Ceramic PTC Thermistor: PH Series

Heater Application

PHC 10 Series / 270V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions		Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	T±0.2(mm)	UL/cUL
PHC10102□A0B7	100	130	1000	230	270	10	3.0	
PHC10501□A3B7	130	160	500	230	270	10	2.3	√
PHC10102□AGB7	135	160	1000	230	270	10	2.3	√
PHC10501□AGB7	135	165	500	230	270	10	2.3	√
PHC10102□A4B7	140	165	1000	230	270	10	2.2	√
PHC10201□A5B7	150	180	200	230	270	10	2.3	√
PHC10202□A6B7	160	180	2000	230	270	10	2.2	√
PHC10102□AJB7	165	190	1000	230	270	10	2.3	√
PHC10501□A7B7	170	195	500	230	270	10	2.3	√
PHC10102□B0B7	200	225	1000	230	270	10	3.0	
PHC10102□B1B7	210	230	1000	230	270	10	3.0	
PHC10102□B3B7	230	250	1000	230	270	10	3.0	

PHC 12 Series / 30V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions		Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	T±0.2(mm)	UL/cUL
PHC129R0□P430	40	70	9	12	30	12	1.0	
PHC129R0□P830	80	95	9	12	30	12	1.0	
PHC12400□PM30	95	105	40	24	30	12	2.0	√
PHC12120□A030	100	115	12	12	30	12	1.0	
PHC129R0□A230	120	135	9	12	30	12	1.0	
PHC122R0□A330	130	150	2	12	30	12	1.0	
PHC124R4□A330	130	155	4.4	12	30	12	1.0	
PHC129R0□A630	160	170	9	12	30	12	1.0	
PHC129R0□B230	220	230	9	12	30	12	1.0	

PHC 12 Series / 50V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions		Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	T±0.2(mm)	UL/cUL
PHC12111□P850	80	110	110	42	50	12	1.0	
PHC12111□P950	90	115	110	42	50	12	1.0	
PHC12111□A050	100	125	110	42	50	12	1.0	
PHC12111□A250	120	140	110	42	50	12	1.0	
PHC12111□A450	140	155	110	42	50	12	1.0	
PHC12111□A650	160	170	110	42	50	12	1.0	
PHC12111□A850	180	185	110	42	50	12	1.0	

Note: □ is the tolerance of R_{25}

Ceramic PTC Thermistor: PH Series

Heater Application

PHC 12 Series / 270V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions		Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	T±0.2(mm)	UL/cUL
PHC12122□P7B7	70	110	1200	230	270	12	2.0	√
PHC12552□P7B7	70	95	5500	230	270	12	2.0	√
PHC12501□P9B7	90	125	500	230	270	12	2.0	√
PHC12122□P9B7	90	120	1200	230	270	12	3.2	√
PHC12122□A1B7	110	140	1200	230	270	12	3.2	√
PHC12122□A3B7	130	160	1200	230	270	12	2.0	
PHC12122□A5B7	150	180	1200	230	270	12	2.0	√
PHC12122□A8B7	180	200	1200	230	270	12	2.0	
PHC12172□B2B7	220	235	1700	230	270	12	2.0	
PHC12172□B7B7	270	280	1700	230	270	12	2.0	

PHC Other Series

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions		Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	T±0.2(mm)	UL/cUL
PHC05110□A914	190	210	11	12	14	5	1.0	√
PHC089R4□A280	120	150	9.4	63	80	8	1.0	√
PHC10180□A060	100	120	18	42	60	10	2.5	√
PHC10301□A6A4	160	180	300	120	140	10	2.3	√
PHC12141□A0B5	100	130	140	230	250	12	2.0	√
PHC12291□B2B5	220	245	290	230	250	12	3.0	√
PHC13360□A430	140	155	36	24	30	13	1.3	√
PHC13102□PIB7	55	85	1000	230	270	13	2.3	√
PHC13150□PJ60	65	85	15	42	60	13	1.5	√
PHC13680□AH60	145	155	68	42	60	13	1.3	√
PHC13152□BEB7	215	230	1500	230	270	13	2.5	√
PHC14501□AKB7	175	190	500	230	270	14	2.3	√
PHC17150□A560	150	160	15	42	60	17	1.4	√
PHC203R6□A760	170	180	3.6	42	60	20	1.4	√
PHC20102□A1B7	110	115	1000	230	270	20	2.3	√
PHC20102□A4B7	140	145	1000	230	270	20	2.3	√
PHC253R0□A430	140	145	3	24	30	25	1.5	√

PHRA7 Series / 24V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions		Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	T±0.2(mm)	UL/cUL
PHRA72R5□P624	60	90	2.5	12	24	45	7.0	
PHRA72R5□A024	100	125	2.5	12	24	45	7.0	
PHRA72R5□A424	140	160	2.5	12	24	45	7.0	
PHRA72R3□A624	160	180	2.3	12	24	45	7.0	
PHRA72R5□A824	180	195	2.5	12	24	45	7.0	

Note: □ is the tolerance of R_{25}

Ceramic PTC Thermistor: PH Series

Heater Application

PHRA1/A2 Series

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRA1181□P7A4	70	90	180	120	140	16	11	2.5	√
PHRA1301□P7A4	70	85	300	120	140	16	11	2.5	√
PHRA1701□P8B7	80	100	700	230	270	16	11	2.5	√
PHRA2501□P9B7	90	110	500	230	270	23.5	10	2.2	√

PHRB3/B4 Series

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRB4302□ALA4	185	190	3000	120	140	5	4	1.6	√
PHRB4123□ALB7	185	195	12000	230	270	5	4	1.6	√
PHRB3402□B2F0	220	240	4000	600	600	20	8	4.4	√

PHRB7 Series

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRB7122□AEA4	115	135	1200	120	140	11	6	2.1	√
PHRB7122□AGA4	135	155	1200	120	140	11	6	2.1	√

PHRB8 Series / 24V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRB81R0□P624	60	90	1.0	12	24	35.4	14.5	1.1	
PHRB81R0□A024	100	130	1.0	12	24	35.4	14.5	1.1	
PHRB81R0□A224	120	145	1.0	12	24	35.4	14.5	1.1	
PHRB80R6□A524	150	170	0.6	12	24	35.4	14.5	1.1	
PHRB81R0□A824	180	200	1.0	12	24	35.4	14.5	1.1	
PHRB80R8□B524	250	260	0.8	12	24	35.4	14.5	1.1	

Note: □ is the tolerance of R_{25}

Ceramic PTC Thermistor: PH Series

Heater Application

PHRC1 Series

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	$V_R(V_{ac})$	$V_{max}(V_{ac})$	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRC1502□PIB4	55	75	5000	230	240	10	2.8	2.0	√
PHRC1302□PKA2	75	100	3000	120	120	10	2.8	2.0	√
PHRC1502□PMB4	95	110	5000	230	240	10	2.8	2.0	√
PHRC1302□PMA2	95	110	3000	120	120	10	2.8	2.0	√
PHRC1501□AGA2	135	145	500	120	120	10	2.8	2.0	√
PHRC1502□A4B4	140	145	5000	230	240	10	2.8	2.0	√
PHRC1122□A6A2	160	170	1200	120	120	10	2.8	2.0	√

PHRC2 Series / 240V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	$V_R(V_{ac})$	$V_{max}(V_{ac})$	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRC2502□PMB4	95	115	5000	230	240	10	2.8	2.0	√
PHRC2502□AJB4	165	180	5000	230	240	10	2.8	2.0	√

PHRC3 Series / 20V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	$V_R(V_{ac})$	$V_{max}(V_{ac})$	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRC31R4□A420	140	160	1.4	12	20	35.2	6.2	1.4	√
PHRC31R4□A620	160	175	1.4	12	20	35.2	6.2	1.4	
PHRC31R4□A820	180	195	1.4	12	20	35.2	6.2	1.4	

PHRC3 Series / 30V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	$V_R(V_{ac})$	$V_{max}(V_{ac})$	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRC33R2□P630	60	90	3.2	12	30	35.2	6.2	1.4	
PHRC33R2□P830	80	110	3.2	12	30	35.2	6.2	1.4	
PHRC33R2□A030	100	125	3.2	12	30	35.2	6.2	1.4	
PHRC33R2□A130	110	135	3.2	12	30	35.2	6.2	1.4	
PHRC33R2□A230	120	145	3.2	12	30	35.2	6.2	1.4	
PHRC33R2□A630	160	180	3.2	12	30	35.2	6.2	1.4	
PHRC33R2□A830	180	200	3.2	12	30	35.2	6.2	1.4	

Note: □ is the tolerance of R_{25}

Ceramic PTC Thermistor: PH Series

Heater Application

PHRC3 Series / 50V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRC3400□A050	100	120	40	42	50	35.2	6.2	1.4	
PHRC3400□A250	120	135	40	42	50	35.2	6.2	1.4	
PHRC3400□A350	130	145	40	42	50	35.2	6.2	1.4	
PHRC3400□A450	140	155	40	42	50	35.2	6.2	1.4	
PHRC3400□A650	160	175	40	42	50	35.2	6.2	1.4	
PHRC3400□A750	170	185	40	42	50	35.2	6.2	1.4	

PHRC3 Series / 270V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRC3631□P9B7	90	140	630	230	270	36.2	5.7	1.8	√
PHRC3701□A0B7	100	135	700	230	270	35.2	6.2	2.0	
PHRC3701□A4B7	140	170	700	230	270	35.2	6.2	2.0	
PHRC3701□A6B7	160	185	700	230	270	35.2	6.2	2.0	
PHRC3701□A8B7	180	205	700	230	270	35.2	6.2	2.0	
PHRC3701□B0B7	200	225	700	230	270	35.2	6.2	2.0	
PHRC3102□B2B7	220	240	1000	230	270	35.2	6.2	2.0	
PHRC3102□B5B7	250	265	1000	230	270	35.2	6.2	2.0	

PHRC4 Series / 270V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRC4251□P5B7	50	100	250	230	270	40	12	1.8	√
PHRC4251□P8B7	80	120	250	230	270	40	12	1.8	√
PHRC4201□A1B7	110	150	200	230	270	40	12	1.8	√

PHRC6 Series / 24V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRC62R8□A424	140	160	2.8	12	24	28.8	6.2	1.1	
PHRC62R3□A624	160	175	2.3	12	24	29.7	5.7	1.0	

Note: □ is the tolerance of R_{25}

Ceramic PTC Thermistor: PH Series

Heater Application

PHRC8 Series / 20V

Part No.	Curie Temperature	Surface Temperature	Zero-power Resistance at 25℃	Rated Voltage	Maximum Voltage	Dimensions			Safety Approvals
	Tc (℃)	T_S(℃)	R_{25}(Ω)	V_R(V_{ac})	V_{max}(V_{ac})	D±1(mm)	W±1(mm)	T±0.2(mm)	UL/cUL
PHRC84R2□P720	70	105	4.2	12	20	14.5	14.5	1.4	
PHRC83R0□A020	100	130	3.0	12	20	14.5	14.5	1.4	
PHRC83R0□A220	120	150	3.0	12	20	14.5	14.5	1.4	
PHRC83R0□A420	140	160	3.0	12	20	14.5	14.5	1.4	
PHRC83R0□A620	160	180	3.0	12	20	14.5	14.5	1.4	

Note: □ is the tolerance of R_{25}

■ Reliability Test

Item	Standard	Test conditions and methods	Specifications
Vibration	IEC60738-1	Frequency range:10~55Hz Amplitude: 0.75mm or 98m/s^2 Direction: 3 mutually perpendicular directions Duration: 6hrs(3x2 hrs)	$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$ No visible damage
Shock	IEC60738-1	Wave: half-sine ⊿V: 1.0m/s Acceleration: 50 m/s^2 Pulse time: 30ms	$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$ No visible damage
Rapid Change of Temperature	IEC 60738-1	The thermal shock conditions shown below shall be repeated 5 cycles. Step / Temperature (℃) / Period (minutes) 1 / -40 ± 5 / 30 ± 3 2 / Room temperature / 5 ± 3 3 / 85 ± 5 / 30 ± 3 4 / Room temperature / 5 ± 3	$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$ No visible damage
Climatic sequence	IEC60738-1	Dry heat: Ts+25°C for 16 hrs Damp heat first cycle: 40℃, 95% R.H ,cycle time: 24 hrs Cold: -40℃ for 2 hrs Damp heat (cyclic), remaining cycles: 5 cycles Test according to IEC60068-2-30	$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$ No visible damage
Damp Heat, Steady State	IEC60738-1	40±2℃ ,90~95%RH, 1000±2 hrs	$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$ No visible damage
Endurance at room temperature (cycling)	IEC60738-1	25±5℃, Vmax, 1min. on and 5min. off×10,000 cycles	$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$ No visible damage
Endurance at maximum operating temperature and maximum voltage	IEC60738-1	60±2℃, Vmax, 1000±2hrs.	$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$ No visible damage

■ Warehouse Storage Conditions of Products

- **Storage Conditions：**

  1. Storage Temperature： -10℃~ +40℃
  2. Relative Humidity： ≦75%RH
  3. Keep away from corrosive atmosphere and sunlight.

- **Period of Storage**：1 year

■ Usage

Please keep products away from the conditions mentioned below to avoid their characteristic deterioration and failure.

1. Corrosive gas or deoxidizing gas（Cl_2, H_2S, NH_3, SOx, NOx etc.）
2. Place in a vacuum or put pressure
3. Salt water, oil, solvent and chemical liquid
4. Flammable gas
5. Place in splashed water, or high humidity and dewing place
6. Other places similar to any conditions mentioned above