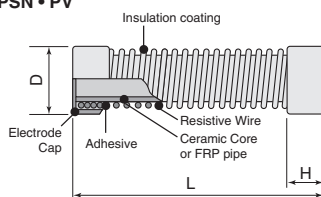


### features

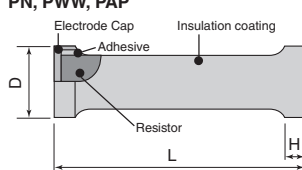
- PSO is made completely moisture preventive to be PSN
- PN is a non-inductive type and can be used for high frequency
- PWW resistors, which are non-inductive wirewound resistors for high voltage with resistance wires wound on insulation pipes
- PAP resistors are non-inductive wirewound resistors with 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

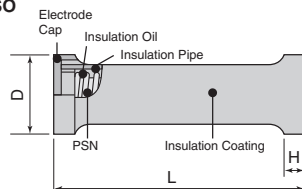
PSN • PV



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		600
PSN-5	500±3	62	25	800
PSN-6	1000±5			1350
PV-0.5	80±2	9.5	8	12
PV-1	150±2			23
PV-2	250±2	17.5	10	45
PV-5		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	20	370
PSO-3	320±5	46		760
PSO-4	420±5	65	25	1900
PSO-5	530±5	80		3500
PSO-6	1050±5	80	25	6200
PN-0.5	50±2			8
PN-1	100±2	17	12	55
PN-2	200±2			80
PN-3	300±2			100
PN-4	400±2			125
PWW-3, PAP-3	300±2	33	20	310 • 250
PWW-4, PAP-4	400±3	45		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%

### ordering information

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

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

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

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



KOA SPEER ELECTRONICS, INC.

# PSN, PV, PSO, PN, PWW, PAP

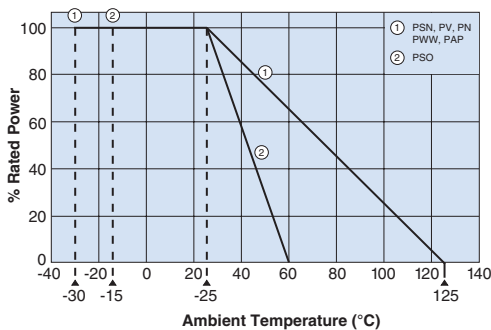
## high voltage power resistors

### applications and ratings

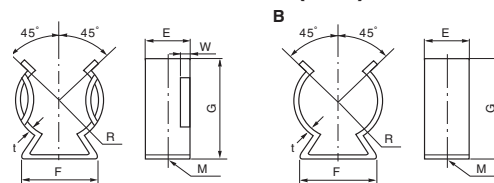
Part Designation	Power Rating (W)	Resistance Range ( $\Omega$ ) J: $\pm 5\%$ K: $\pm 10\%$ M: $\pm 20\%$ (E24)	T.C.R. ( $\times 10^{-6}/K$ )	Maximum Working Voltage	Impulse Withstand Voltage	Energy Rating 1 time/ 5 min.	Operating Temperature Range	Inductance ( $\mu H$ ) Maximum
PSN-0.5	2	500~500M	$\pm 1500$ : $+25^{\circ}C/-15^{\circ}C$ $\pm 1000$ : $+25^{\circ}C/+85^{\circ}C$ ( $R < 1G\Omega$ )	15kV	20kV	50J	$-30^{\circ}C \sim +125^{\circ}C$	—
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		24kV	32kV	45J		
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	$\pm 3000$ ( $R \geq 1G\Omega$ )	15kV	20kV	40J	$-15^{\circ}C \sim +60^{\circ}C$	—
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	—	—	20kV	35J	$-30^{\circ}C \sim +125^{\circ}C$	20
PN-1	3	100~1M		—	40kV	70J		
PN-2	6	200~2M		—	80kV	130J		
PN-3	9	300~3M		—	120kV	200J		
PN-4	12	400~4M	—	160kV	270J	200J		
PWW-3	25	10~800	$\pm 200$	—	120kV	2kJ~5kJ	$-30^{\circ}C \sim +125^{\circ}C$	20
PAP-3		10~400				4kJ~12kJ		3
PWW-4	50	15~1500			160kV	7kJ~20kJ		35
PAP-4		10~800				14kJ~40kJ		6
PWW-5	100	25~2500			200kV	1kJ~2kJ		70
PAP-5		15~1000				1.5kJ~4kJ		12
PWW-6	200	50~5000			200kV	3.5kJ~10kJ		150
PAP-6		25~2000				7kJ~25kJ		25

### environmental applications

#### Derating Curve



### Holder Dimensions (mm)



Type	R	E	F	G	M	t	W
PSN-0.5, PSN-1, PV-2	8.5	11	16	24	$\phi 4.2$	0.8	$1.5 \pm 0.5$
PSN-2, PV-5	11.5	15	18	32		1.0	
PSN-3, PV-8	16	18	24	40	$\phi 6.5$	1.5	$2.0 \pm 1.0$
PSN-4	22	20	36	59		1.5	
PSN-5, PSN-6	30	25	46	74		1.5	

### Performance Characteristics

(PWW, PAP: Please contact factory for details)

Parameter	Requirements $\Delta R \pm \%$	Test Method
Resistance	Within specified tolerance	25°C
T.C.R.	Within specified T.C.R.	$R < 1G\Omega$ : PSN: $\pm 1500$ : $+25^{\circ}C/-15^{\circ}C$ PSN: $\pm 1000$ : $+25^{\circ}C/+85^{\circ}C$ $R \geq 1G\Omega$ : PSN: $\pm 3000$ : $+25^{\circ}C/-15^{\circ}C, +25^{\circ}C/+85^{\circ}C$
Rapid Change of Temperature	5%	$-30^{\circ}C$ (30 minutes)/ $+85^{\circ}C$ (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% : $R < 100M\Omega$ 10% : $R \geq 100M\Omega$	40°C, 90%~95%RH, 250 hours
Endurance at 25°C	5% : $R < 100M\Omega$	25°C, 500 hours
	10% : $R \geq 100M\Omega$	25°C, 500 hours, Continuous load

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

1/27/12