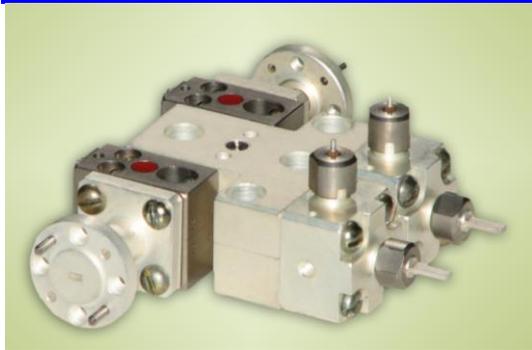




## 90–100 GHz balanced pulsed power amplifier



### APPLICATION

Amplifying module **M322002** is designed for application in transmitting devices W-band ( $F_0=90\text{--}100$  GHz) as the output stage. In a band of operating frequencies  $F_0\pm 0.5$  ГГц the amplifier provides output pulse power level not less than 25 W at pulse duration 80–100 nsec and repetition rate 50 kHz.

### DESCRIPTION

The amplifier is made under scheme of combining two pulse cascades on 3 dB slot bridge hybrid. Combining efficiency is not less 90%. The input and exit of the balance amplifier are protected from external load by waveguide isolating devices.

Special silicon double drift highly effective IMPATT-diodes of RI "Orion" production are used as active elements. Each of three IMPATT-diodes contained in the amplifier is supplied by pulse current source delivered complete with the pulse amplifier. The pulse current source has protection against the wrong sequence and duration of control pulses. For amplifier operation it is necessary: two DC voltage sources 48 V and 7 V, input pulse microwave signal of power 10 W and the external pulse control signal of TTL-level.



#### **SPECIFICATIONS**

Range of central operating frequency, $F_0^*$ , GHz	90–100
Operating frequency band, GHz	$F_0 \pm 0.5$
Gain, dB, not less	4
Output pulse power, W	25–30
Pulse duration of output signal, ns	80–100
Pulse repetition rate of output signal, kHz, no more	50
Power of input pulse signal, W	10
Pulse duration of input signal, ns	100–120
Repetition rate of input signal, kHz, no more	50
Supply voltage, V / current consumption, mA	+48/150 и 7/50
<b><i>Electrical characteristics of start control pulse</i></b>	
Input levels on load 50 Ohm, V	
low	0...+0.4
high	+2.4...4.0
Input resistance at control input, Ohm	50
Start pulse duration, ns	130
Repetition rate of start control pulse, kHz, no more	50

\*  $F_0$  value is specified by a customer.

#### **OUTLINE DRAWING**

