



HIGH VOLTAGE AMPLIFIER MODEL T-300

SINGLE CHANNEL, HIGH CURRENT AMPLIFIER

Description

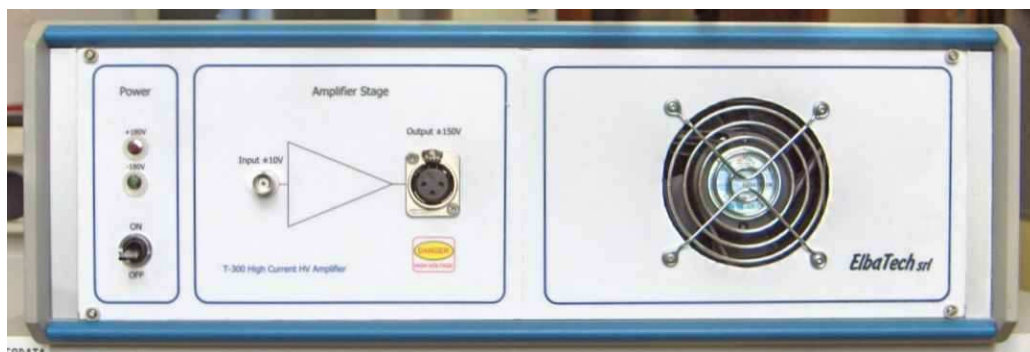
The T-300 HV amplifier is a high-current device featuring ± 150 V max output. This series is assembled in a 19" x 3U rackmount chassis with integrated low noise power supply. This equipment is especially suited to precisely drive high capacitance piezoelectric transducers, as well as resistive loads.

Key features	Applications
High Current	High voltage instrumentation
High stability	Piezo transducer excitation
Integrated power supply	Programmable power supplies

Specifications	Physical dimensions
<ul style="list-style-type: none"> Max input voltage: ± 10 V (20 Vpp) Max output voltage: ± 150 V (300 Vpp) Bandwidth (without load): DC to 100 KHz Channels: 1 (one) Power supply 230 Vac 50-60 Hz Load: capacitive, resistive Output current: 1200 mA peak-to-peak max Ripple Voltage: 2 mV max full bandwidth RMS noise absolute 1.2 mV (typical) 	<p>Specifications:</p> <ul style="list-style-type: none"> Width: 84 TE (19" Rack) Height: 3U Depth: 410 mm Weight: 13 Kg <p>Environment:</p> <ul style="list-style-type: none"> Operating Temperature: -10°C to 50°C Humidity: 0 to 95%

Configuration

T-300 amplifier is enclosed into a 19" rack mount chassis, 3U x 84TE and include a precision, very low noise, high voltage, high current power supply.



Front view of the T-300 High Voltage Amplifier.
Input and output connectors are both available at the front panel.



Module	Description	Order code
HV Amplifier T-300	HV Amplifier, ± 10 V input, ± 150 V output (gain=15), standard 3Ux84TE chassis with front panel connectors, HV power supply included	T-300

Technical notes

INPUT AMPLITUDE

The input amplitude should normally be kept within ± 10 V and not exceed ± 12 V. This is most important since the input protection network will limit the signal amplitude and cause distortion. The input protection network effectively cuts accidental spikes and overshoots.

LOAD

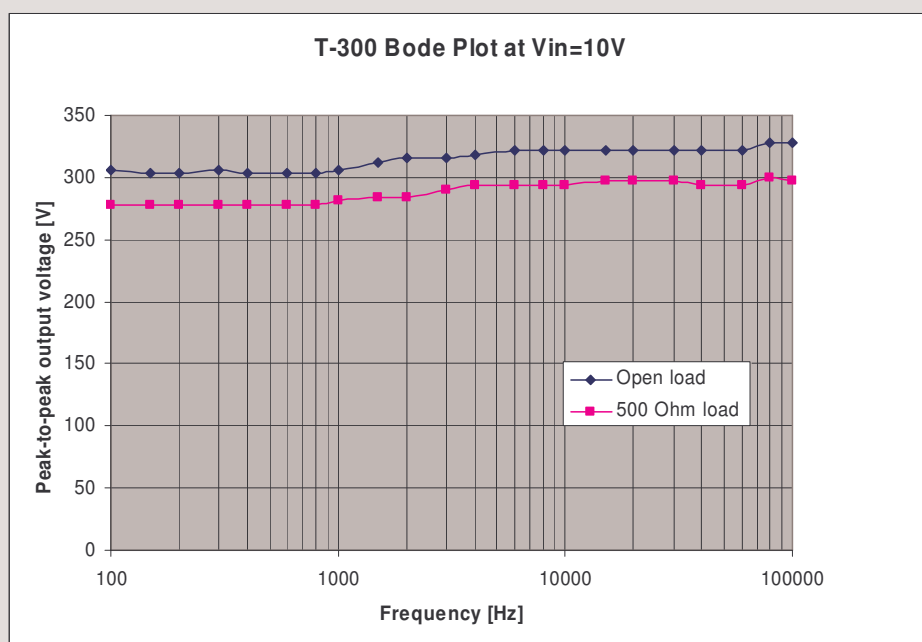
The amplifier is intended to drive resistive and capacitive loads. The maximum load capacitance depends on the slew rate of the amplifier and on the working frequency.

The maximum capacitance limit includes the capacitance of the connection cable (ca 100 pF/m for a standard coaxial cable). Increasing the capacitive load causes overshoot to appear. If a larger capacitive load is required then the slew rate should be reduced accordingly. Such an adjustment can be made before shipment. It may also be performed at a later date by qualified personnel and the factory should be contacted for advice. Inside the cabinet exist hazardous voltage levels and the amplifier circuit is sensitive to static discharge.

Overloading the output may cause an overshoot which might be dangerous for the connected devices. The continuous output current limit is 1200 mApp and the output power limit is 90 W, which corresponds to Safe Operating Area (SOA). The output is equipped with a current limiting circuit which withstands accidental short-circuits.

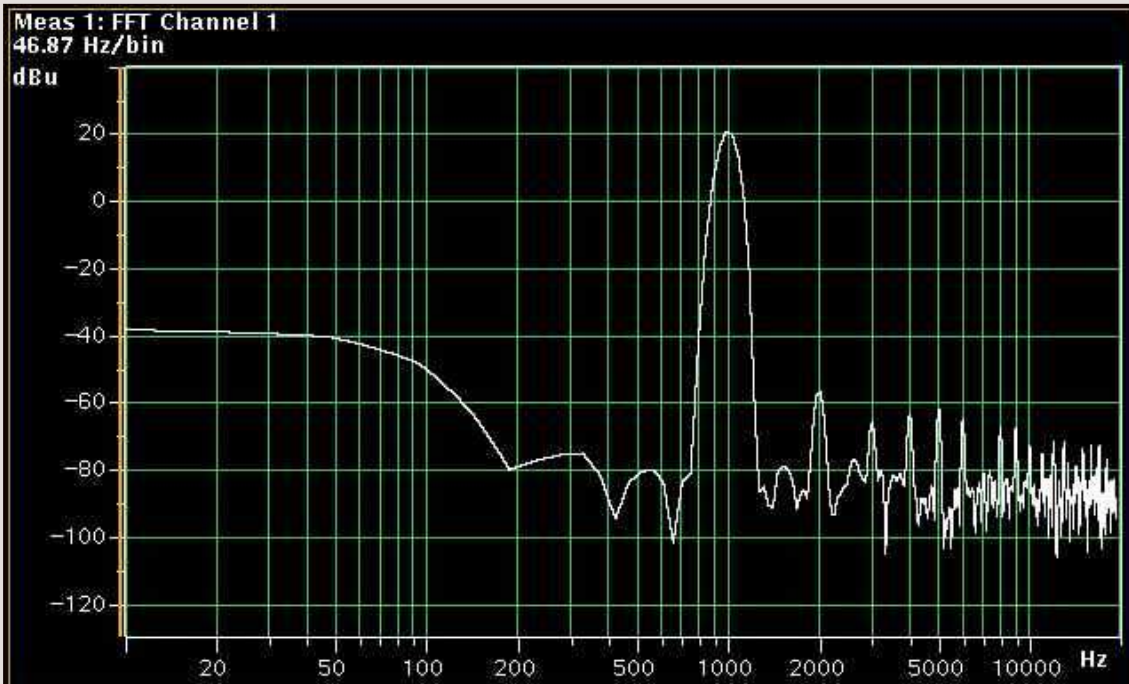
The amplifier may be overheated when the output is short-circuited for a long time and/or if the peak current appears to be frequent.

Typical Bode plot:



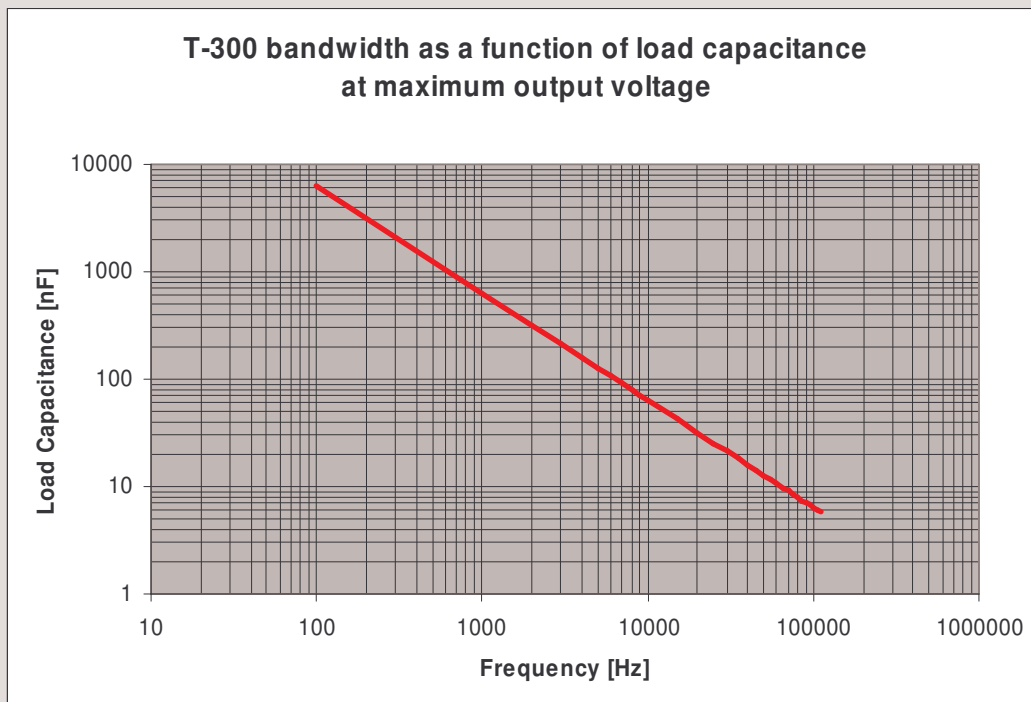


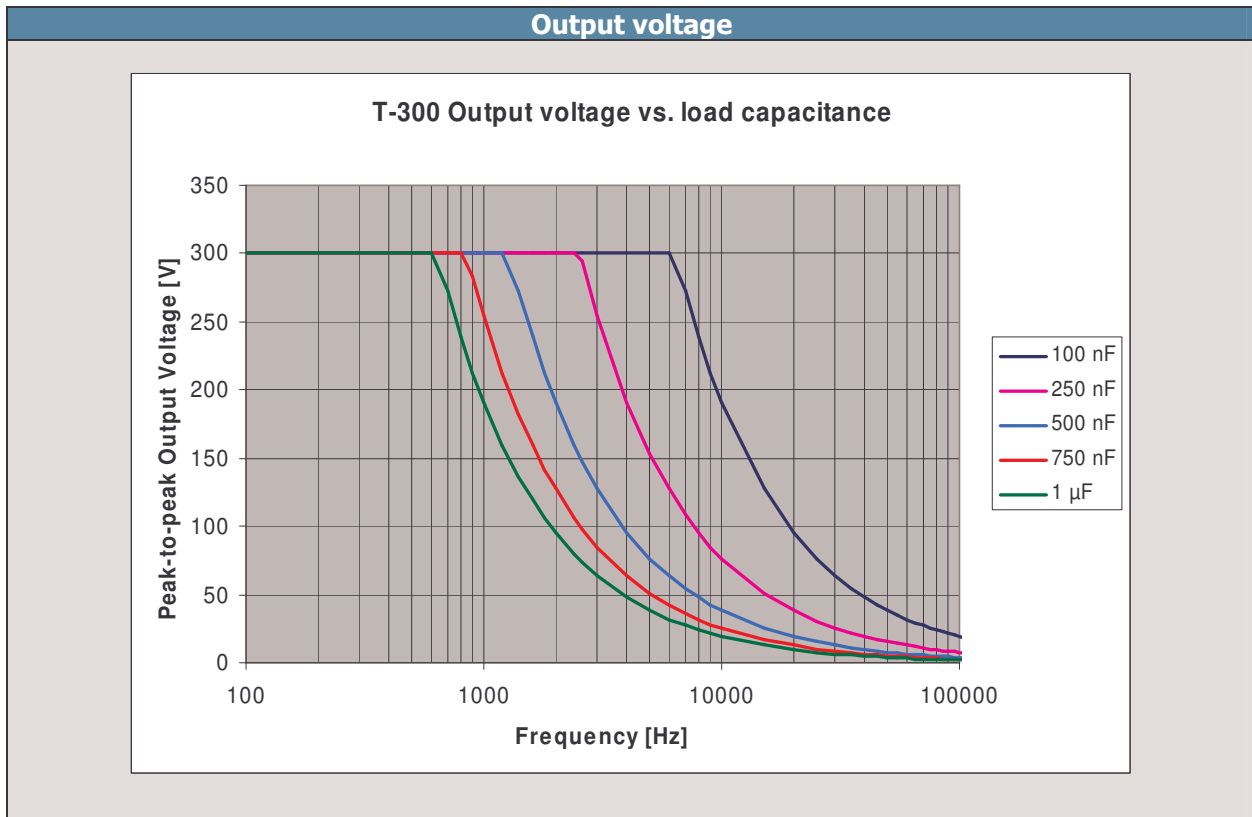
Spectral response



Spectral response applying a 1kHz sinusoidal signal at the input

Frequency performance





Specifications of this datasheet are subject to change without notice