



## 80–150 GHz PULSE OSCILLATOR



### APPLICATION

Solid-state pulse oscillator, **M312003** module, is intended for use, both in equipment of common application and onboard equipment in frequency range  $F_0=80\text{--}150$  GHz.

At operating frequency  $F_0$  the oscillator provides output pulse power no less than 0.1 W at 50 nsec pulse width of output signal and pulse repetition rate no more than 20 kHz.

### DESCRIPTION

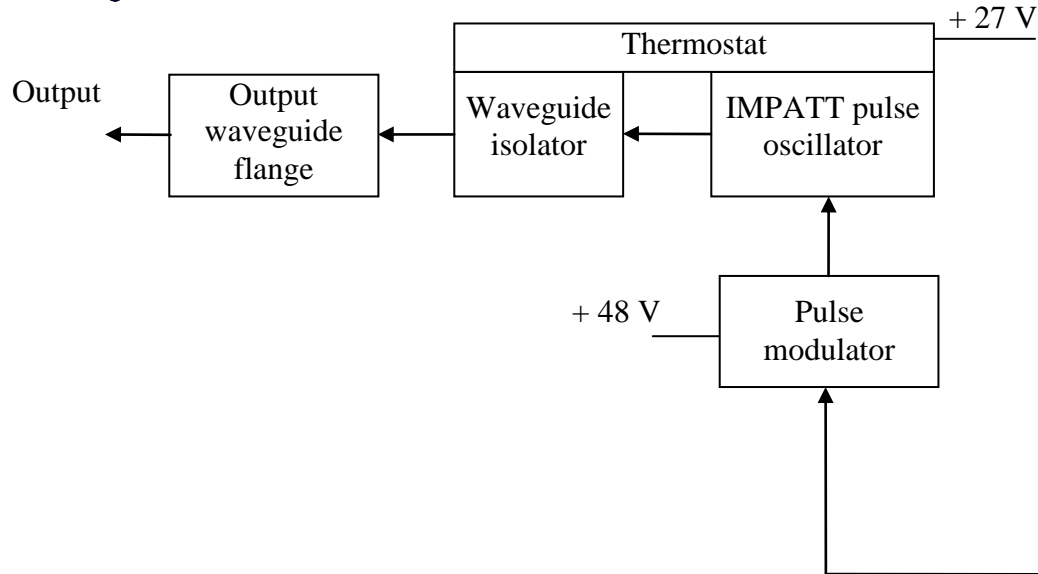
In the oscillator special packaged silicon IMPATT diodes, production of RI "Orion", are used as an active element.

The oscillator is completely integrated and self-contained with built-in current pulsed source protected against erroneous sequence of supplying control pulses. There is also system of automatic heat regulation.

In order to operate the pulse oscillator should only have two constant voltage sources of 48 V and 27 V, and also an external control pulse signal of TTL-level.



### Oscillating modules M312003



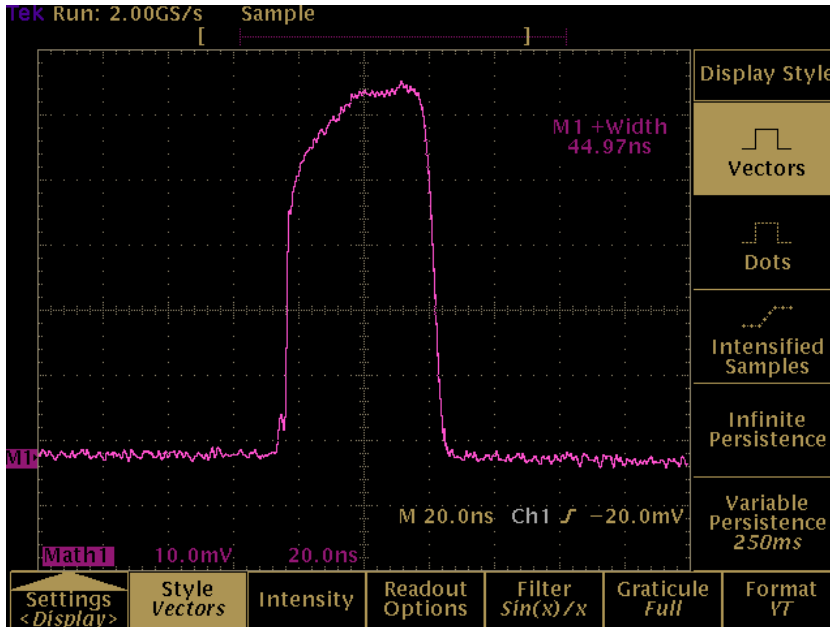
### SPECIFICATIONS

Operating frequency range, GHz	80–150
Fixed operating frequency, $F_0$ *, GHz	$F_0 \pm 0.65$
Output pulse power, mW, not less	100
Drop of output power in operating temperature range (from $-60^\circ\text{C}$ up to $+55^\circ\text{C}$ ), dB, no more	1,5
Output signal pulse width, nanosecond	$50 \pm 10$
Pulse repetition rate of output signal, kHz, no more	20
Readiness time, minutes, no more	3
Supply voltage, V/current consumption, A	+48/0.15 +27/4.0
Type of connecting waveguide flange according to ГOCT 13317-89	
<b><i>Electric characteristics of control starting pulse</i></b>	
Input resistance by control input, Ohm	50
Amplitude of starting pulse, V	3–5.5
Width of starting pulse, nanosecond	60–68
Repetition rate of control starting pulse, kHz, no more	20

\* Value of  $F_0$  is specified at the order.



### CHARACTERISTICS



Oscillogram of output microwave pulse envelope, M312003 model

### OVERALL DIMENSIONS DRAWING

