$

**Full power bandwidth:** 1500 MHz,  $V_{OUT} = 2V_{P-P}$

**Slew rate:** 5500 V/ $\mu$ s (2V step)

**Input offset voltage:** 5.25mV max.,  $\pm 20 \mu V/^{\circ}C$  typ.

**Input referred noise:** 2.5 nV/ $\sqrt{Hz}$

## Housing:

**Case:** extruded aluminium sheath, Al Mg Si

0.5

**Lid:** die cast, GD-Al Si 12

**Size:** 65/101 x 60 x 35 mm

**Weight:** 124 g

## Power Requirements:

**Connector:** 2.1 mm center pin

**Supply Voltage:** nominal +12V

voltage range +10 ... +18V

**Supply Power:** 2.5W

**Inverse polarity protection**

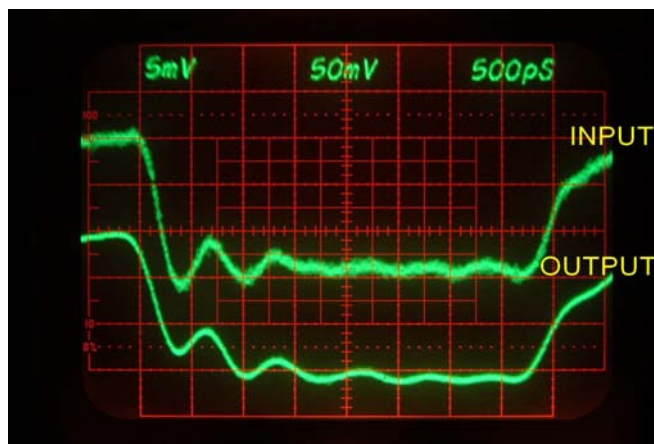
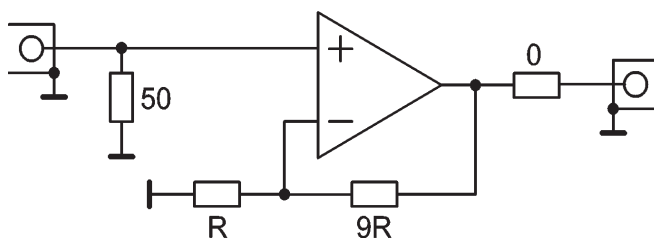
## Absolute maximum ratings:

**Supply:** 25V (100ms max.)

**Signal input:**  $\pm 2.5V$

ESD rating: 3000V HBM, 200V MM

## Accessories:



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