3/8" Square Panel Potentiometer Miniature - Cermet - Fully Sealed



P10 panel potentiometer combines the very good setting stability offered by Vishay Sfernice trimmers (due to their proprietary multifinger wiper), with a mechanical life of 10 000 cycles.

It is an ideal choice to set and control parameters such as temperature, time, volume levels, etc.

FEATURES

RoHS COMPLIANT

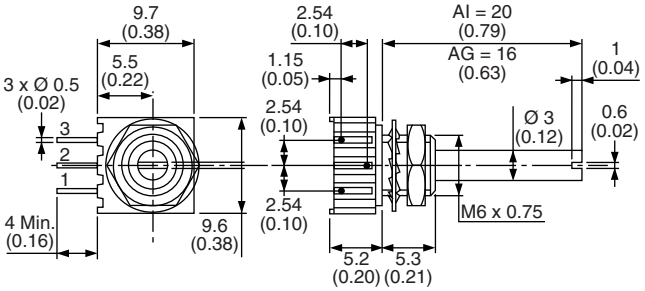
- Industrial grade
- 0.5 W at 70 °C
- Cermet element
- Miniature compact
- Plastic housing and shaft
- Fully sealed
- 5 standard pin styles
- Test according to CECC 41000 or IEC 60393-1
- 10 000 cycles rotational life
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

QUICK REFERENCE DATA	
Multiple module	No
Switch module	n/a
Detent module	n/a
Special electrical laws	No, only A: linear
Sealing level	IP 67
Lifespan	10K cycles

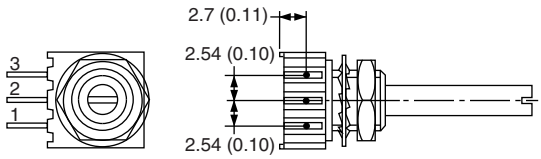
DIMENSIONS in millimeters (inches) ± 0.5 mm (± 0.02")

P10: Side Adjust

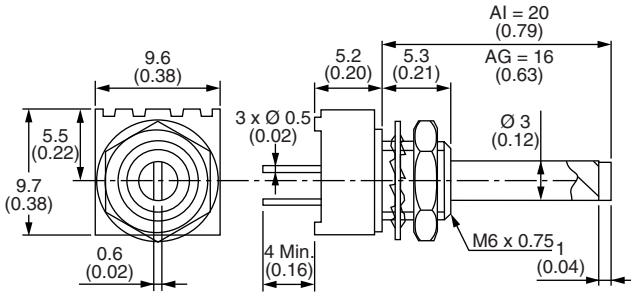
P10XX



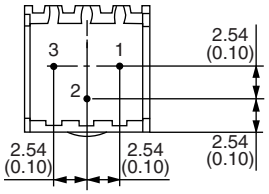
P10XC



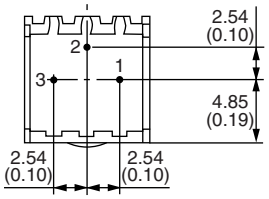
P10: Top Adjust



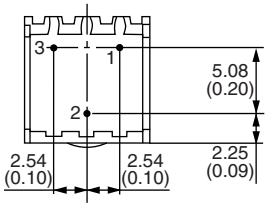
P10YP



P10YE

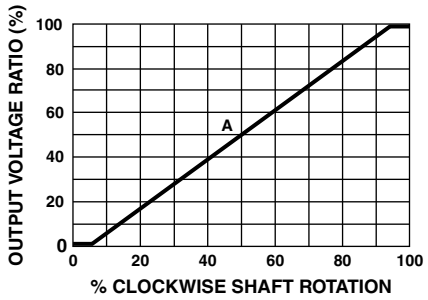
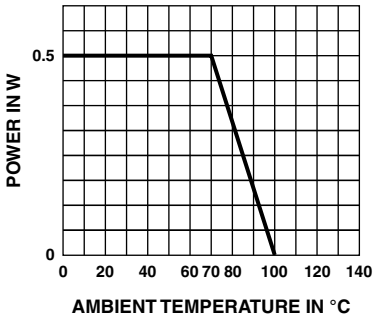
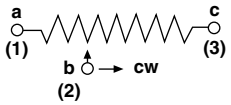


P10YM



For technical questions, contact: sferpottrimmers@vishay.com

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ELECTRICAL SPECIFICATIONS	
Resistive element	Cermet
Electrical travel	250° ± 15°
Standard resistance values	100 Ω to 2 MΩ
Tolerance	10 % - 5 % on request
Taper	Linear A 
Power rating	0.5 W at 70 °C 
Circuit diagram	
Standard resistance element data	
Temperature coefficient (typical)	± 150 ppm/°C
Contact resistance variation (typical)	1 % Rn or 2 Ω
End resistance (typical)	1 Ω
Dielectric strength (RMS)	1000 V
Insulation resistance (300 V_{DC})	10^6 MΩ

Standard	Max. Power	Max. Working	Max. Cur.
W	W	V	mA
100	0.5	7	70
200	0.5	10	50
500	0.5	15.8	32
1K	0.5	22.4	22
2K	0.5	31.8	16
5K	0.5	50.0	10
10K	0.5	70.7	7
20K	0.5	100	5
50K	0.5	158	3.2
100K	0.5	224	2.2
200K	0.28	250	1.3
500K	0.13	250	0.5
1M	0.06	250	0.25
2M	0.028	250	0.13

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MECHANICAL SPECIFICATIONS		
Mechanical travel	290° ± 5	
Operating torque (typical)	2 Ncm max.	2.83 oz.-inch max.
End stop torque	7 Ncm max.	9.9 oz.-inch max.
Tightening torque of mounting nut	25 Ncm max.	2.2 lb-inch max.
Unit weight	1 g	$3.5\ 10^{-2}$ oz.
Terminals	3: Pure Sn	
Shafts	Standard shaft 20 mm length (R or AI code) and 16 mm length (D or AG code) is measured from the mounting face to the free end of the shaft. Vishay guarantee is lost if the customer modifies the shaft himself.	
Hardware	Nuts and washer are supplied separately (not mounted on the potentiometer) in a small bag placed in the packaging.	

ENVIRONMENTAL SPECIFICATIONS	
Temperature range	-55 °C to +125 °C
Climatic category	55/100/56
Sealing	Fully sealed - Container IP67

MARKING	
Vishay trademark Model Ohmic value code Tolerance code Manufacturing date code Marking of terminals 3	The ohmic value is indicated by a 3 figures code: The first two digits are significant figures, the third digit is the multiplier: Example: 101 = 100 Ω 102 = 1000 Ω 503 = 50 000 Ω The manufacturing date is indicated by a figures code. The first two digits are the year, the last two digits are the week.

PERFORMANCE				
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS		
		$\Delta R_T/R_T$ (%)	$\Delta R_{1\text{-}2}/R_{1\text{-}2}$ (%)	OTHER
Electrical endurance	1000 h at rated power 90'/30' - ambient temp. 70 °C	± 1 %	± 2 %	Contact resistance variation: 1 %
Climatic sequence	Phase A dry heat 100 °C Phase B damp heat Phase C cold -55 °C Phase D damp heat 5 cycles	± 1 %	± 2 %	-
Damp heat, steady state	56 days 40 °C 93 % HR	± 1 %	± 2 %	Dielectric strength: 1000 V_{RMS} Insulation resistance: $> 10^4$ MΩ
Change of temperature	5 cycles -55 °C at 100 °C	± 1 %	-	$\Delta V_{1\text{-}2}/V_{1\text{-}3} \leq \pm 2$ %
Mechanical endurance	10 000 cycles	± 3 %	-	Contact resistance variation: ≤ 2 % R_n
Shock	50 *g*'s at 11 ms 3 successive shocks in 3 directions	± 0.5 %	± 1 %	-
Vibration	10 Hz to 55 Hz 0.75 mm or 10 *g*'s during 6 h	± 0.5 %	-	$\Delta V_{1\text{-}2}/V_{1\text{-}3} \leq \pm 1$ %

Note

- Nothing stated herein shall be construed as a guarantee of quality or durability

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ORDERING INFORMATION (part number)

P	1	0	X	X	A	G	1	0	3	K	B	3	0				

MODEL	STYLE	SHAFT	RESISTANCE CODE	TOLERANCE CODE	PACKAGING CODE	SPECIAL NUMBER
P10	XC XX YE YM YP	AG = Ø 3 mm to 16 mm (old code D) AI = Ø 3 mm to 20 mm (old code R)	From 100 Ω to 2 MΩ 103 = 10 kΩ	K = 10 % On request: J = 5 %	B30 = box 100 pieces	(If applicable) Given by Vishay for custom design

PART NUMBER DESCRIPTION (for information only)

P10	XX	AG	10K	10 %		BO100	e3
MODEL	STYLE	SHAFT	VALUE	TOLERANCE	SPECIAL	PACKAGING	LEAD (Pb)-FREE

RELATED DOCUMENTS

APPLICATION NOTES	
Potentiometers and Trimmers	www.vishay.com/doc?51001
Guidelines for Vishay Sfernice Resistive and Inductive Components	www.vishay.com/doc?52029

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