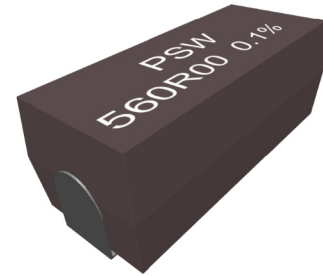


PSW - Series

Precision Wire - Wound Resistors

FEATURES

- Resistance from 0,01Ω
- Flame Withstanding Design
- Moisture Resistant Epoxy Body
- Excellent Pulse Handling Capabilities
- Flexible Connecting Leads
- Induction Reduced Types (Option)
- RoHS - compliant



RATED VALUES (IEC 60115-1)

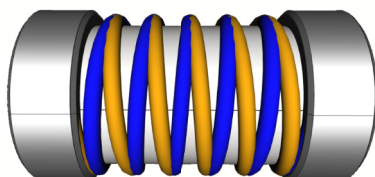
Resistance Range	Ω	0,01Ω to 50KΩ
Resistance Tolerance	%	±0,05% to ±1,0%
Temperature Coefficient	ppm/°C	±20ppm/°C > 10Ω; ±50ppm/°C von 1Ω - 10Ω; ±90ppm/°C < 1Ω; < 0,1Ω on request
Working Voltage (U _{max})	V	√(P x R)
Insulation Resistance (R _{ins})	Ω	1GΩ
Operating Temperature Range (T)	°C	-55°C to 275°C

Type	Power (W)	Tolerance- /Resistance Range				
		±0,05%	±0,1%	±0,25%	±0,5%	±1%
PSW1913	0,5	10Ω - 397Ω	1Ω - 397Ω	1Ω - 397Ω	0,1Ω - 397Ω	0,01Ω - 397Ω
PSW2615	1	10Ω - 2K98	1Ω - 2K98	1Ω - 2K98	0,1Ω - 2K98	0,01Ω - 2K98
PSW4525	2	10Ω - 15K	1Ω - 15K	1Ω - 15K	0,1Ω - 15K	0,01Ω - 15K
PSW6227	3	10Ω - 24K9	1Ω - 24K9	1Ω - 24K9	0,1Ω - 24K9	0,01Ω - 24K9
PSW8229	4	10Ω - 49K9	1Ω - 49K9	1Ω - 49K9	0,1Ω - 49K9	0,1Ω - 49K9

CONSTRUCTION

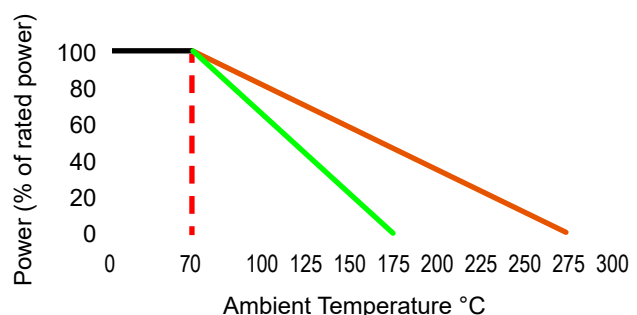
Resistance Material	Wire, Special Alloy
Winding	Wire Windings on Ceramics
Coating	Epoxy Moulding
Lead Wires	Tin Plated Copper Wire

INDUCTANCE- REDUCED VERSION



Ayrton - Perry Winding, Option „N“
(Reduces the max. resistance value by half)

POWER DERATING CURVE



- PSW, Power 1 - 4Watt
- PSW, Power 0,5Watt

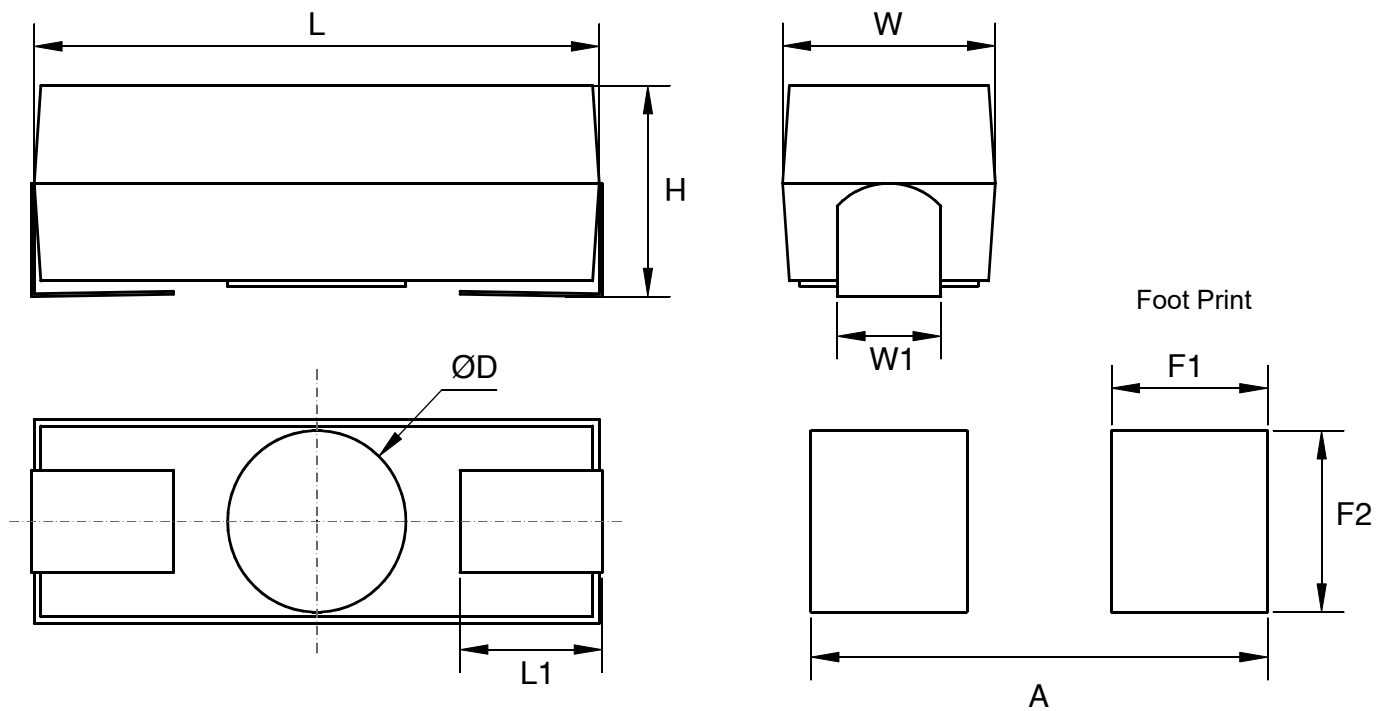
PSW - Series

Precision Wire - Wound Resistors

PERFORMANCE

IEC 60115-1	Test	Conditions of Test	Specification ΔR
4.23	Moisture Resistance	+85°C, 85% R.H., Rated Voltage, 1000h	$\pm(0,5\% R + 0,05\Omega)$
4.19	Thermal Shock	-55°C 15 Minutes, +150°C 15 Minutes, 5 Cycles	$\pm(0,5\% R + 0,05\Omega)$
4.6	Dielectric Strength	U_{ins} 1000 V, 1 Minute	1G Ω
4.13	Short Time Overload	5x Rated Voltage U_{max} , 5s	$\pm(0,2\% R + 0,05\Omega)$
4.25	Endurance	+70°C, U_{max} 1,5h „ON“ and 0,5h „OFF“, 2000h	$\pm(1,0\% R + 0,05\Omega)$
4.22	Vibration	Frequency 10Hz to 500Hz, in x,y,z Direction	$\pm(0,1\% R + 0,05\Omega)$
4.16	Shock	5 Impulses at 100g for 5ms	$\pm(0,5\% R + 0,05\Omega)$
4.18	Soldering Resistance	260°C, max. 5s	$\pm(0,5\% R + 0,05\Omega)$

DIMENSIONS

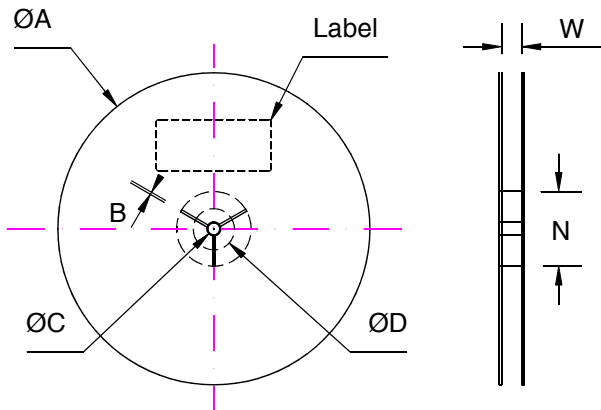


	L	H	W	W1	L1	D	A	F1	F2
PSW1913	5,0 ±0,4	2,9 ±0,4	3,5 ±0,4	1,5 ±0,4	1,0 ±0,4	2,5 ±0,2	6,5 ±0,4	1,5 ±0,4	2,5 ±0,4
PSW2615	6,8 ±0,4	3,5 ±0,4	4,2 ±0,4	1,8 ±0,4	1,8 ±0,4	3,0 ±0,2	8,5 ±0,4	2,5 ±0,4	4,0 ±0,4
PSW4525	11,4 ±0,4	4,7 ±0,4	6,5 ±0,4	2,8 ±0,4	2,5 ±0,4	4,6 ±0,2	14,0 ±0,4	4,0 ±0,4	5,0 ±0,4
PSW6227	15,8 ±0,4	6,5 ±0,4	6,9 ±0,4	3,2 ±0,4	3,5 ±0,4	3,8 ±0,2	18,0 ±0,4	5,0 ±0,4	5,5 ±0,4
PSW8229	20,2 ±0,4	7,5 ±0,4	7,2 ±0,4	3,7 ±0,4	5,0 ±0,4	6,1 ±0,2	23,0 ±0,4	5,5 ±0,4	6,5 ±0,4

All Dimension in mm

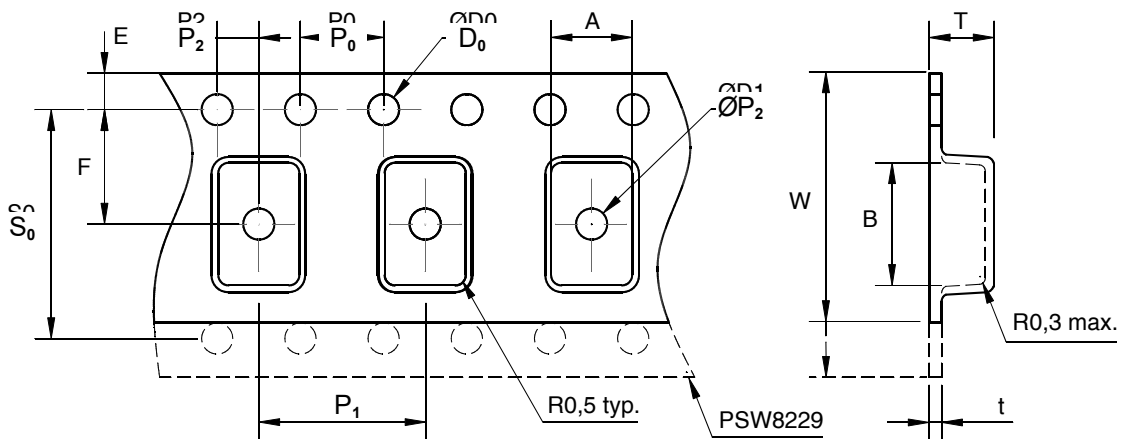
www.esr.info • Subject To Change Without Notice

TAPE & REEL DIMENSIONS



Role	A	B	C	D	N	W
178,0 7"	178 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	60,0 +1,0	12,0 +0,5
	178 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	60,0 +1,0	16,0 +0,5
	178 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	60,0 +1,0	24,0 +0,5
	178 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	60,0 +1,0	32,0 +0,5
330,0 13"	330 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	79,0 +1,0	12,0 +0,5
	330 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	79,0 +1,0	16,0 +0,5
	330 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	79,0 +1,0	24,0 +0,5
	330 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	79,0 +1,0	32,0 +0,5

All Dimension in mm



	W	A	B	T	P ₀	P ₁	P ₂	E	F	t	D ₀	D ₁	S ₀
PSW1913	12,0 ±0,2	3,90 ±0,1	5,90 ±0,1	3,10 ±0,1	4,0 ±0,1	8,20 ±0,1	2,0 ±0,1	1,75 ±0,1	5,50 ±0,1	0,6 max.	1,5 +0,1/-0,0	1,5 min.	-
PSW2615	16,0 ±0,2	4,30 ±0,1	7,70 ±0,1	3,80 ±0,1	4,0 ±0,1	8,20 ±0,1	2,0 ±0,1	1,75 ±0,1	7,50 ±0,1	0,6 max.	1,5 +0,1/-0,0	1,5 min.	-
PSW4525	24,0 ±0,2	6,73 ±0,1	12,32 ±0,1	5,08 ±0,1	4,0 ±0,1	12,0 ±0,1	2,0 ±0,1	1,75 ±0,1	11,5 ±0,1	0,6 max.	1,5 +0,1/-0,0	1,5 min.	-
PSW6227	24,0 ±0,2	7,80 ±0,1	17,50 ±0,1	7,20 ±0,1	4,0 ±0,1	12,0 ±0,1	2,0 ±0,1	1,75 ±0,1	12,0 ±0,1	0,6 max.	1,5 +0,1/-0,0	1,5 min.	-
PSW8229	32,0 ±0,2	7,90 ±0,1	21,50 ±0,1	7,70 ±0,1	4,0 ±0,1	12,0 ±0,1	2,0 ±0,1	1,75 ±0,1	14,2 ±0,1	0,6 max.	1,5 +0,1/-0,0	1,5 min.	28,4 ±0,1

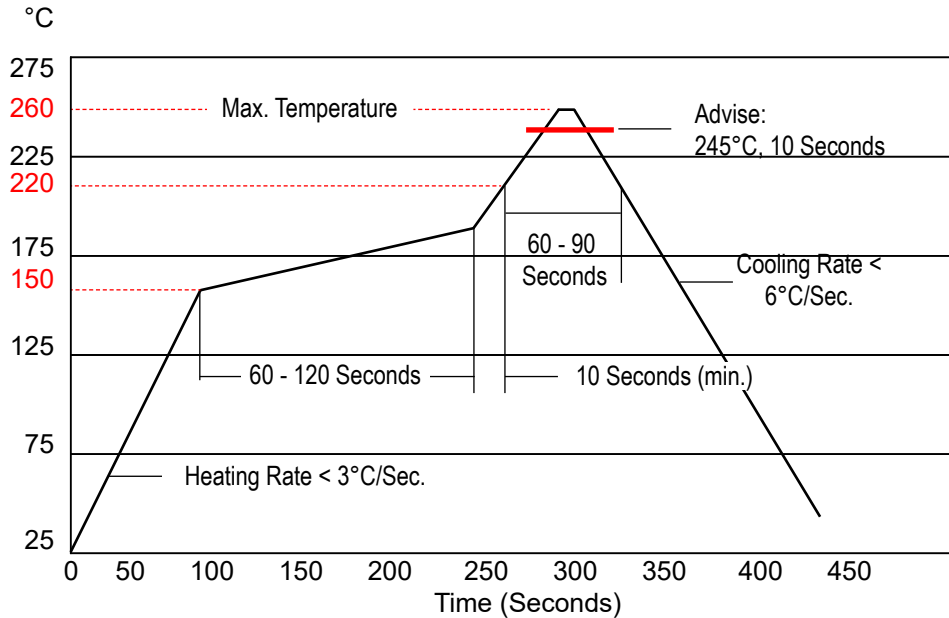
(IEC 60286-3, EIA 481 compliant) All Dimension in mm

PACKAGING

Reel	PSW1913	PSW2615	PSW4525	PSW6227	PSW8229
178mm	650	600	250	125	180
330mm	3000	2000	1000	500	500

Packaging of reels conforming to MSL - 2 (30 ° C / 60% rh) and marked with indicators.

SOLDERING RECOMMENDATIONS



- Hint: The reflow soldering profile is a recommendation based on EN 61760-1, system and environmental specific, critical influences are not taken into account. Resistors of a closer precision range (resistance tolerance $< 0.1\%$ in combination with resistance values $\leq 1\Omega$) should be hand-soldered by trained personnel, otherwise a change of nominal values (drift) can occur.

OPTIONS

Resistance Values $< 1\Omega$	Depending on Availability of Resistance Wires
Inductance - reduced Version (N)	Nominal Resistance Value x 0,5
Special Soldering Options (PB)	Solder connections with lead compounds, on request - not RoHS compliant!
Special Temperature Coefficients	$\pm 10\text{ppm}/^{\circ}\text{C}$; $\pm 5\text{ppm}/^{\circ}\text{C}$, on request depending on resistance value and tolerance

ORDERING INFORMATION

PSW1913 100R00 0,1% TK20 T (PSW1913; 100 Ω ; $\pm 0,1\%$; $\pm 20\text{ppm}/^{\circ}\text{C}$; T&R)

Type	Resistance Value	Tolerance	Temperature Coefficient	Power	Option	Packaging
PSW1913	0R1000	0,05%	TK90	-	-	T (Tape&Reel) B (Bulk)
	100R00	0,1%	TK50			
	10K000	0,25%	TK20			
		0,5%	(TK5 / TK10 on request)			
		1,0%				

www.esr.info • Subject To Change Without Notice