



Multi frequency pulse oscillator in frequency range 33–35 GHz



APPLICATION

Pulsed oscillator, **M312005** module, with electromechanical switching frequencies operates in 33–35 GHz frequency range and is intended for use as transmitter in onboard equipment.

DESCRIPTION

Oscillator **M312005** consists of an oscillating chamber, high-Q invar cavity and waveguide isolator. As an active element in those oscillators special packaged silicon double-drift pulsed IMPATT-diodes, production of RI "Orion", are used. The oscillator provides output pulse power level no less than 15 W at 250 nsec pulse width.

Pulsed current source comes complete with the oscillator. The pulsed current source supplies IMPATT-diode by current pulses with amplitude up to 15 A at width up to 280 nsec and repetition rate up to 6 kHz. Repetition rate is driven by an external pulse of TTL-level.

Operating frequency switching of the oscillator is carried out electromechanically by changing stabilizing resonator volume. Miniature electromagnets switch the oscillator into required frequency by an external command.

**SPECIFICATIONS**

Operating frequency range, GHz	33–35
Bandwidth of operating frequencies, MHz	500
Quantity of rated operating frequencies* in 500 MHz band	6
Pulse power of output signal, W, not less	15
Pulse width of output signal, μ sec, no more	0.25
Pulse recurrence rate of output signal, kHz, no more	6.0
Frequency deviation from rated value, MHz, no more	± 10
Setting time of operating frequency after switching, sec, no more	0.2
Parameters of electromagnets supply	
Electromagnets voltage supply, V	± 15
Current consumption during electromagnets switching, A, no more	1.0
Pulse width of electromagnets switching, sec	0.05
Parameters of pulsed current source supply	
Voltage of power supply, V	90 ± 2
Starting pulse width, μ sec	5.0
Recurrence rate of starting pulses, kHz, no more	6.0
Level of starting pulses	TTL
Temperature range, $^{\circ}$ C	$-50 \dots 60$
Overall dimensions, mm	40x15x60
Weight, g, no more	150
Section of output channel, mm	7.2x3.4

* Value of rated operating frequencies is specified at the order