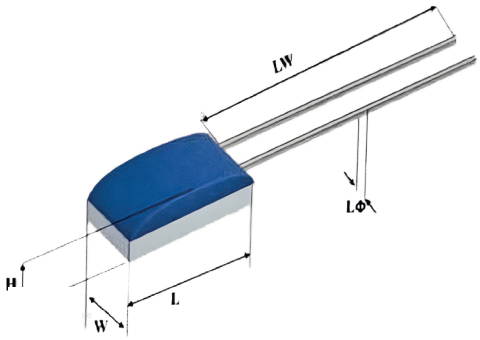
Thin Film Platinum RTDs

MAIN FEATURES

- Thin film platinum resistors have the advantages of small size, high precision and good long-term stability.
- It has the characteristics of anti-vibration and anti-shock.
- The product can be subdivided into regular ultra low and high temperature series, covering the temperature range of -70 to 500°C.
- It can be used in many connection ways, such as resistance welding, argon arc welding, pressure welding, brazing and so on.
- Widely used in automotive, instrumentation, household appliances, new energy and other fields.



H = 1.0±0.1mm (Height)

L = 2.3±0.1mm (Length)

W = 2.0±0.1mm (Width)

LW = 10±1mm (Lead length)

Lφ = 0.2±0.02mm (Lead diameter)

*The nominal resistance measurement point is 8mm away from the component body

TECHNICAL INDEX

Performance Parameters	Details
Lead specifications	Length: 10mm; Diameter: 0.2mm
Lead material	Platinum nickel; Silver target; Pure Platinum; Sterling silver
Lead tension	≥9N
Insulation impedance	≥100MΩ at 20°C; ≥2MΩ at 500°C
Temperature coefficient (TCR)	3850ppm/°C
Response time	Water flow (v=0.4m/s) τ0.5=0.1s τ0.9=0.3s; Airflow (v=2m/s) τ0.5=5s τ0.9=15s
Natural coefficient	0°C 0.4°C/mW
Anti-vibration	Frequency acceleration ≥40g from 10 to 2000Hz
Impact resistant	8ms half sine wave acceleration ≥100g
Package	Vacuum plastic packaging (Provide other packaging forms as required)
Others	Substrate size, basic resistance value, lead specifications (can be provided upon request)

Thin Film Platinum RTDs

Pt20 Series

- **Component Size -** 2.0mm × 2.3mm × 1.0mm
- **Working Current -** 0.3 – 2mA (Self-heating should be considered)

REFERENCE SELECTION

Type	Range of application	Classes	$R_0(\Omega)$	Temperature range	Accuracy
Pt20-N500	-70~+500°C	A	20±0.012	-50~+300°C	±(0.15+0.002|T|)
		B	20±0.024	-70~+500°C	±(0.3+0.005|T|)
		2B	20±0.048	-70~+500°C	±(0.6+0.01|T|)

Pt100 Series

- **Component Size -** 2.0×2.3×1.0 mm / 1.6×2.0×1.0 mm / 1.2×2.0×1.0 mm
- **Working Current** - 0.3–1mA (Self-heating should be considered)

REFERENCE SELECTION

Type	Range of Application	Classes	$R_0(\Omega)$	Temperature Range	Accuracy
Pt100-N500	-70~+500°C	1/10B	100±0.01	0~+100°C	±(0.03+0.0005|T|)
		1/3B	100±0.04	0~+150°C	±(0.1+0.0017|T|)
		A	100±0.06	-50~+300°C	±(0.15+0.002|T|)
		B	100±0.12	-70~+500°C	±(0.3+0.005|T|)
		2B	100±0.24	-70~+500°C	±(0.6+0.01|T|)
Pt100-GW650	-70~+650°C	B	100±0.12	-70~+650°C	±(0.3+0.005|T|)
		2B	100±0.24	-70~+650°C	±(0.6+0.01|T|)
Pt100-DW200	-200~+150°C	B	100±0.12	-200~+150°C	±(0.3+0.005|T|)
		2B	100±0.24	-200~+150°C	±(0.6+0.01|T|)

Thin Film Platinum RTDs

Pt300 Series

- **Component Size -** 2.0mm × 3.0mm × 1.0mm
- **Working Current -** 0.3 – 1mA (Self-heating should be considered)

REFERENCE SELECTION

Type	Range of application	Classes	$R_0(\Omega)$	Temperature range	Accuracy
Pt300-N500	-70~+500°C	A	300±0.18	-50~+300°C	±(0.15+0.002|T|)
		B	300±0.36	-70~+500°C	±(0.3+0.005|T|)
		2B	300±0.72	-70~+500°C	±(0.6+0.01|T|)

Pt500 Series

- **Component Size -** 2.0mm × 2.3mm × 1.0mm
- **Working Current -** 0.1 – 0.7mA (Self-heating should be considered)

REFERENCE SELECTION

Type	Range of application	Classes	$R_0(\Omega)$	Temperature range	Accuracy
Pt500-N500	-70~+500°C	1/3B	500±0.2	0~+150°C	±(0.1+0.0017|T|)
		A	500±0.3	-50~+300°C	±(0.15+0.002|T|)
		B	500±0.6	-70~+500°C	±(0.3+0.005|T|)
		2B	500±1.2	-70~+500°C	±(0.6+0.01|T|)

Thin Film Platinum RTDs

Pt1000 Series

- **Component Size -** 2.0mm × 2.3mm × 1.0mm
- **Working Current -** 0.1 – 0.3mA (Self-heating should be considered)

REFERENCE SELECTION

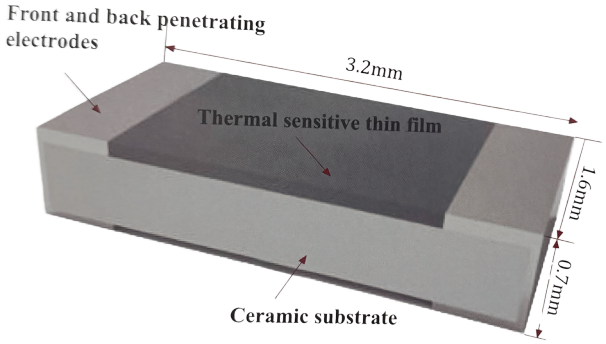
Type	Range of application	Classes	$R_0(\Omega)$	Temperature range	Accuracy
Pt1000-N500	-70~+500°C	1/3B	1000±0.4	0~+150°C	±(0.1+0.0017|T|)
		A	1000±0.6	-50~+300°C	±(0.15+0.002|T|)
		B	1000±1.2	-70~+500°C	±(0.3+0.005|T|)
		2B	1000±2.4	-70~+500°C	±(0.6+0.01|T|)
Pt1000-GW650	-70~+650°C	B	1000±1.2	-70~+650°C	±(0.3+0.005|T|)
		2B	1000±2.4	-70~+650°C	±(0.6+0.01|T|)
Pt1000-DW200	-200~+150°C	B	1000±1.2	-200~+150°C	±(0.3+0.005|T|)
		2B	1000±2.4	-200~+150°C	±(0.6+0.01|T|)

SMD Type Thin Film Platinum Resistor

MAIN FEATURES

- SMD type thin film platinum resistor is a universal temperature sensor component with the advantages of small volume, wide temperature measurement range, good long-term stability, and high structural strength.
- Compared to NTC products, SMD thin film platinum resistors have the advantages of high strength, high output linearity, good repeatability, and high temperature measurement accuracy.
- Compared to lead type thin film platinum resistors, the cost is significantly reduced, and various welding processes such as tin soldering, reflow soldering, and wave soldering can be used, greatly expanding the application range.
- Widely used in fields such as instrumentation, household appliances, new energy vehicles, and electronic equipment.

*The nominal resistance measurement point is 8mm away from the component body



TECHNICAL INDEX

Performance Parameters	Details
Lead specifications	3.2mm × 1.6mm × 0.7mm
R0°C resistance value	100Ω/1000Ω
Temperature coefficient (TCR)	3850ppm/°C
Measuring range	-50°C~+200°C
Long term stability	Drift of R(0°C) within 200°C and 1000 hours ≤ 0.04%
Welding terminals	Tin alloy terminals
Welding method	Reflow soldering or wave soldering, recommended to use high-temperature solder paste, welding temperature 230–240°C

SMD Type Thin Film Platinum Resistor

Pt100-SMD1206 Series

Resistance Temperature Characteristics

Temp (°C)	Resistance (Ω)	Temp (°C)	Resistance (Ω)	Temp (°C)	Resistance (Ω)	Temp (°C)	Resistance (Ω)
-20	92.16	40	115.54	100	138.51	160	161.05
0	100.00	60	123.24	120	146.07	180	168.48
20	107.79	80	130.90	140	153.58	200	175.86

REFERENCE SELECTION

Type	Range of application	Classes	$R_0(\Omega)$	Temperature range	Accuracy
Pt100-SMD 1206-A	-50~+200°C	A	100±0.06	0~+150°C	±(0.15+0.002|T|)
Pt100-SMD 1206-B		B	100±0.12	-50~+200°C	±(0.3+0.005|T|)
Pt100-SMD 1206-2B		2B	100±0.24	-50~+200°C	±(0.6+0.01|T|)

Pt1000-SMD1206 Series

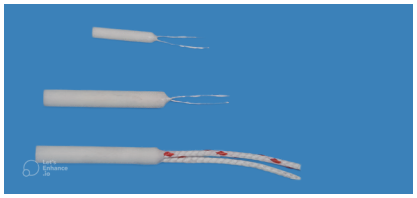
Resistance Temperature Characteristics

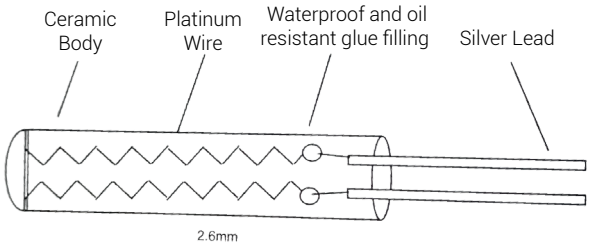
Temp (°C)	Resistance (Ω)	Temp (°C)	Resistance (Ω)	Temp (°C)	Resistance (Ω)	Temp (°C)	Resistance (Ω)
-20	921.6	40	1155.41	100	1385.06	160	1610.54
0	1000	60	1232.42	120	1460.68	180	1684.78
20	1077.94	80	1308.97	140	1535.84	200	1758.56

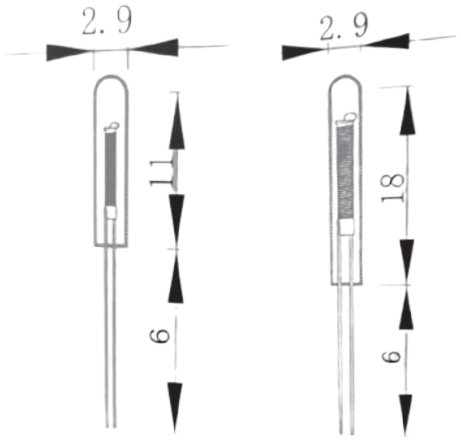
REFERENCE SELECTION

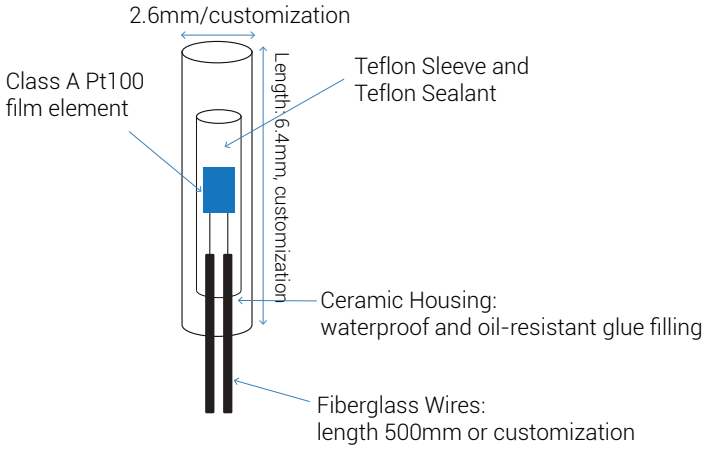
Type	Range of application	Classes	$R_0(\Omega)$	Temperature range	Accuracy
Pt1000-SMD 1206-A	-50~+200°C	A	1000±0.06	0~+150°C	±(0.15+0.002|T|)
Pt1000-SMD 1206-B		B	1000±0.12	-50~+200°C	±(0.3+0.005|T|)
Pt1000-SMD 1206-2B		2B	1000±0.24	-50~+200°C	±(0.6+0.01|T|)

Ceramic Wire Wound RTDs & Thin Film Platinum RTDs









Parameter	CHEPT-1	CHEPT-2
Temp. range	-70~500°C	
Sensor element	PT50, PT100, PT1000	
Response time	π0.63: 0.5 ~ 1.5s	
Accuracy	1/3B, A, B, 2B	
Insulation resistance	100MΩ	
Insulation voltage	100V DC	
Sealability	IP 68, Acid and alkali corrosion resistance	
Temperature coefficient α, °C-1	0.00385	0.00391
OD of tubes φ(mm)	2mm 3m	Optional and customization available
Tube length L1	10mm 15mm 20mm 25mm	Optional and customization available
Wire length L2	6mm 8mm 10mm	Optional and customization available
Wire material	φ0.25 silver wire, φ0.5 silver wire, Glass fiber sheathed wire	Optional and customization available
Remarks	Optional for sizes, temperature range, and lead length; If you need a Resistance & Temperature table, please contact us.	