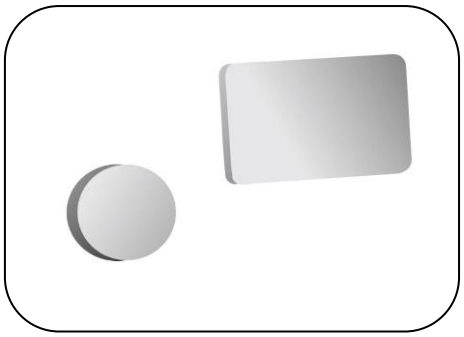
Ceramic PTC Thermistor: PH Series
Heater Application

■ Features



1. RoHS compliant
2. Self-regulating heating element
3. Constant temperature
4. Simple circuit
5. Suitable for clamp-contacting
6. Stable over a long life
7. Operating temperature range: -40 ~ +200°C (V=0)
   -25 ~ +60°C (V=V_R)
8. Agency Recognition: UL /cUL
   UL&cUL File No. E138827

■ Recommended Applications

1. Home appliances
2. Automobile
3. Thermal protector
4. Door lock for washing machine

■ Part Number Code

P	H	R	A	3	8	0	1	V	B	1	B	7			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Product Code

PH	THINKING Ceramic PTC Thermistor PH Series

Structure

R	Rectangular
C	Circular

PHR Series (Non-automotive)

Code	Dimension (mm)	
	L	W
A1	16	11
A2	23.5	10
A3	19	12

PHC Series (Non-automotive)

Code	Dimension (mm)
	D
05	5
10	10
13	13

PH Series (Automotive)

5th Code	Product Use
C	Automotive product

Resistance (R_{25})

180	18Ω
801	800Ω
202	2KΩ

Tolerance of R_{25}

N	-30% ~ +30%
P	-50% ~ +50%
U	0% ~ +100%

Curie Temperature

P6	60℃
P9	90℃
A0	100℃
A9	190℃
B0	200℃
B1	210℃

Maximum Voltage

24	24V
A4	140V
B7	270V

Internal Control Code

Optional Suffix

Y	RoHS Series

Ceramic PTC Thermistor: PH Series
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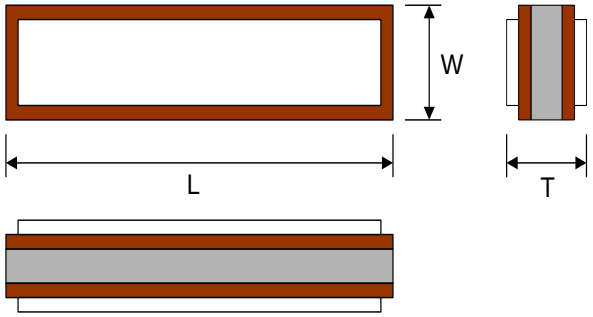
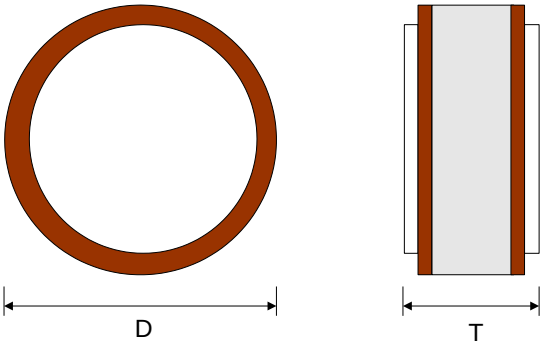
■ Dimensions

PHR Series



PHC Series



■ Characteristics (For non-automotive products)

PHC 08 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
PHC08360□P930	90	115	36	24	30	8.5	2.5	√
PHC08520□P930	90	110	52	24	30	8.5	2.5	√
PHC08100□A030	100	125	10	24	30	8.0	1.5	√
PHC08180□A030	100	120	18	24	30	8.0	1.5	√

PHC 08 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
PHC08102□A0B7	100	130	1000	230	270	8.0	3.0	
PHC08102□A1B7	110	140	1000	230	270	8.0	2.3	√
PHC08422□A1B7	110	135	4200	230	270	8.0	3.2	√
PHC08102□A2B7	120	150	1000	230	270	8.0	3.0	
PHC08102□A4B7	140	170	1000	230	270	8.0	3.0	
PHC08102□A6B7	160	190	1000	230	270	8.0	3.0	√
PHC08102□A7B7	170	200	1000	230	270	8.0	3.0	√
PHC08102□B1B7	210	230	1000	230	270	8.0	3.2	√
PHC08602□B2B7	220	230	6000	230	270	8.0	3.2	√

Note: □ is the tolerance of R_{25}

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□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	√

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	√

Note: □ is the tolerance of R_{25}

Ceramic PTC Thermistor: PH Series
Heater Application

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
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	√

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□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 / 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□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	

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	

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	

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□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	

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
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 (For non-automotive products)

<table>
<tr><th>Item</th><th>Standard</th><th>Test conditions and methods</th><th>Specifications</th></tr>
<tr><td>Vibration</td><td>IEC60738-1</td><td>Frequency range:10~55Hz
Amplitude: 0.75mm or 98m/s^2
Direction: 3 mutually perpendicular directions
Duration: 6hrs(3x2 hrs)</td><td>$|\Delta R_{25}/R_{25}| \leqq 20\%$
No visible damage</td></tr>
<tr><td>Shock</td><td>IEC60738-1</td><td>Wave: half-sine
⊿ V: 1.0m/s
Acceleration: 50 m/s^2
Pulse time: 30ms</td><td>$|\Delta R_{25}/R_{25}| \leqq 20\%$
No visible damage</td></tr>
<tr><td>Rapid Change of Temperature</td><td>IEC 60738-1</td><td>The thermal shock conditions shown below shall be repeated 5 cycles.
<table>
<tr><th>Step</th><th>Temperature (℃)</th><th>Period (minutes)</th></tr>
<tr><td>1</td><td>-40 ± 5</td><td>30 ± 3</td></tr>
<tr><td>2</td><td>Room temperature</td><td>5 ± 3</td></tr>
<tr><td>3</td><td>85 ± 5</td><td>30 ± 3</td></tr>
<tr><td>4</td><td>Room temperature</td><td>5 ± 3</td></tr>
</table></td><td>$|\Delta R_{25}/R_{25}| \leqq 20\%$
No visible damage</td></tr>
<tr><td>Climatic Sequence</td><td>IEC60738-1</td><td>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</td><td>$|\Delta R_{25}/R_{25}| \leqq 20\%$
No visible damage</td></tr>
<tr><td>Damp Heat, Steady State</td><td>IEC60738-1</td><td>40±2℃, 90~95%RH, 1000±2 hrs</td><td>$|\Delta R_{25}/R_{25}| \leqq 20\%$
No visible damage</td></tr>
<tr><td>Endurance at room temperature (cycling)</td><td>IEC60738-1</td><td>25±5℃, Vmax, 1min. on and 5min. off×10,000 cycles</td><td>$|\Delta R_{25}/R_{25}| \leqq 20\%$
No visible damage</td></tr>
<tr><td>Endurance at maximum operating temperature and maximum voltage</td><td>IEC60738-1</td><td>60±2℃, Vmax, 1000±2hrs.</td><td>$|\Delta R_{25}/R_{25}| \leqq 20\%$
No visible damage</td></tr>
</table>

■ Characteristics (For automotive products)

PHC 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
PHCAC4R9□A216	120	140	4.9	12	16	10	1.2	
PHCAC120□A924	190	200	12	13.5	24	10	1.5	
PHCAC130□B324	230	240	13	13.5	24	10	1.5	
PHCAC4R3□A232	120	140	4.3	24	32	10	1.2	
PHCCC120□A618	160	170	12	13.5	18	12	1.5	
PHCCC9R0□P830	80	100	9	12	30	12	1.9	
PHCGC9R7□A348	130	142	9.7	24	48	16.5	3.0	

Note: □ is the tolerance of R_{25}

PHC 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
PHCGC2R2□A320	130	145	2	12	20	16	1.5	
PHCGC4R6□A324	130	150	3.92	12	24	16.5	3.0	

Note: □ is the tolerance of R_{min}

PHRGC/HC 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
PHRGC111□A848	180	205	110	24	32	16.3	4.3	1.1	
PHRGC3R9□A224	120	140	3.9	14	24	17.5	14.5	1.1	
PHRHC2R3□A124	110	135	2.3	12	24	24.0	15.0	1.4	
PHRHC2R3□A324	125	140	2.3	12	24	24.0	15.0	1.4	

Note: □ is the tolerance of R_{25}

PHRHC 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
PHRHC233□A8H0	180	/	2300	600	800	24.0	15.0	3.5	

Note: □ is the tolerance of R_{min}

Ceramic PTC Thermistor: PH Series
Heater Application

PHRIC 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
PHRIC6R5□A514	143	160	6.5	14	14	27.3	13.0	1.1	
PHRIC2R8□A424	147	163	2.55	12	24	28.8	6.2	1.1	
PHRIC9R0□A024	100	120	9	12	24	28.8	6.2	1.1	
PHRIC3R5□A848	180	200	3.5	12	32.5	30.0	6.2	1.4	
PHRIC402□B0D5	203	218	4000	350	500	28.8	9.8	2.1	
PHRIC532□B0D5	200	215	5300	350	450	28.8	9.8	2.1	
PHRIC452□B3E0	230	/	4500	350	470	27.8	14.8	2.4	
PHRIC402□B1F0	210	230	4000	550	600	28.8	9.8	2.1	
PHRIC902□A9H0	189	205	9000	600	750	28.8	9.8	3.0	

Note: □ is the tolerance of R_{25}

PHRIC 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
PHRIC2R7□A520	145	165	1.71	13.5	20	27.3	13.0	1.4	
PHRIC7R5□A536	145	155	4.9	28.5	36	27.3	13.0	1.4	
PHRIC302□A6D5	160	185	560	350	420	28.8	13.0	2.0	
PHRIC502□A9E0	187	203	560	350	470	28.8	13.0	2.0	
PHRIC962□A9H7	187	203	667	800	870	28.8	19.5	2.8	

Note: □ is the tolerance of R_{min}

PHRJC 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
PHRJC402□B2E0	220	230	4000	350	500	30.2	13.8	2.1	
PHRJC902□B1I0	210	225	9000	800	900	30.2	13.8	3.2	

Note: □ is the tolerance of R_{25}

PHRJC 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
PHRJC260□A580	153	168	18	54	80	34.8	7.8	2.1	

Note: □ is the tolerance of R_{min}

Ceramic PTC Thermistor: PH Series
Heater Application

PHRKC 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
PHRKC2R5□A748	170	180	2.5	12	24	36.2	5.7	1.0	
PHRKC3R8□A748	170	180	3.8	12	24	36.2	5.7	1.0	
PHRKC871□B2E0	222	233	875	350	450	39.2	30.8	1.9	
PHRKC452□B4H0	240	/	4500	600	750	39.5	31.0	2.6	

Note: □ is the tolerance of R_{25}

PHRKC 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
PHRKC242□B0D5	203	225	320	350	420	39.8	16.6	2.0	
PHRKC322□B0D5	203	225	370	350	420	38.0	15.0	2.0	
PHRKC202□A9E0	187	203	350	350	470	35.0	16.8	2.0	
PHRKC302□B1E0	210	220	350	400	500	35.4	14.5	2.1	

Note: □ is the tolerance of R_{min}

■ Reliability Test (For automotive products)

<table>
<tr><th>Item</th><th>Standard</th><th>Test Conditions / Methods</th><th>Specifications</th></tr>
<tr><td>High Temperature Exposure (Storage)</td><td>MIL-STD-202 Method 108</td><td>Duration: 1000 hrs under rated temperature
Measurement at 24±2 hours after test conclusion.</td><td>No visible damage
$|\triangle R_{25}/R_{25}| \leqq 20\%$</td></tr>
<tr><td>Temperature Cycling</td><td>JESD22 Method JA-104</td><td>Follows conditions below for 1000 cycles
<table><tr><th>Step</th><th>Temperature (℃)</th><th>Time (minute)</th></tr><tr><td>1</td><td>-55± 2</td><td>30 ± 1</td></tr><tr><td>2</td><td>125 ± 2</td><td>30 ± 1</td></tr><tr><td>3</td><td colspan="2">1 minute for transition</td></tr></table>Measurement at 24±2 hours after test conclusion.</td><td>No visible damage
$|\triangle R_{25}/R_{25}| \leqq 20\%$</td></tr>
<tr><td>Biased Humidity</td><td>MIL-STD-202 Method 103</td><td>85°C, 85% RH, 10% rated power, 1000 hours,
Measurement at 24±2 hours after test conclusion.</td><td>No visible damage
$|\triangle R_{25}/R_{25}| \leqq 20\%$</td></tr>
<tr><td>Operational Life</td><td>MIL-STD-202 Method 108</td><td>60±2°C, rated power under stable temperature condition, 1000 hours, Measurement at 24±2 hours after test conclusion.</td><td>No visible damage
$|\triangle R_{25}/R_{25}| \leqq 20\%$</td></tr>
<tr><td>External Visual</td><td>MIL-STD-883 Method 2009</td><td>Inspect device construction, marking and workmanship.</td><td>No visible damage</td></tr>
<tr><td>Physical Dimension</td><td>JESD22 Method JB-100</td><td>Verify physical dimensions to the applicable device specification.</td><td>Within the specified values</td></tr>
<tr><td>Electrical Characteristics</td><td>Customer's demand</td><td>Rmin，R25，Tc，Ts</td><td>Within the specified values</td></tr>
</table>

■ 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