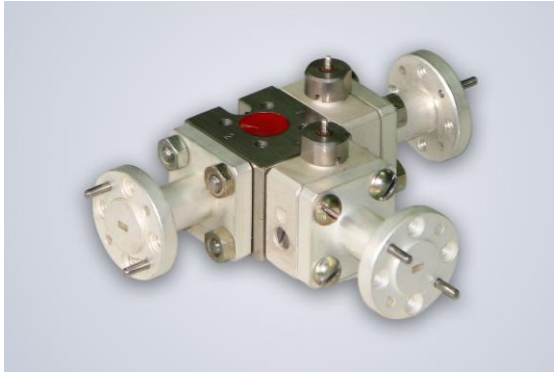


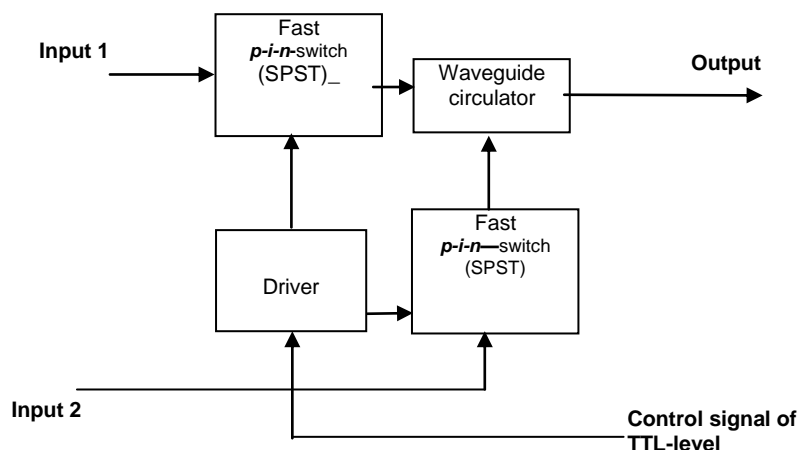
**80–150 GHz waveguide
double-channel *p-i-n*-switch (SPDT)****APPLICATION**

Waveguide switch (SPDT) of **M342002** series is intended for use, both in equipment of general application, and in onboard equipment in frequency range $F_0=80-150$ GHz. The switch can be used in complex radio engineering systems, e.g. as antenna switch.

Functionally two-channel switch on an external command carries out fast connection by turns of one of the two inputs to one output and is completed with a driver with one control input. For connection of one or other channel of the switch to a driver input it is necessary to give a signal matching logic «0» or logic «1».

DESCRIPTION

In a band of operating frequencies ($F_0 \pm 1$ GHz) the switch has loss no more than 2.5 dB and level of isolation between channels not less than 25 dB. Switching rate of channels using control device is 5–10 nanoseconds. Structurally two-channel switch is made on base waveguide circulator and two *p-i-n*-modulators. At switching of channels one of *p-i-n*-modulators is in an open state, and second is in reflection mode. For achieving high speed of channel switching special silicon package *p-i-n*-diodes with *i*-layer thickness of some micrometers are used in *p-i-n*-modulators. In through mode the direct current of 10–20 mA flows through *p-i-n*-diode. In reflection mode *p-i-n*-diode is at reverse voltage no more than 20 V.





SPECIFICATIONS

Central operating frequency range, F_0^* , GHz	80–150
Band of operating frequencies, GHz	$F_0 \pm 1.0$
Direct loss in band of operating frequencies, dB, no more	2.5
Isolation in band of operating frequencies, dB, not less	25
Switching time, nsec, no more	10
Maximum input power, W	
CW	0.2
pulse	10
Type of connecting flanges – according to ГOCT 13317-89 or UG-387/U-M (specified on order).	

* F_0 value is specified by a customer.

OUTLINE DRAWING

