

Solid state switches are more reliable and exhibit longer lifetimes than their electromechanical counterparts due to their superior resistance to shock, vibration and mechanical wear. They also offer faster switching times. However, solid state switches have higher insertion loss than electromechanical switches due to their higher innate ON

resistance. Therefore solid state switches are preferred in systems where fast switching and long lifetime are essential.

Solid state switches are often used in switch matrix systems for testing of semiconductor devices where high switching speed is critical and power handling requirements are lower.

## Specifications

Frequency configuration	FET hybrid			PIN diode		
	SPDT	SP4T	Transfer	SPDT	SP4T	Transfer
300 kHz to 8 GHz	■		■			
100 MHz to 8 GHz				■	■	■
300 kHz to 18 GHz	■		■			
100 MHz to 18 GHz				■	■	■
45 MHz to 50 GHz				■	■	

Family	Model	Frequency	Termination	Isolation (dB)	Insertion loss (dB)	Return loss for ON port (dB)	Switching speed rise/fall	Typical video level (mVpp)	Connector	Input power (average) (dBm)	Driving voltage (VDC)
<b>PIN SPDT</b>											
SPDT	P9402A	100 MHz to 8 GHz	Absorptive	80	3.2	15	380 ns	3400	SMA (f)	23	5
SPDT	P9402C	100 MHz to 18 GHz	Absorptive	80	4	10	380 ns	3400	SMA (f)	23	5
SPDT	85331B	45 MHz to 50 GHz	Absorptive	75	15.5	4.5	1 μs	7000	2.4 mm (f)	27	7
SP4T	P9404A	100 MHz to 8 GHz	Absorptive	80	3.5	15	350 ns	2800	SMA (f)	27	5
SP4T	P9404C	100 MHz to 18 GHz	Absorptive	80	4.5	10	350 ns	2800	SMA (f)	27	5
SP4T	85332B	45 MHz to 50 GHz	Absorptive	75	15.5	4.5	1 μs	7000	2.4 mm (f)	27	7
<b>PIN transfer</b>											
Transfer	P9400A	100 MHz to 8 GHz	NA	80	3.5	15	200 ns	600	SMA (f)	23	5
Transfer	P9400C	100 MHz to 18 GHz	NA	80	4.2	10	200 ns	600	SMA (f)	23	5
<b>FET SPDT</b>											
FET SPDT	U9397A	300 kHz to 8 GHz	Absorptive	100	3.5	15	5 / 0.5 μs	10	SMA (f)	29	12 to 24 V
FET SPDT	U9397C	300 kHz to 18 GHz	Absorptive	90	6.5	10	5 / 0.5 μs	10	SMA (f)	27	12 to 24 V
<b>FET transfer</b>											
FET transfer	U9400A	300 kHz to 8 GHz	NA	100	3.5	15	4 / 0.5 μs	5	SMA (f)	29	11 to 26 V
FET transfer	U9400C	300 kHz to 18 GHz	NA	90	6.5	10	5 / 1 μs	5	SMA (f)	27	11 to 26 V

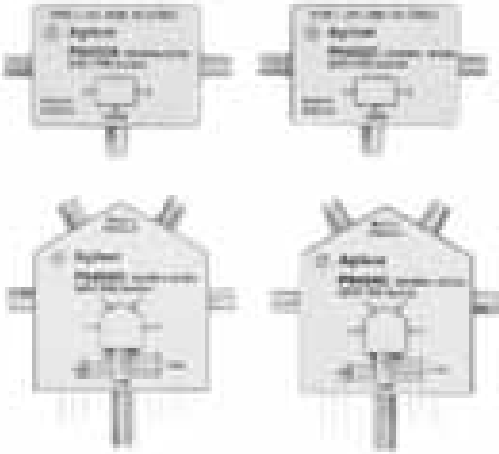
Solid state switches are standard and do not require option selection.

### P940xA/C Absorptive Solid State Switches

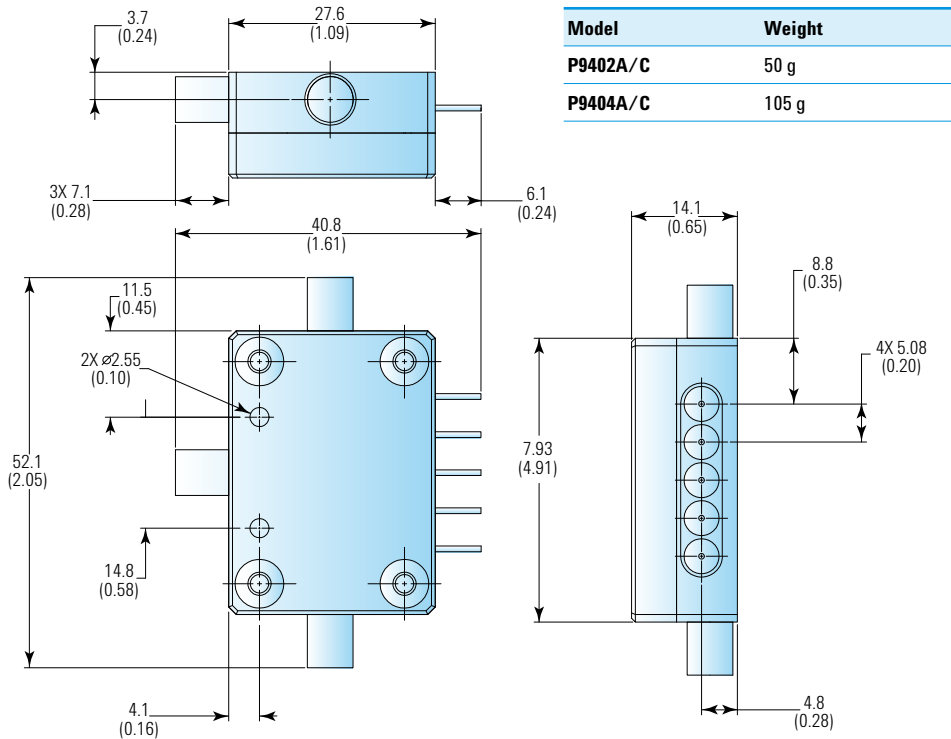
The P940xA/C absorptive solid state switches, based on PIN diode technology, provide superior performance in terms of isolation, insertion loss and return loss across a broad operating frequency range. The P940xA/C are particularly suitable for high-speed RF and microwave switching applications in instrumentation, communication, radar, switch matrices as well as many other test systems.

The P9402A/C switches have a SPDT PIN diode individual control switch IC and discrete shunt pin diodes on the RF path. The discrete shunt pin diodes enhance the isolation between ports. The switch's individual control pin controls the port between the ON and OFF state. With these features, the switch provides good port match even when it is off. Hence, this SPDT switch has three switching states, switching between the common port and port 2 or ports OFF.

The P9404A/C switches have a SP4T PIN diode switch IC and discrete shunt pin diodes on the RF path. The P9404A/C SP4T switches have five switching states, switching between the common port to any one of the 4 output ports or, all ports to the OFF state (terminated at 50 Ω).



### P9402A/C Solid State Switch



## P9404A/C Solid State Switch

