

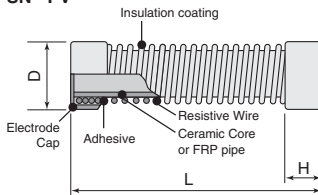
### features

- PSO is made completely moisture preventive to be PSN that can be used under high moisture environment
- PN is a non-inductive type and can be used for high frequency
- PWW resistors, which are non-inductive wirewound resistors for high voltage with resistance wires wound on insulation pipes
- PAP resistors are non-inductive wirewound resistors with inductance less than PWW, can be used for pulse wave measurement, impulse generators, etc. and have the same dimensions as PWW resistors

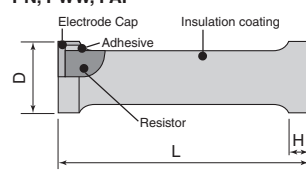


### dimensions and construction

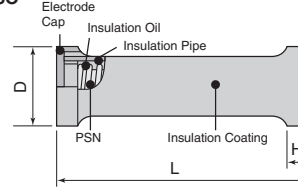
PSN • PV



PN, PWW, PAP



PSO



Size Code	Dimensions (mm)			Weight (g)
	L	D±0.5	H (Nominal)	
PSN-0.5	50±2	17.5	10	20
PSN-1	100±2		30	
PSN-2	200±2	24	15	85
PSN-3	300±2	33	20	250
PSN-4	400±3	45	25	600
PSN-5	500±3	62		800
PSN-6	1000±5	9.5	8	1350
PV-0.5	80±2			12
PV-1	150±2	17.5	10	23
PV-2		45		
PV-5	250±2	24	15	105
PV-8		33	20	220
PSO-0.5	55±5	28	10	120
PSO-1	105±5			150
PSO-2	205±5	38	370	

Size Code	Dimensions (mm)			Weight (g)
	L	D±0.5	H (Nominal)	
PSO-3	320±5	46	20	760
PSO-4	420±5	65		1900
PSO-5	530±5	80	25	3500
PSO-6	1050±5			6200
PN-0.5	50±2	17	8	25
PN-1	100±2		55	
PN-2	200±2		80	
PN-3	300±2		100	
PN-4	400±2	20	12	125
PWW-3, PAP-3	300±2			33
PWW-4, PAP-4	400±3	45	20	660 • 510
PWW-5, PAP-5	500±3	62	25	1330 • 960
PWW-6, PAP-6	1000±5			2700 • 1850

### ordering information

PSN RoHS

PSN	0.5	CP	F	A	105	J
Product Code	Power Rating	Cap	RoHS	Holder	Nominal Resistance	Resistance Tolerance
	0.5 : 2W 1 : 5W 2 : 10W 3 : 25W 4 : 50W 5 : 125W 6 : 250W	C M MS CP		Nil: No Holder A B	3 digits	J : ±5% K : ±10% M : ±20%

PSO RoHS

PSO	0.5	C	F	105	J
Product Code	Power Rating	Cap	RoHS	Nominal Resistance	Resistance Tolerance
	0.5 : 1.5W 1 : 4W 2 : 8W 3 : 20W 4 : 40W 5 : 100W 6 : 200W	C		3 digits	J : ±5% K : ±10% M : ±20%

### ordering information

#### PV RoHS

PV	0.5	CP	F	A	105	J
<b>Product Code</b>	<b>Power Rating</b>	<b>Cap</b>	<b>RoHS</b>	<b>Holder</b>	<b>Nominal Resistance</b>	<b>Resistance Tolerance</b>
	0.5 : 2W 1 : 4W 2 : 7W 5 : 12W 8 : 20W	C M CP		Nil: No Holder A B	3 digits	J : ±5% K : ±10% M : ±20%

#### PN RoHS

PN	0.5	CP	F	105	J
<b>Product Code</b>	<b>Power Rating</b>	<b>Cap</b>	<b>RoHS</b>	<b>Nominal Resistance</b>	<b>Resistance Tolerance</b>
	0.5 : 1.5W 1 : 3W 2 : 6W 3 : 9W 4 : 12W	C M CP		3 digits	J : ±5% K : ±10% M : ±20%

#### PWW, PAP RoHS

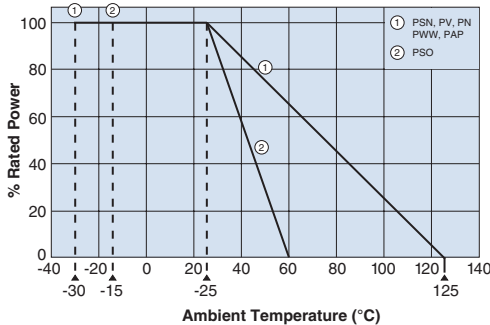
PWW	3	M	F	A	102	J
<b>Product Code</b>	<b>Power Rating</b>	<b>Cap</b>	<b>RoHS</b>	<b>Holder</b>	<b>Nominal Resistance</b>	<b>Resistance Tolerance</b>
PWW PAP	3 : 25W 4 : 50W 5 : 100W 6 : 200W	M		Nil: No Holder A B	3 digits	J : ±5% K : ±10% M : ±20%

### applications and ratings

Part Designation	Power Rating (W)	Resistance Range (Ω) J: ±5% K: ±10% M: ±20% (E24)	T.C.R. (x10 <sup>-6</sup> /K)	Maximum Working Voltage	Impulse Withstand Voltage	Energy Rating 1 time/ 5 min.	Operating Temperature Range	Inductance (μH) Maximum										
PSN-0.5	2	500~500M	±1500: +25°C/-15°C	15kV	20kV	50J	-30°C~+125°C	—										
PSN-1	5	1k~1G		30kV	40kV	125J												
PSN-2	10	2k~2G		60kV	80kV	400J												
PSN-3	25	3k~3G		90kV	120kV	1.8kJ												
PSN-4	50	4k~4G		120kV	160kV	4.0kJ												
PSN-5	125	5k~5G		150kV	200kV	9.0kJ												
PSN-6	250	6k~6G		300kV	400kV	20.0kJ												
PV-0.5	2	500~500M		±1000: +25°C/+85°C (R<1GΩ)	24kV	32kV			45J	-15°C~+60°C	—							
PV-1	4	1k~1G			45kV	60kV			90J									
PV-2	7	1.5k~1.5G			75kV	100kV			270J									
PV-5	12	2.5k~2.5G			150kV	200kV			650J									
PV-8	20	2.5k~2.5G		300kV	400kV	950J												
PSO-0.5	1.5	500~500M	±3000 (R≥1GΩ)	15kV	20kV	40J	-30°C~+125°C	—										
PSO-1	4	1k~1G		30kV	40kV	100J												
PSO-2	8	2k~2G		60kV	80kV	320J												
PSO-3	20	3k~3G		90kV	120kV	1.5kJ												
PSO-4	40	4k~4G		120kV	160kV	3.2kJ												
PSO-5	100	5k~5G		150kV	200kV	7.2kJ												
PSO-6	200	6k~6G		300kV	400kV	16.0kJ												
PN-0.5	1.5	50~500k		±200	—	20kV			35J	-30°C~+125°C	33							
PN-1	3	100~1M			—	40kV			70J			45						
PN-2	6	200~2M			—	80kV			130J				62					
PN-3	9	300~3M			—	120kV			200J					62				
PN-4	12	400~4M			—	160kV			270J						33			
PWW-3	25	10~800	—		120kV	2kJ~5kJ	45											
PWW-4	50	15~1.5k	—		160kV	4kJ~12kJ		62										
PWW-5	100	25~2.5k	—		200kV	7kJ~20kJ			62									
PWW-6	200	50~5k	—		400kV	14kJ~40kJ										33		
PAP-3	25	10~400	—		120kV	1kJ~2kJ											45	
PAP-4	50	10~800	—		160kV	1.5kJ~4kJ												62
PAP-5	100	15~1k	—		200kV	3.5kJ~10kJ												
PAP-6	200	25~2k	—	400kV	7kJ~25kJ	62												

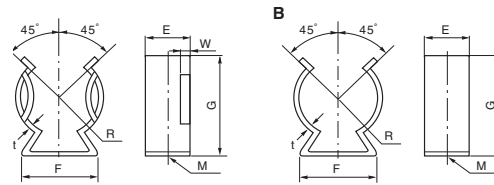
### environmental applications

#### Derating Curve



For resistors operated at an ambient temperature of 25°C or above, a power rating shall be rated in accordance with the above derating table.

#### Holder Dimensions (mm)



Type	R	E	F	G	M	t	W
PSN-0.5, PSN-1, PV-2	8.5	11	16	24	ø4.2	0.8	1.5±0.5
PSN-2, PV-5	11.5	15	18	32		1.0	1.5±1.0
PSN-3, PV-8, PWW-3, PAP-3	16	18	24	40	ø6.5	1.5	2.0±1.0
PSN-4, PWW-4, PAP-4	22	20	36	59		1.5	2.0±1.0
PSN-5, 6, PWW-5, 6, PAP-5, 6	30	25	46	74		1.5	2.0±1.0

### Performance Characteristics

Parameter	Requirements $\Delta R \pm \%$	Test Method
Resistance	Within specified tolerance	25°C
T.C.R.	Within specified T.C.R.	R<1GΩ: PSN: ±1500 : +25°C/-15°C PSN: ±1000 : +25°C/+85°C R≥1GΩ: PSN: ±3000 : +25°C/-15°C, +25°C/+85°C
Rapid Change of Temperature	5%	-30°C (30 minutes)/+85°C (30 minutes) 5 cycles Except for PSN
Voltage Characteristics	3%	Rated voltage or max. working voltage, whichever is lower and 1/10 of its voltage
Moisture Resistance	5% : R<100MΩ 10% : R≥100MΩ	40°C, 90%~95%RH, 250 hours
Endurance at 25°C	5% : R<100MΩ 10% : R≥100MΩ	25°C, 500 hours 25°C, 500 hours, Continuous load

### Cap Dimensions (mm)

Cap Shape	C		M				MS				CP		C			
	D	d	D	M	K	A	D	M	K	A	d	ℓ	D	M	ℓ <sub>1</sub>	ℓ <sub>2</sub>
PSN-05;PSN-1;PV-2	17.5	7	17.5	3	2	7	—	—	—	—	1.0	90	—	—	—	—
PSN-2;PV-5	24	12	24	4	2	10	—	—	—	—	1.2	120	—	—	—	—
PSN-3;PV-8,PWW-3;PAP-3	33	14	33	5	4	14	—	—	—	—	—	—	—	—	—	—
PSN-4;PWW-4;PAP-4	—	—	45	6	4	16	45	8	4	16	—	—	—	—	—	—
PSN-5,6;PWW-5,6;PAP-5,6	—	—	62	8	7	26	62	10	7	37	—	—	—	—	—	—
PV-0.5;PV-1	9.5	Without hole	—	—	—	—	—	—	—	—	0.9	90	—	—	—	—
PN-0.5	17	Without hole	—	—	—	—	—	—	—	—	1.0	90	—	—	—	—
PN-1	—	—	17	4	—	—	—	—	—	—	1.0	90	—	—	—	—
PN-2~PN-4	—	—	17	4	—	—	—	—	—	—	1.2	120	—	—	—	—
PSO-05,1	—	—	—	—	—	—	—	—	—	—	—	—	28	4	8	—
PSO-2	—	—	—	—	—	—	—	—	—	—	—	—	38	6	10	—
PSO-3	—	—	—	—	—	—	—	—	—	—	—	—	46	8	—	15
PSO-4	—	—	—	—	—	—	—	—	—	—	—	—	65	10	—	20
PSO-5,6	—	—	—	—	—	—	—	—	—	—	—	—	80	12	—	25