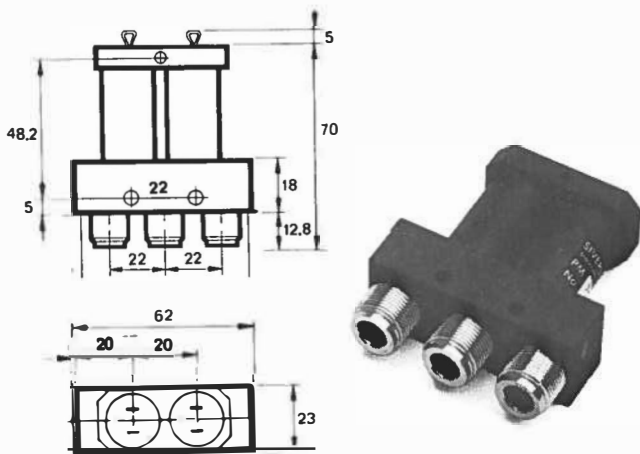


Coaxial switches, N-type

Medium power model 7535

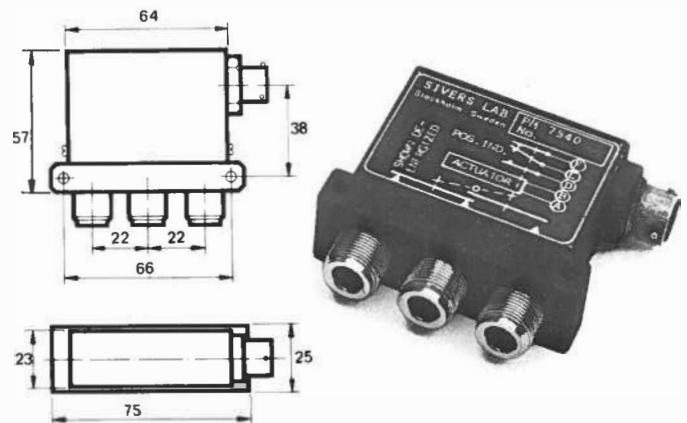
This coaxial switch uses blade type contacts for high switching speed and long operational life. The contact blades are integrated in a coaxial structure to assure perfect match over a large frequency range. The solenoids have separate connections which can be used to arrange for different break-make time diagrams. When the solenoids are shunt-connected the contacts will operate in a break-before-make mode.



High power model PM 7540

The high power coaxial SPDT PM 7540 has a design with excellent thermal conduction between the centre conductor and housing to enable high power operation. This is achieved by using special thermoconductive materials as dielectric.

The actuator is failsafe and the RF-contact operate in a break-before-make model.



Specification, both models, DC-12.4 GHz

Frequency	DC-1 GHz	1-7 GHz	7-12.4 GHz
VSWR	<1.10	<1.35	<1.50
Insertion loss	<0.2	<0.3	<0.5
Isolation	>70	>65	>60

RF Impedance	50 Ω
Max. RF power:¹⁾	PM 7535 peak 10 kW, ²⁾ average 50 W at 12.4 GHz PM 7540 peak 10 kW, ²⁾ average 1 kW at 1 GHz 300 W at 10 GHz

See also diagram.

- ¹⁾ Under steady-state condition, switching RF power will damage the components.
²⁾ At +25°C, 0.1 MPa (sea level).
³⁾ Maximum value at +25°C, nominal voltage.

Model	PM 7535	PM 7540
Switch. function	SPDT	SPDT
Actuator	failsafe	failsafe
Switching time	25 ms	100 ms
Pull-in/holding current ³⁾	220/220 mA	220/220 mA
Position indicator	no	yes
Terminals	solder pins	connector PT07-10-6P cable connector PT07-10-6S can be ordered separately
Weight	250 g	350 g
Actuator voltage	28 ±3 V DC	28 +2/-8 VDC

Temperature:	-55°C to +85°C ambient
RF connectors:	N-type jack per MIL-3902
Life:	min 10 ⁶ actuations guaranteed
Material:	RF-connectors stainless steel RF-circuit: aluminium (chromated) beryllium copper, gold plated
Finish:	dull black paint, epoxy
Vibration:	(PM 7540) sine 5-40 Hz, amplitude 1.5 mm sine 40-2000 Hz, acceleration 10 g (PM 7535) sine 20-60 Hz, amplitude 0.35 mm sine 60-2000 Hz, acceleration 5 g

Coaxial switches, SMA

General

The light weight coaxial switches of the PM 7550-series are designed for use in wideband miniaturized microwave systems under severe environmental conditions. Advanced stripline technique provides excellent electrical performance up to 18 GHz.

Latching or failsafe

Latching models require no holding current, whereas the **failsafe** models have a small holding current. Switching is break-before-make.

Protection circuit

Means for supply line interference suppression and reversed polarity protection are incorporated in most models.

Environmental

The switches are designed to be used in equipment, that meets MIL-E-5400 and MIL-E-16400. A balanced actuator construction having a small mass ensures that the switches withstand shock/vibrations.

Position indicator

For remote indication of the switch position additional contacts are incorporated, in most models.

Mounting

The switches are provided with mounting holes which also enable easy stacking of several units. This facilitates more complicated switching configurations (matrixing). Min. distance between adjacent switches is 5 mm for latching models, 10 mm for failsafe models.

Specification DC-18 GHz, all models

Frequency	DC-1 GHz	1-4 GHz	4-12 GHz	12-18 GHz
VSWR	<1.10	<1.20	<1.35	<1.50
Insertion loss	<0.1 dB	<0.2 dB	<0.3 dB	<0.5 dB
Isolation³⁾	>80 dB	>70 dB	>65 dB	>60 dB

Rf impedance:	50Ω
Max. RF power:¹⁾	peak 1 kW, average 15 W
Actuator voltage:	28 ± 5 V DC
Duty cycle:	PM 7550-53 50 ms -55°C – +40°C lineary increasing to 200 ms at +85°C (min. time between successive operations) PM 7555-57 100%
Temperature:	-55°C to +85°C ambient
RF connectors:	SMA jack
Life:	min. 10 ⁶ actuations guaranteed
Vibration:	Sine ± 1.5 mm, 5-60 Hz Sine 20 g, 60-2000 Hz
Material:	RF-circuit: aluminium (chromated) and solid gold alloy contacts RF-connectors: stainless steel, beryllium-copper terminals: solder pins
Finish:	dull black paint

¹⁾ Under steady-state condition, switching RF power will damage the components.

Reliability-100% testing

All switches pass an extensive screening procedure, where all circuit parameters are checked across the frequency range, and continuous operation (running-in more than 5,000 actuations) is checked during temperature cycling. This enables the detection of early and intermittent failures.

Model	PM 7550	PM 7551	PM 7552	PM 7553	PM 7555	PM 7555/01	PM 7557	PM 7557/01	PM 7560	PM 7561
Switch function	SPDT	Transfer	SPDT	Transfer	SPDT	SPDT	SPDT	SPDT	SPDT	Transfer
Actuator	latching	latching	failsafe	failsafe	latching	latching	failsafe	failsafe	manual	manual
Switching time	15 ms	15 ms	15 ms	15 ms	20 ms	20 ms	20 ms	20 ms	n/a	n/a
Pull-in/holding current at 25°C max.	350/-mA	350/-mA	440/40 mA	400/40 mA	60/-mA	60/-mA	60/60 mA	60/60 mA	n/a	n/a
Position indicator	yes	yes	yes	yes	no	yes	no	yes	no	no
Self cut-off	yes	yes	n/a	n/a	yes	no ⁴⁾	n/a	n/a	n/a	n/a
Weight²⁾ max.	65 g	85 g	65 g	85 g	55 g	55 g	55 g	55 g	35 g	60 g

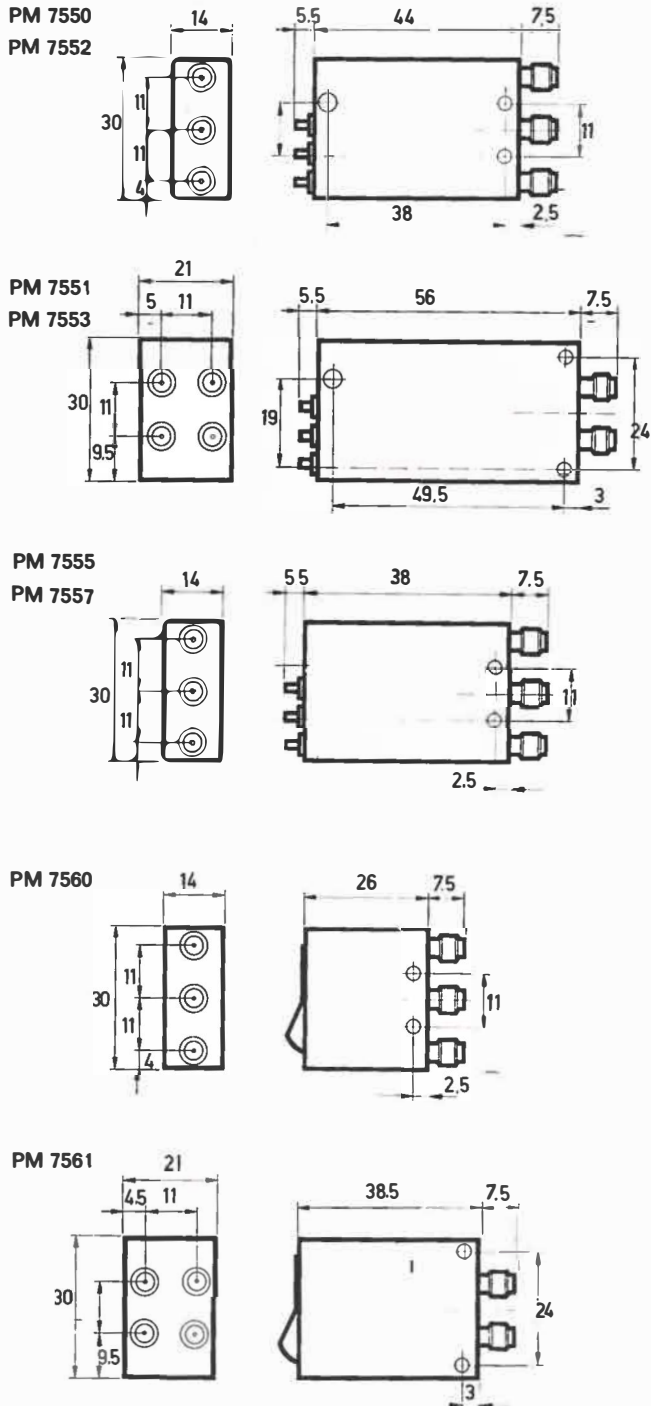
²⁾ 1 oz equals 28.35 g.

³⁾ Up to 90 dB available on option.

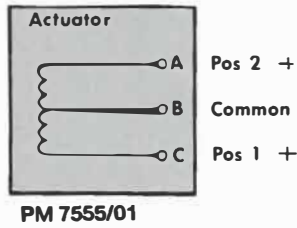
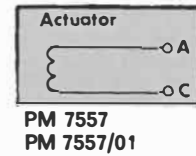
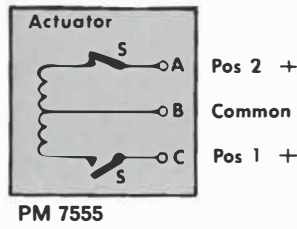
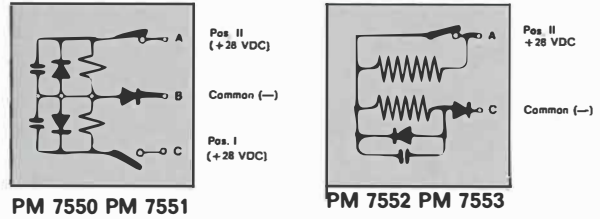
⁴⁾ Recommended pulse width 20-30 ms.

Coaxial switches, SMA

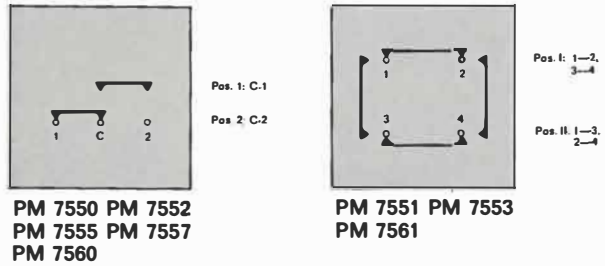
Outline drawing



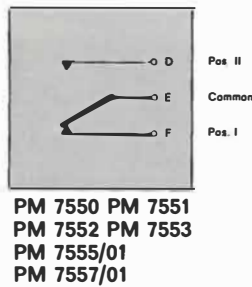
Actuators



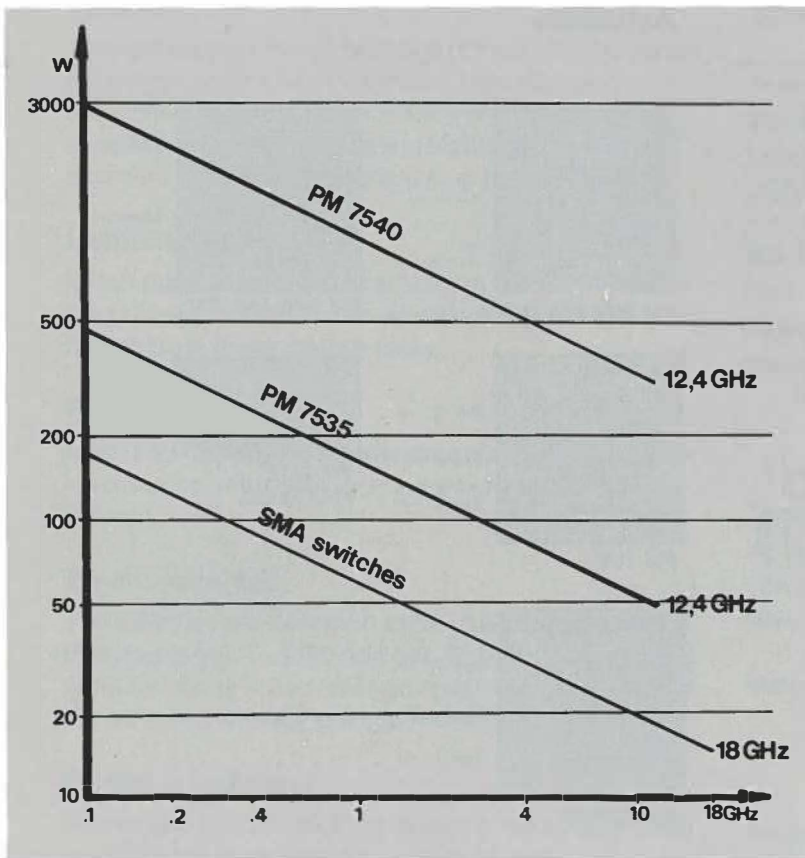
RF circuits



Position indicators



Power handling



Average power capacity

Max. RF-power at +85°C,
load VSWR = 1:1

Coaxial switches, SMA

