

Compact Source 1225D-SE Economical 275 – 295 GHz

Fully integrated source in WR-3.4 based on ACST's Multiplier Technology. Proven in industry-applications.

1225x-SE series of mm wave signal sources aims at achieving overall good performance while keeping manufacturing costs low. These modules are developed responding to demand in real life industrial applications.

These units contain Voltage-Controlled Oscillators (VCO) and can generate mm-wave signal by itself. Output signal frequency is defined by tune voltage, applied at the V-tune port.

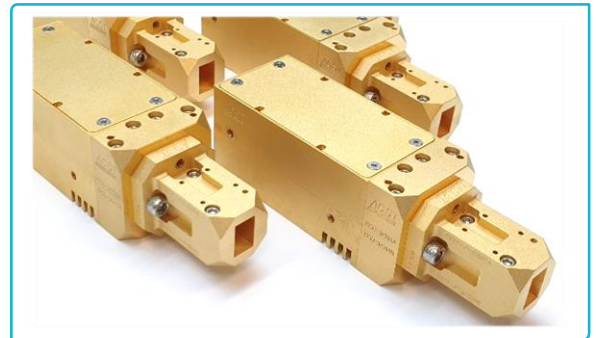
Based on a compact modular design, signal sources of this series are well suitable for integration into more complex THz-systems. Output waveguide (WG) flanges are modified in a way to achieve compactness while maintaining compatibility with standard WG flanges.

These are plug & play modules not requiring any adjustment for proper operation. All required voltage biases and current sources are provided by an integrated Power Supply Unit (PSU). The module only needs electrical powering of +9V DC and V-tune signal for operation. TTL port is available for ON-OFF modulation. The TTL-Port has an internal pullup. Therefore, no dedicated power-supply is necessary to switch. All these input voltages including ground can be applied via available connector of type Molex Micro-Lock Plus.

Various other ACST products may be compatible with this product like are:

- Horn antenna for coupling the output signal to free space,
- Waveguide sections to simplify mechanical integration,
- Attenuators for user-controlled output power,
- Passive frequency multipliers to extend the output signal to higher frequency bands.

These complementary products can easily be connected to the RF-output of the product. Please ask at sales@acst.de for available options.



Product Features

- > Proven Industrial Level Reliability/Reproducibility
- > Portable THz Source
- > High Integrated THz Unit

Technical Specification

	Minimum	Typ	Maximum
Output Frequency (GHz)	275		295
Output Port (UG 387/U-M)		WR-3.4	
Output Power (dBm)	+9	+11	+13
Tuning Voltage (V) * / **	0.8		5
Tune Voltage Speed (kHz)		1	10
Freq. Drift Rate (MHz/°C)	20	40	60
TTL Enable ***	0V / GND	-	5V / Open
TTL Speed (kHz)		1	10
Operating Voltage (V)		9	
Power Consumption (W)		3.1	4
Input Port	Molex Micro-Lock Plus		

Application Areas

- > Laboratory instrumentation
- > MM-wave FMCW-Radar
- > Active imaging

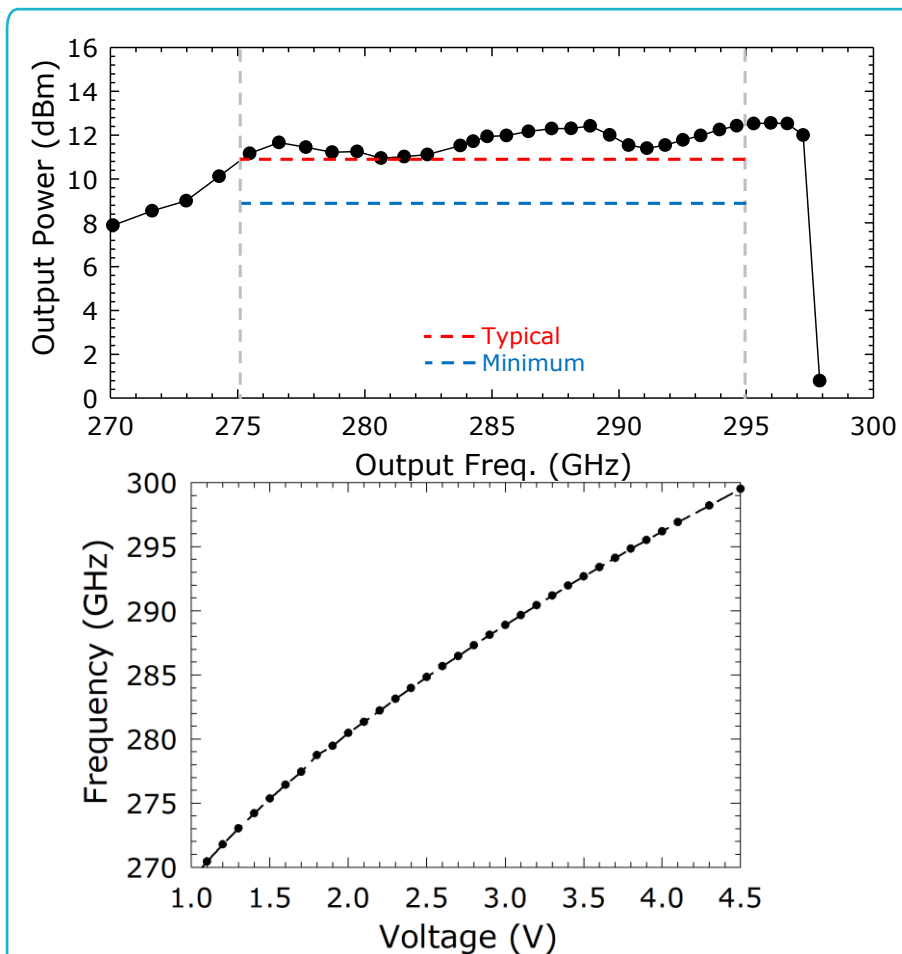
*V-tune to F-out calibration supplied with each unit in test-report.

**Shifted tuning voltages available on request.

***Internal pullup to 5V. Applying 5V or open-circuit is both possible

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Typical Performance



Notes

- > All plotted data represent typical values. The actual data may vary from unit to unit.
- > All tests are carried out at a room temperature of 24 °C.

Caution

- > Absolute maximum ratings should not be used under normal operating conditions. Exceeding maximum ratings may lead to permanent failure.
- > Any foreign body inserted into the waveguide will cause a loss of performance and may damage the device.

Absolute Maximum Ratings

	Maximum
Operating Voltage (V)	+12
Voltage on Tune & TTL inputs (V)	+6
Operational Temperature and Humidity	5 °C to 55 °C // 0% to 80%
Storage Temperature and Humidity	0 °C to 85 °C // 0% to 80%

Order information

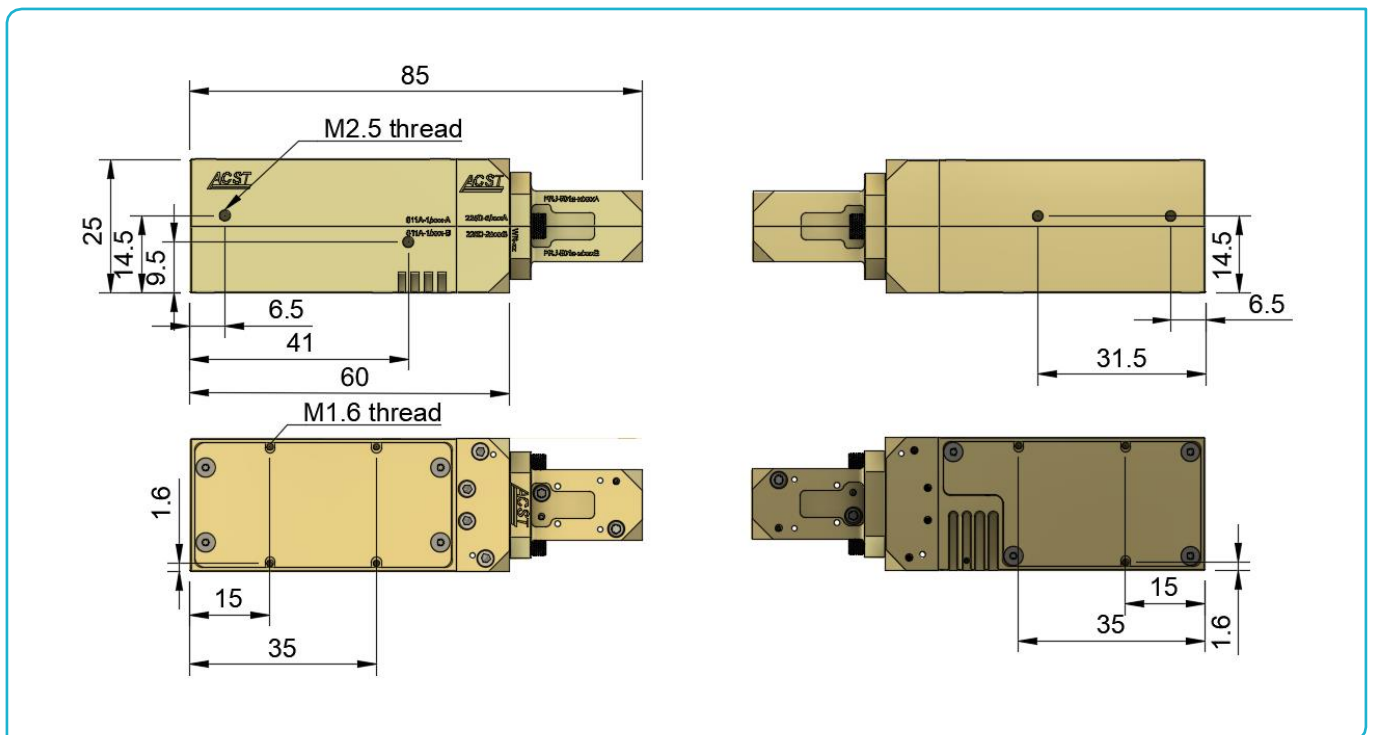
- Please indicate product name and type.
- Please indicate desired optional features



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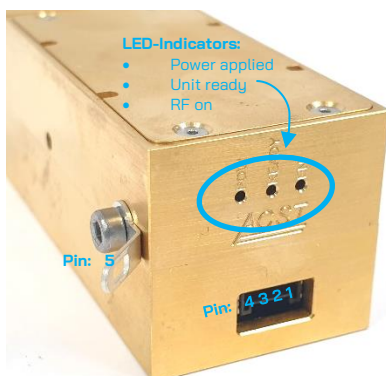
Outline Dimensions



Mechanical Description

	Maximum
Size (mm)	85 x 25 x 25
Weight	0.3 kg

Electrical Description



Pin	Function	Values
Pin 1	Ground	0 V
Pin 2	V-Supply	9 V
Pin 3	TTL Enable	0V (OFF) / 5V (ON)
Pin 4	V-Tune	1 – 5 V
Pin 5	Extra Ground	0 V

For maximum accuracy of the frequency, ground Pin 5 (e.g. to one of the M2.5 mounting-threads).