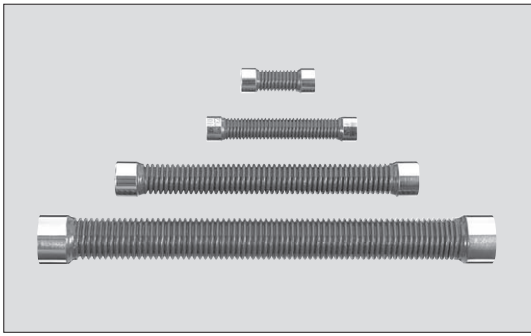


HIGH VOLTAGE POWER RESISTORS

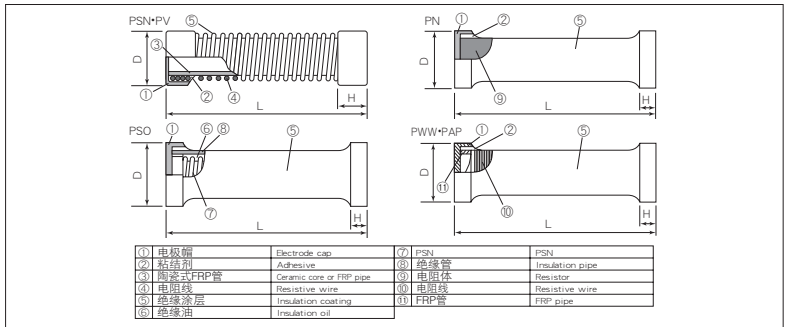


PSN•PV•PSO•PN•PWW•PAP 高压功率电阻器 High Voltage Power Resistors



外观颜色: 红色 Body color: Red
表示: 文字表示 Marking: Alphanumeric

■ 结构图 Construction



■ 用途 Applications

- 高压的充电、放电阻器、吸收浪涌用电器、保护电阻器（负荷短路时）。
- 把二极管、电容器串联使用时的均压电阻器。
- 直流电压用分压器、测定雷击、开关脉冲电压用分压器。
- Resistors for charging and discharging for high voltage, resistors for surge absorption, and protective resistors at the time of a short-circuit.
- Voltage Equalizing Resistors at the time of using and connecting diodes and capacitors in series.
- Dividers for DC voltage and for measuring lightning and switching impulses.

■ 使用上注意 Precautions for Use

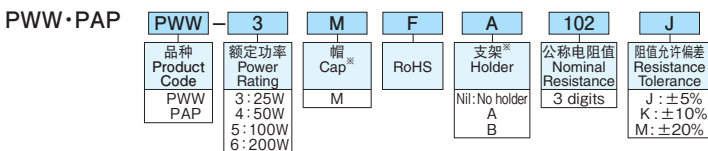
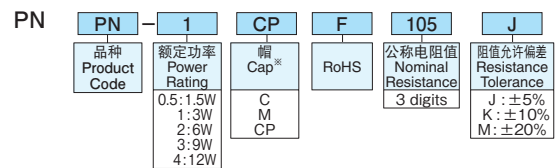
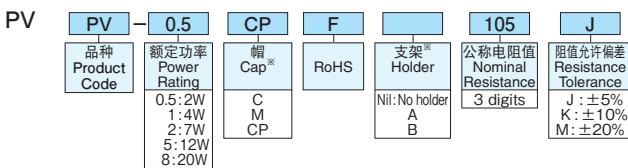
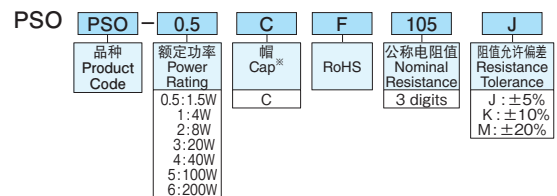
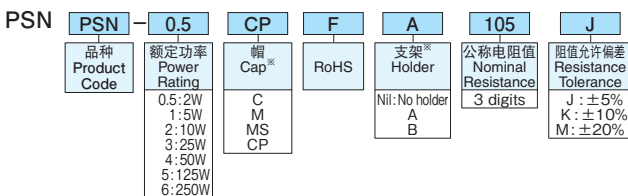
- 冲击耐受电压，是以1/40 μs或1.2/50 μs的波形作为标准的标准值。标准值根据时间常数和波尾宽度而变化，因此，在标准波形以外使用时，应事前向本公司询问。
- 由于连续性地施加高压，杂物等附着到了电阻器表面，成为表面泄漏和发生电晕的原因。因此，应在粉尘少的场所使用。还有，应当定期进行电阻器表面的清扫。
- 为了稳定长期使用，应当在额定功率50%以下使用。
- 高电阻值产品，为防表面漏电，不要直接用手接触。
- 附近有导体时，有可能发生电晕和放电短路，为了避免这些，每个3kVd.c应离附近导体1cm以上安装。
- 在高湿度中保管·使用时，因为吸湿，电阻值会不稳定，因此要注意。
- Impulse withstanding voltage is specified for waveform of 1/40 μs or 1.2/50 μs as a standard. Please inquire of us in advance when using other than the standard waveform, since the specified value may change, depending on time constant or length of wave tail.
- Use the components under less dusty places, as continual applying of high voltage makes dust adhere to the surface of the resistors and causes surface leakage and corona. Also periodic cleaning of the surface of resistors is needed.
- Use them at 50% or under of the rated power for stable use for a long time.
- Do not touch the resistors with high resistance value by hand to prevent surface-leakage current.
- Set the products away from near electric conductors 1cm or over per 3kVd.c to avoid occurrence of corona and short-circuit by discharge, if there are electric conductors near to.
- Take care that the resistors may become instable in resistance value by absorption of humidity when they are stored or used in high humidity environment.

■ 特点 Features

- PSN电阻值范围广，为500 Ω~6G Ω，可以对应高压高功率。
- PSO是把PSN充分防湿的，可使用在高湿度环境。
- PN是无感型，可供高频率的使用。
- PWW和PAP是无感型、绕线电阻器。
- PWW和PSN形状虽然相同但PWW可以提供低阻值范围而PSN不能对应。
- PAP的电感比PWW要小是无感型绕线电阻器。可以用在脉冲检测和波形发生器。
- 带无铅符号“F”的产品，适应于欧盟RoHS。
- PSN can respond to high voltage and high power with a wide resistance range of 500 Ω ~ 6G Ω.
- 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 and PAP type are non-inductive wire wound resistors.
- PWW resistors have the same shapes as PSN and can be used for a low resistance area that cannot be produced with PSN resistors.
- PAP resistors are non-inductive wire wound resistors with inductance lessened than PWW can be used for pulse wave measurement, impulse generators, etc.
- Products with Pb free symbol “F” meet EU-RoHS requirement.

■ 品名构成 Type Designation

实例 Example



※详细情况参照下页。 See next page for detail.

关于环境有毒有害物质，EU-RoHS以外的对应要求请联系我们。
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

■ 额定值 Ratings

型号 Type	额定功率 Power Rating (W)	电阻值范围 (Ω) Resistance Range J: ±5% K: ±10% M: ±20% (E24系列)	电阻温度系数 T.C.R. (×10 ⁻⁹ /K)	最高使用电压 Max. Working Voltage	冲击耐受电压 Impulse Withstand Voltage	使用温度范围 Operating Temp. Range	吸收能量 Energy Rating 1 time/5 min.	尺寸 (mm) Dimensions (mm)			重量 (g) (1pcs)				
								L	D±0.5	H (Nominal)					
PSN-0.5	2	500~500M	±1500: +25°C/-15°C ±1000: +25°C/+85°C (R < 1G Ω)	15kV	20kV	-30°C ~ +125°C	50J	50±2	17.5	10	20				
PSN-1	5	1k~1G		30kV	40kV		125J	100±2			30				
PSN-2	10	2k~2G		60kV	80kV		400J	200±2	24	15	85				
PSN-3	25	3k~3G		90kV	120kV		1.8kJ	300±2	33	20	250				
PSN-4	50	4k~4G		120kV	160kV		4.0kJ	400±3	45		600				
PSN-5	125	5k~5G		150kV	200kV		9.0kJ	500±3	62	25	800				
PSN-6	250	6k~6G		300kV	400kV		20.0kJ	1000±5			1350				
PV-0.5	2	500~500M		24kV	32kV		45J	80±2	9.5	8	12				
PV-1	4	1k~1G		45kV	60kV		90J	150±2			23				
PV-2	7	1.5k~1.5G					270J	17.5			10	45			
PV-5	12	2.5k~2.5G	±3000 (R ≥ 1G Ω)	-15°C ~ +60°C	650J	24	15	105							
PV-8	20	2.5k~2.5G			950J	33	20	220							
PSO-0.5	1.5	500~500M			15kV	20kV	40J	55±5	28	10	120				
PSO-1	4	1k~1G			30kV	40kV	100J	105±5			150				
PSO-2	8	2k~2G	60kV	80kV	320J	205±5	38	370							
PSO-3	20	3k~3G	90kV	120kV	1.5kJ	320±5	46	760							
PSO-4	40	4k~4G	120kV	160kV	3.2kJ	420±5	65	1900							
PSO-5	100	5k~5G	150kV	200kV	7.2kJ	530±5	80	25	3500						
PSO-6	200	6k~6G	300kV	400kV	16.0kJ	1050±5			6200						
PN-0.5	1.5	50~500k	-	-	-	-	-	-	35J	50±2	8	25			
PN-1	3	100~1M							20kV	40kV	70J	100±2	17	12	55
PN-2	6	200~2M							80kV	130J	200±2	80			
PN-3	9	300~3M							120kV	200J	300±2	100			
PN-4	12	400~4M	160kV	270J	400±2	125									
PWW-3	25	10~800	-	-	-	-	-	-	2kJ~5kJ	300±2	33	20	310		
PWW-4	50	15~1.5k							4kJ~12kJ	400±3			45	660	
PWW-5	100	25~2.5k							7kJ~20kJ	500±3	62	1300			
PWW-6	200	50~5k							14kJ~40kJ	1000±5	80	2700			
PAP-3	25	10~400							1kJ~2kJ	300±2	33	250			
PAP-4	50	10~800							1.5kJ~4kJ	400±3	45	510			
PAP-5	100	15~1k	200kV	3.5kJ~10kJ	500±3	960									
PAP-6	200	25~2k	400kV	7kJ~25kJ	1000±5	1850									

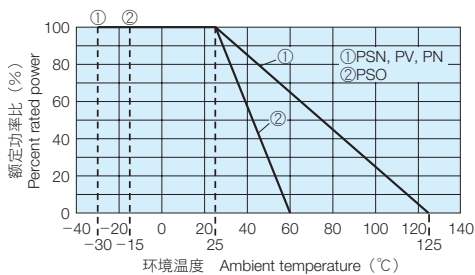
额定环境温度 Rated Ambient Temperature: +25°C

额定电压是√额定功率×公称电阻值所算出的值或表中最高使用电压两者中小的值为额定电压。

Rated voltage = √Power Rating × Resistance value or Max. working voltage, whichever is lower.

※ 对于E24系列以外的电阻值, 请向本公司询问。 Please ask of us about resistance other than E24 series.

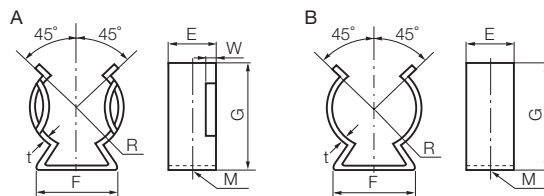
■ 负荷减轻特性曲线 Derating Curve



在环境温度25°C以上使用时, 应按照上图负荷减轻特性曲线, 减小额定功率。

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

■ 支架形状尺寸 (PSN • PV) Holder Dimensions (mm)



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

■ 帽形状尺寸 Cap Dimensions (mm)

帽形状 Cap Shape	C		M				MS				CP		C			
	D	d	D	M	K	A	D	M	K	A	d	ℓ	D	M	ℓ ₁	ℓ ₂
PSN-0.5 • PSN-1 • PV-2	17.5	7	17.5	3	2	7	-	-	-	-	1.0	90	-	-	-	-
PSN-2 • PV-5	24	12	24	4		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		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-2 ~ PN-4	-	-	17	4	-	-	-	-	-	-	1.2	120	-	-	-	-
PSO-0.5,1	-	-	-	-	-	-	-	-	-	-	-	-	28	4	8	-
PSO-2	-	-	-	-	-	-	-	-	-	-	-	-	38	6	10	-
PSO-3	-	-	-	-	-	-	-	-	-	-	-	-	46	8	-	15
PSO-4	-	-	-	-	-	-	-	-	-	-	-	-	65	10	-	20
PSO-5,6	-	-	-	-	-	-	-	-	-	-	-	-	80	12	-	25

本样本册中记载的产品规格如有变更, 恕不一一奉告。订购以及使用之前, 请仔细确认规格表的内容。

用于车载设备、医疗设备、航空设备以及其它涉及人身安全、或可能引起重大损失的设备上时, 请务必事先与我司联系。这些产品在这类用途中出现故障或失灵可能导致人身事故或严重损坏。

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

Contact our sales representatives before you use our products for applications including automobiles, medical equipment and aerospace equipment.

Malfunction or failure of the products in such applications may cause loss of human life or serious damage.