

Miniature Pushbutton Switches snap action



Specifications:

Contact rating:	125 V AC, 3 A 30 V DC, 1 A / 12 V DC, 2 A / 6 V DC, 3 A
Contact resistance:	< 10 mΩ
Insulation resistance:	> 1000 MΩ at 500 V DC
Dielectric strength:	1000 V, 50 Hz for the duration of 1 minute
Operating temperature:	- 20 °C to + 80 °C
Mechanical life:	minimum 100 000 operations
Contacts:	coin silver (common contact copper alloy, silver-plated) also available gold-plated version B (see page 4)
Terminals:	solder tags, copper alloy silver-plated
Case material:	phenol resin, black
Mounting:	bushing M 6 x 0,75 with locking plate, key 9 mm
Soldering conditions:	hand-soldering – max.: 60 W, 3 sec, 420 °C

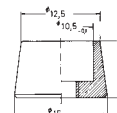
Accessories:

Buttons	∅ (height 8 mm)		∅ (height 10 mm)	
	orange	10 mm	KM 403	15 mm
blue	10 mm	KM 404	15 mm	KM 604
black	10 mm	KM 405	15 mm	KM 605
green	10 mm	KM 406	15 mm	KM 606
grey	10 mm	KM 407	15 mm	KM 607
yellow	10 mm	KM 408	15 mm	KM 608
red	10 mm	KM 409	15 mm	KM 609
white	10 mm	KM 410	15 mm	KM 610



Covers

M 6 x 0,75	
Brass, chromium-plated	CO 106
Brass, black, matt finish	CO 106 S





Miniature Pushbutton Switches snap action

Models: Switching functions

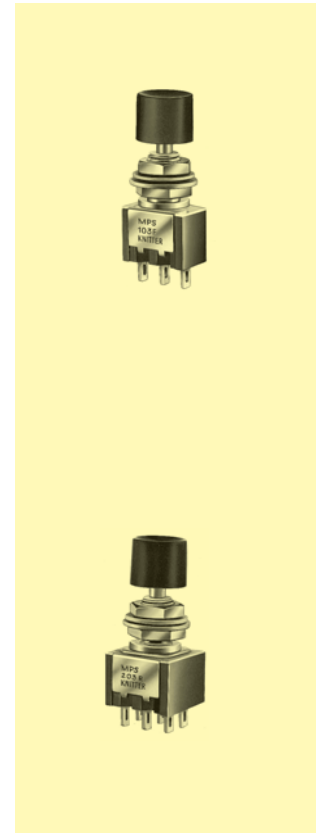
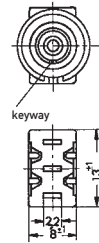
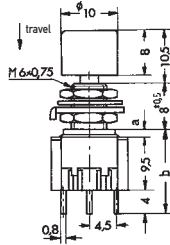
S P D T

MPS 103 F on - mom

measures: a = 1,5, b = 15^{±1}
travel 1,0

MPS 103 D on - on

measures: a = 2,5, b = 16^{±1}
travel 2,5



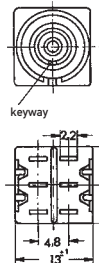
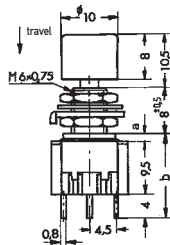
D P D T

MPS 203 R on - mom

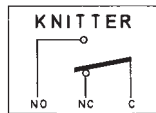
measures: a = 1,5, b = 15^{±1}
travel 1,0

MPS 203 N on - on

measures: a = 2,5, b = 16^{±1}
travel 2,5



Circuit diagram:



Miniature Pushbutton Switches ESD proof, waterproof



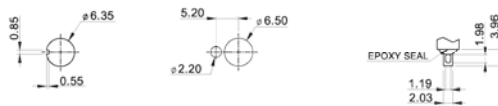
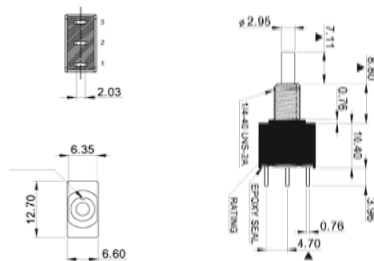
Specifications:

Contact rating:	20 V AC, 0,4 VA
Contact resistance:	< 20 mΩ
Insulation resistance:	> 1000 MΩ
Dielectric strength:	1000 V, 50 Hz for the duration of 1 minute
Operating temperature:	- 30 °C to + 85 °C
Mechanical life:	minimum 50 000 operations
Contacts:	gold-plated over nickel barrier
Terminals:	solder tags or PC terminals
Material:	case: PA / PES meets UL 94 V-0, washable button: PA meets UL 94 V-0, washable
Protection:	IP 67
Mounting:	bushing \varnothing 6,35 mm with locking plate or on pc-board
Soldering conditions:	hand-soldering – max.: 5 sec, 350 °C auto-soldering – max.: 10 sec, 260 °C
ESD resistance:	> 10 kV (between button and terminals)

Models: Switching functions

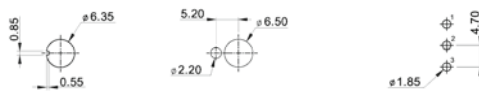
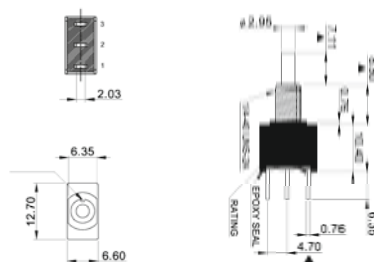
S P D T

MPME 1FB-ESD on – mom

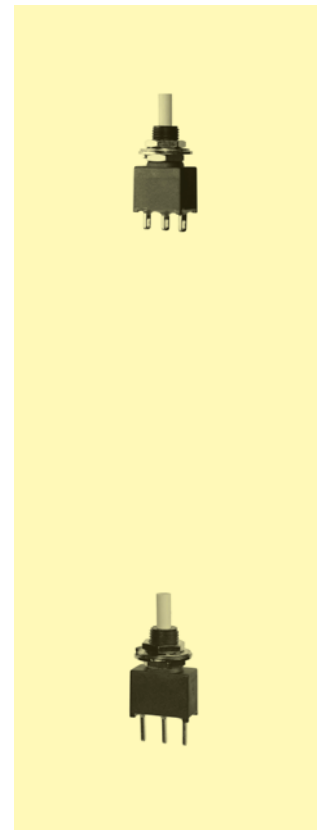


S P D T

MPME 1FB-PC ESD on – mom



washable





Miniature Pushbutton Switches

Specifications:

Contact rating:	250 V AC, 1 A / 125 V AC, 3 A 24 V DC, 2 A
Contact resistance:	< 30 mΩ
Insulation resistance:	> 500 MΩ at 500 V DC
Dielectric strength:	1000 V, 50 Hz for the duration of 1 minute
Operating temperature:	- 45 °C to + 110 °C
Mechanical life:	minimum 30 000 operations
Contacts:	coin silver, also available gold-plated, version G (see page 4)
Terminals:	solder tags
Material:	phenolformaldehyde MSP 103 B black, MSP 103 C brown
Mounting:	bushing M 6 x 0,75
Soldering conditions:	hand-soldering – max.: 20 W, 3 sec, 350 °C

3

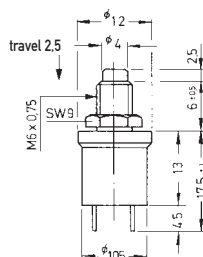
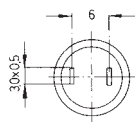
Models:

Switching functions

S P D T

MSP 103 B
MSP 103 C

on – (mom)
off – mom

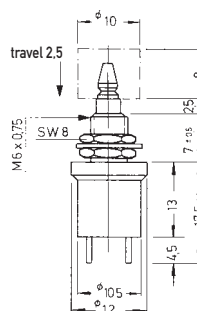
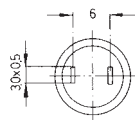


Button colour: orange

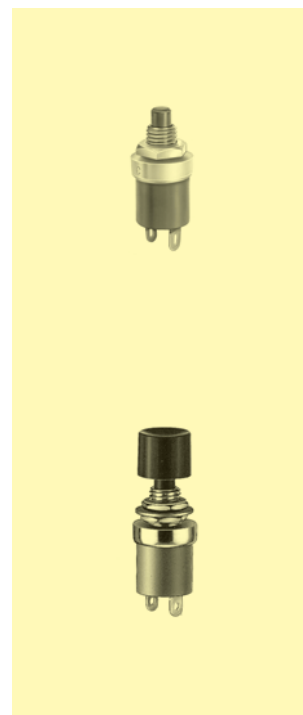
S P D T

MSP 103 BK
MSP 103 CK

on – (mom)
off – mom



Buttons see page 34.



Miniature Pushbutton Switches

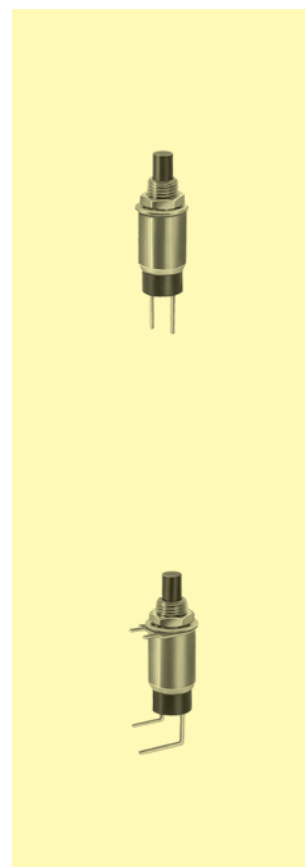
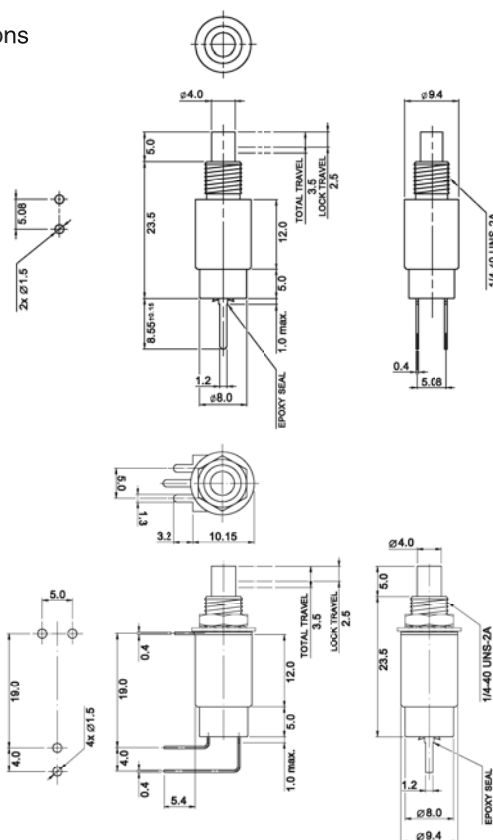
Specifications:

Contact rating:	250 V AC, 0,5 A / 120 V AC, 1 A 28 V DC, 1 A
Contact resistance:	< 30 mΩ
Insulation resistance:	> 100 MΩ at 500 V DC
Dielectric strength:	500 V, 50 Hz for the duration of 1 minute
Operating temperature:	- 20 °C to + 70 °C
Mechanical life:	more than 10 000 operations
Contacts:	phosphor bronze, silver-plated
Terminals:	PC terminals, brass silver-plated
Material:	case: copper alloy, nickel-plated / POM button: PA 66
Mounting:	single-hole mounting, Ø 6.35 mm or on pc-board
Soldering conditions:	auto-soldering – 5 sec ± 0,5 sec, 260 °C

Models: Switching functions

SPST
MSP 101 A on – off

SPST
MSP 101 A – RA on – off





Miniature Pushbutton Switches

Specifications:

Contact rating:	30 V DC, 650 mA
Contact resistance:	< 20 mΩ
Insulation resistance:	> 500 MΩ at 500 V DC
Dielectric strength:	500 V, 50 Hz for the duration of 1 minute
Operating temperature:	- 20 °C to + 60 °C
Mechanical life:	minimum 20 000 operations
Contacts:	brass, silver-plated
Terminals:	solder tags
Material:	phenolformaldehyde, black
Mounting:	single-hole
Soldering conditions:	hand-soldering – max.: 3 sec, 260 °C ± 5 °C

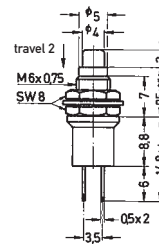
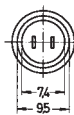
3

Models:

Contact arrangement

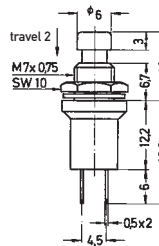
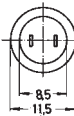
MSP 101 C
button colour: red

normally open



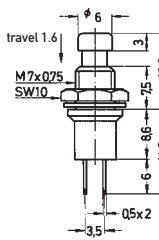
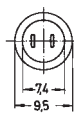
MSP 121 B
button colour: black
red

normally closed



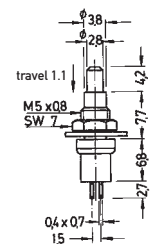
MSP 121 C
button colour: black
red

normally open



MSP 131 C
button colour: black

normally open

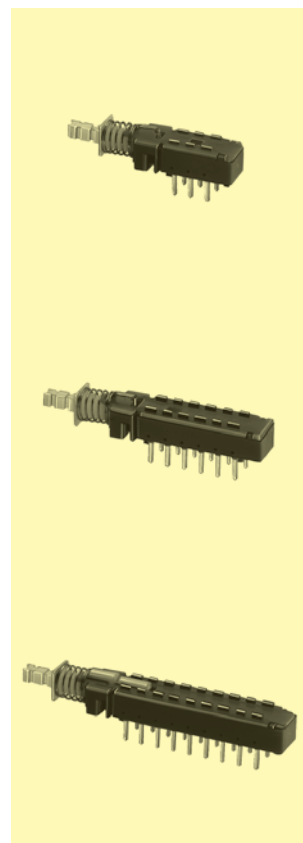
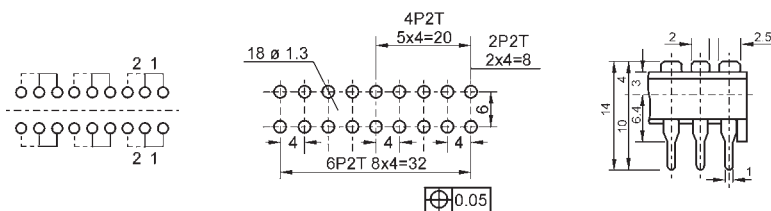
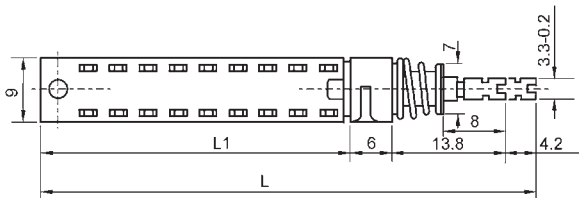
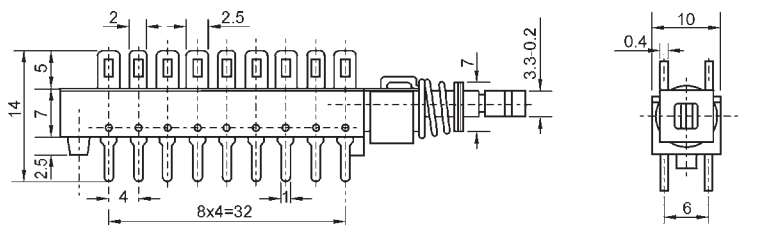


Miniature Pushbutton Switches

Specifications:

Contact rating:	100 V AC, 0.5 A / 25 V DC, 1 A
Contact resistance:	< 10 mΩ
Insulation resistance:	> 100 MΩ
Dielectric strength:	500 V, 50 Hz for the duration of 1 minute
Operating temperature:	-10 °C to +60 °C
Mechanical life:	minimum 30 000 operations
Contacts:	phosphor-bronze, silver-plated
Terminals:	brass, silver-plated
Case:	base: ABS, cover: ABS, actuator: POM
Mounting:	on pc-board
Timing:	non-shorting
Travel:	switch-travel: 3.2 mm, total travel: 4.7 mm
Soldering conditions:	auto-soldering – max. 5 sec, 260 °C ± 5 °C

Series MPBS



Ordering code:

MPBS - - 14

Number of poles:

- 22H01 2 poles
- 42H01 4 poles
- 62H01 6 poles

Switching mode:

- mom – on
- on – on

Operating force:

- F 3.0 N ±1.0 N
- F0 1.5 N ±0.5 N
2.0 N ±0.5 N (for 62H01)

Type	L (mm)	L1 (mm)
MPBS-22H01...	42	18
MPBS-42H01...	54	30
MPBS-62H01...	66	42



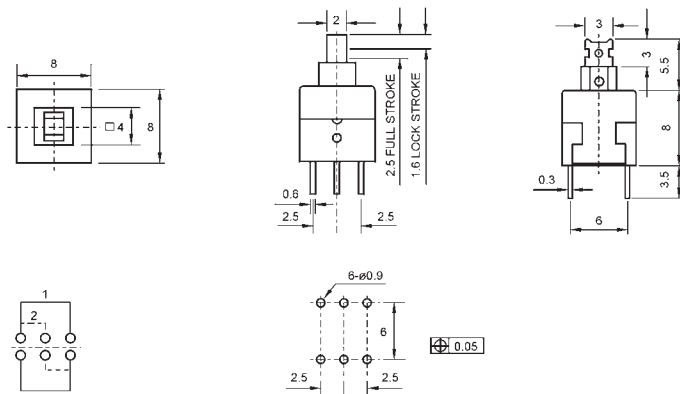
Miniature Pushbutton Switches

Specifications:

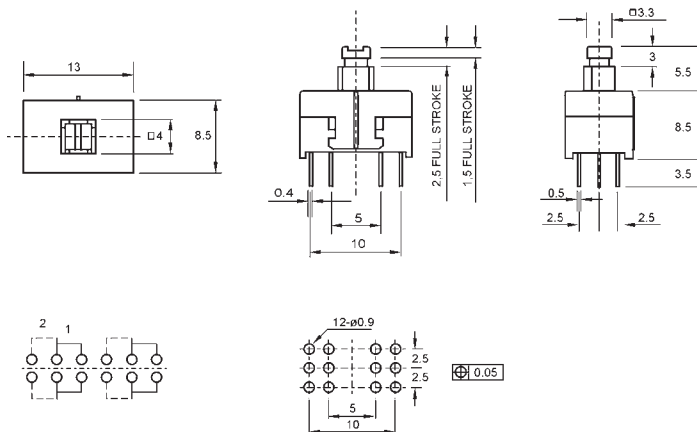
Contact rating:	30 V DC, 100 mA
Contact resistance:	< 20 mΩ
Insulation resistance:	> 100 MΩ
Dielectric strength:	500 V, 50 Hz for the duration of 1 minute
Operating temperature:	-10 °C to +60 °C
Electrical life:	minimum 10 000 operations
Contacts:	beryllium-copper, silver-plated
Terminals:	brass, silver-plated
Case:	base: PBT, cover: POM, actuator: POM
Mounting:	on pc-board
Timing:	non-shorting
Soldering conditions:	auto-soldering – max. 5 sec, 260 °C ± 5 °C

Models:

MPSA-22E08L-0
MPSA-22E08-0

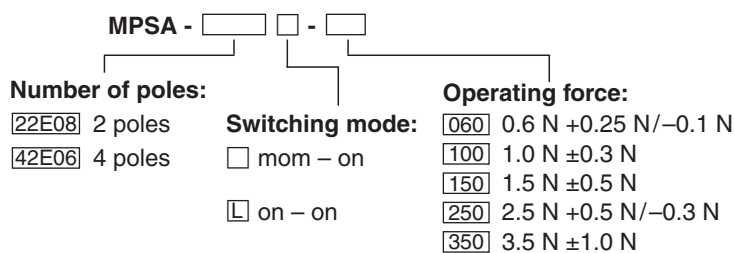


MPSA-42E06L-0
MPSA-42E06-0



Minimum order quantity 1.000 pcs

Ordering code:



Subminiature Pushbutton Switches



Specifications:

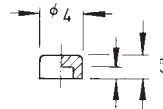
Contact rating:	max. 48 V AC/DC, 0,4 VA / max. 50 mA min. 20 mV AC/DC, 1 μ A
Contact resistance:	< 50 m Ω
Insulation resistance:	> 500 M Ω at 250 V DC
Dielectric strength:	500 V, 50 Hz for the duration of 1 minute
Operating temperature:	- 20 °C to + 80 °C
Mechanical life:	minimum 60 000 operations
Contacts:	phosphor bronze, gold-plated over nickel barrier
Terminals:	APE – PC terminals, crimped, phosphor bronze, gold-plated over nickel barrier
Material:	case: PBT, meets UL 94 V-0, washable metal parts: brass, nickel-plated
Mounting:	on pc-board
Soldering conditions:	auto-soldering – max.: 5 sec, 260 °C \pm 5 °C

The stability can be improved by using a supporting bracket.

Accessories:

Plastic caps

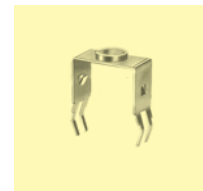
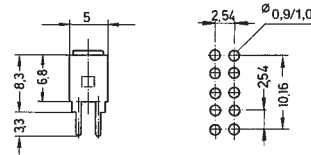
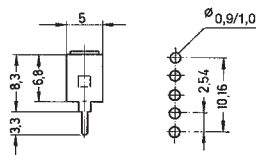
black	KA 3105
green	KA 3106
grey	KA 3107
yellow	KA 3108
red	KA 3109
white	KA 3110



Supporting bracket for
Order number

APE 1 F
AZ 0001

APE 2 F
AZ 0005





Subminiature Pushbutton Switches

Models: Switching functions: when looking at the brand name,
the normally closed contact is on the right-hand side

SPDT

APE 1 F

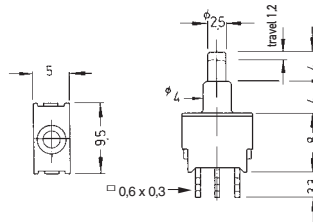
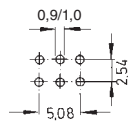
on - mom



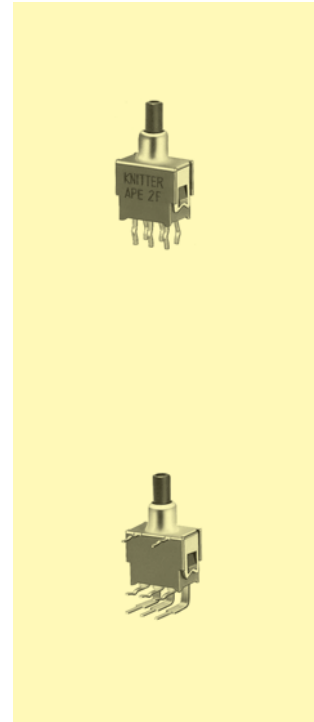
DPDT

APE 2 F

on - mom



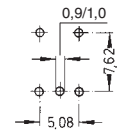
washable



SPDT

APE 1 F - RA

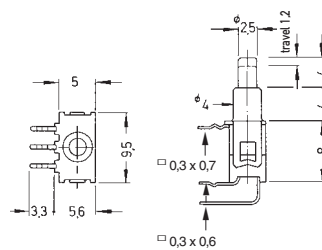
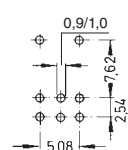
on - mom



DPDT

APE 2 F - RA

on - mom

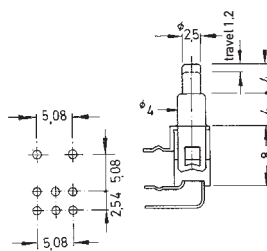


Special pin configuration:

Subminiature pushbutton switch
with 5,08 mm spacing

Additional to type number: - 1

Example of order: APE 2 F - RA - 1



Subminiature Pushbutton Switches

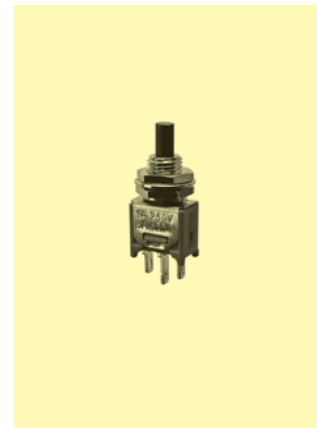
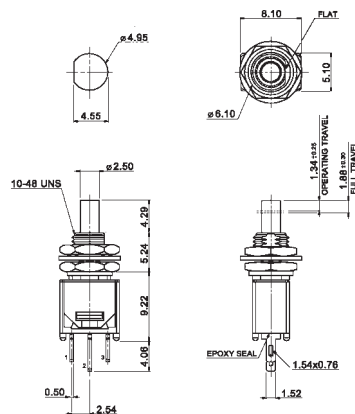


Specifications:

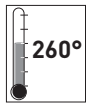
Contact rating:	250 V AC, 1 A / 120 V AC, 3 A / 28 V DC, 3 A
Contact resistance:	< 50 mΩ
Insulation resistance:	> 1000 MΩ
Dielectric strength:	1000 V, 50 Hz for the duration of 1 minute
Operating temperature:	- 30 °C to + 85 °C
Mechanical life:	minimum 50 000 operations
Contacts:	brass, silver-plated
Terminals:	brass, silver-plated
Case:	base: PA, cover: stainless steel, actuator: PA
Mounting:	single-hole
Timing:	non-shorting
Soldering conditions:	auto-soldering – max. 10 sec, max. 260 °C (pre-heat max. 120 s, max 150 °C) manual soldering – max. 5 sec, max 350 °C

Models: Switching functions

MZP 1 D on – on



Packing: 100 pcs/bag



Subminiature Pushbutton Switches waterproof

Specifications:

Contact rating:	20 V AC/DC, 0.4 VA
Contact resistance:	< 20 mΩ
Insulation resistance:	> 1000 MΩ
Dielectric strength:	1000 V, 50 Hz for the duration of 1 minute
Operating temperature:	- 30 °C to + 85 °C
Mechanical life:	minimum 50 000 operations
Contacts:	copper-alloy, gold-plate over nickel plate
Terminals:	copper-alloy, TSP: gold-plate over nickel plate, SSP: tin-plate over nickel-plate
Case:	PA, support: brass, tin-plated, actuator: PA
Protection:	IP 67
Mounting:	TSP: on pc-board, holes Ø 1.09 mm, SSP: SMD
Travel:	0.9 mm
Soldering conditions:	TSP: auto-soldering – max. 10 sec, max. 260 °C (pre-heat max. 120 sec, max. 150 °C), SSP: see reflow-profile manual soldering – max. 5 sec, max 350 °C

3

Models: Switching functions

washable

TSP 1 C	off – mom						
TSP 1 C – RA	off – mom						
SSP 1 CT-R	off – mom						
Packing:							