



80–150 GHz pulse noise generator



APPLICATION

Solid-state pulse generator, **M313002** module, is intended for use, both in equipment of common application and onboard equipment in frequency range $F_0=80\text{--}150$ GHz.

In operating frequency band $F_0 \pm 1.0$ GHz the generator provides high average noise spectral density not less than 40 dB from KT_0 at pulse duration of output signal 75 ± 15 nsec and pulse-repetition rate no more than 15 kHz.

High stability of noise spectral density level ensured under the effect of destabilizing factors enables the pulse generator of **M313002** type to be used as standard sources of noise when controlling the function of microwave devices, complexes and systems.

DESCRIPTION

Noise generator of **M313002** type is completely integrated and independent. The generator has built in pulse current source with protection from applying erroneous sequence of controlling pulses and also automatic temperature control system.

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

Two constant-voltage sources of 48 V and 27 V are necessary for operation of the noise generator, and also an external pulse signal of controlling TTL-level (pulse duration of 50 nanoseconds, repetition rate no more than 15 kHz).

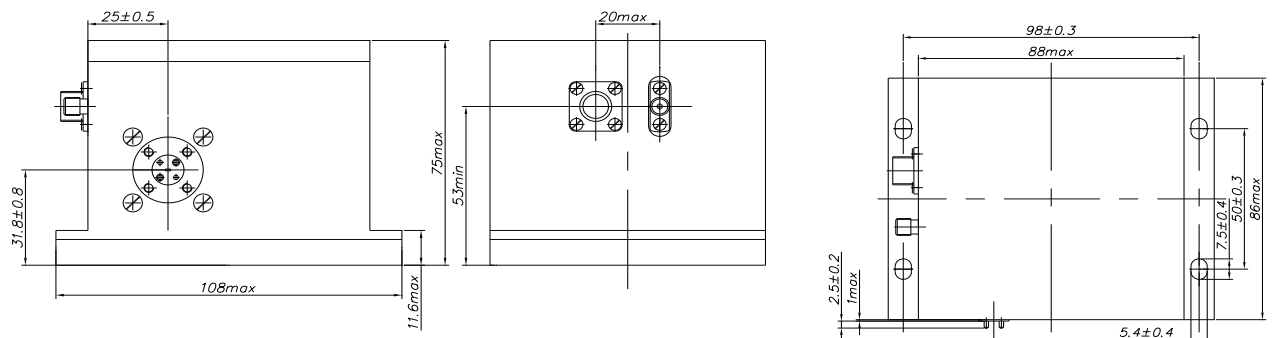


SPECIFICATIONS

Range of the central operating frequencies, F_0^* , GHz	80–150
Band of operating frequencies, GHz	$F_0 \pm 1,0$
Noise spectral density, dB from KT_0	40–60
Change of noise spectral density in frequency band, dB, no more	3
Deviation of noise spectral density under environmental factors, dB, no more	3
Pulse duration of output signal, nanosecond	75 ± 10
Pulse rate of output signal, kHz, no more	15
Readiness time, minutes, no more	2
Supply voltage, V/current consumption, A, no more	+48/0,15 +27/4,0
Type of connecting waveguide flange according to ГOCT 13317-89	
<i>Electric characteristics of control starting pulse</i>	
Input resistance by control input, Ohm	50
Amplitude of starting pulse, V	4–6
Width of starting pulse, nanosecond	45–55
Repetition rate of control starting pulse, kHz, no more	15

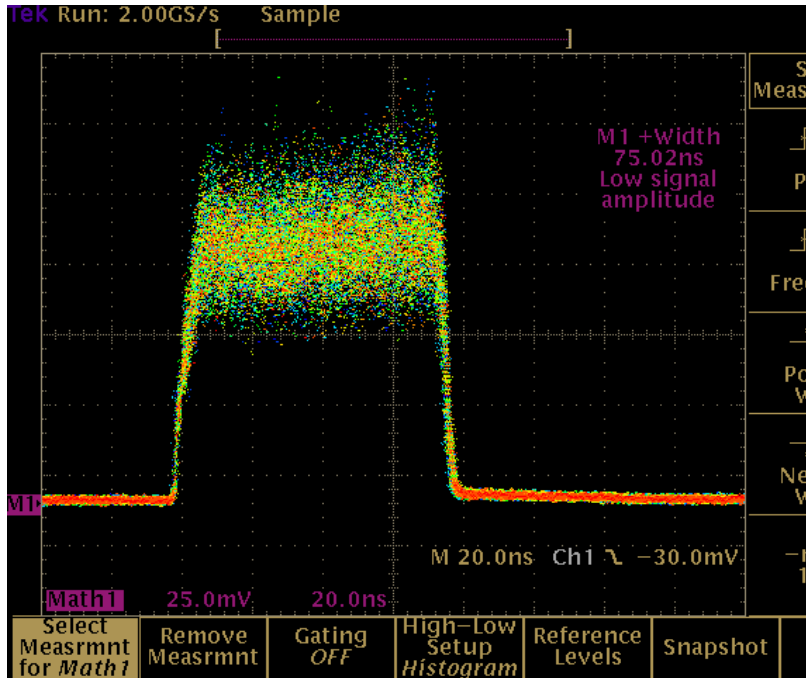
* Value of F_0 is specified at the order.

OVERALL DIMENSIONS DRAWING

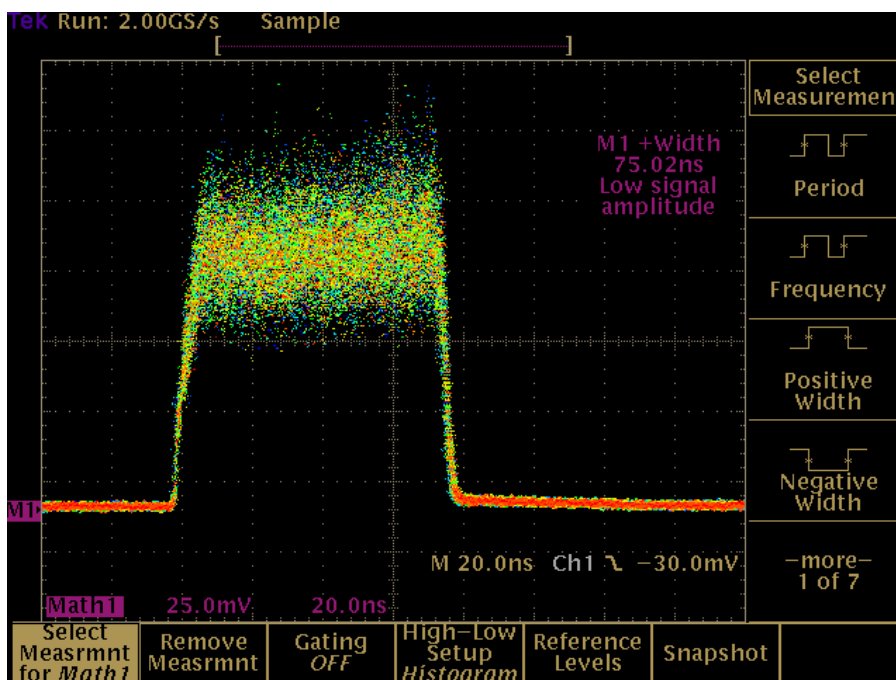




CHARACTERISTICS



Oscillogram of output microwave pulse envelope



Oscillogram of output microwave pulse