

Ceramic PTC Thermistor: PSA Series

For Motor Starting Application

■ Features

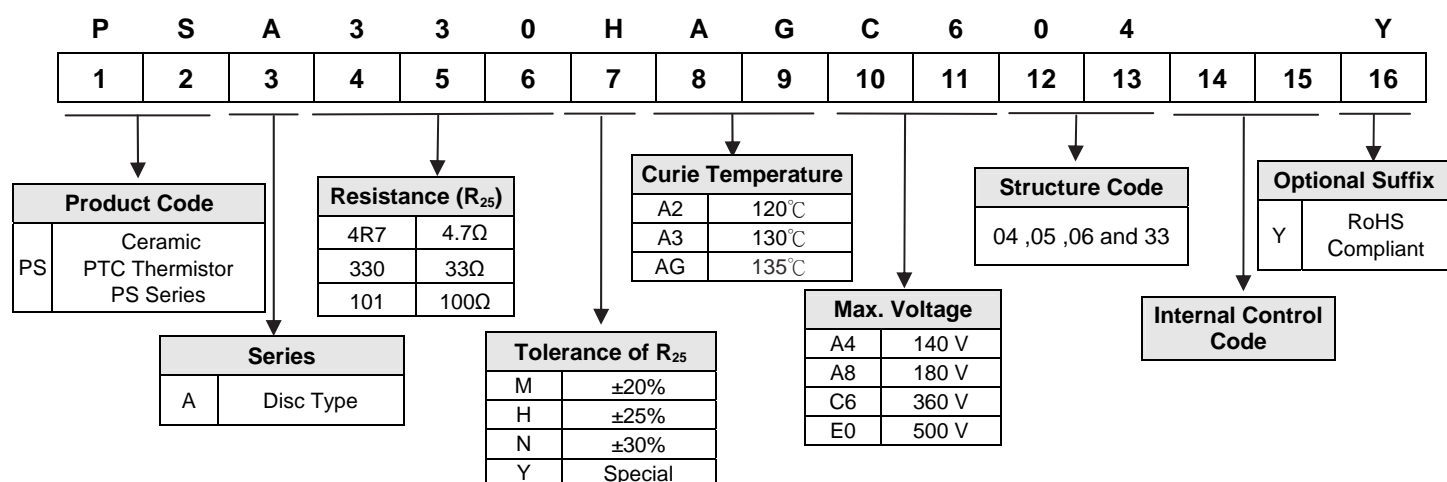
1. RoHS compliant
2. PSA versions are uncased, metalized disc for clamp-contacting
3. Voltage ratings: from 160V_{ac} to 430V_{ac}
4. Stable over a long life
5. Operating temperature range:
 - 10 ~ +85°C (V=V_{max})
 - 25 ~ +125°C (V=0)
6. Agency recognition:
 - UL&cUL File No.: E138827
 - VDE File No.: 40017625
 - TUV File No.:R 50030891
 - CQC File No.:CQC03001008127 ,CQC03001008128



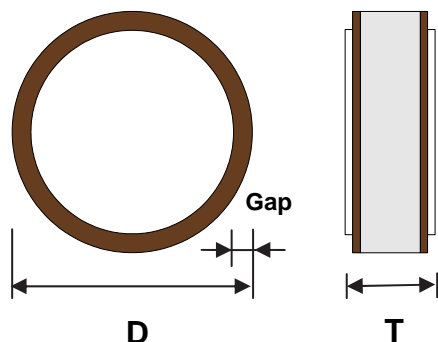
■ Recommended Applications

Time delay relay for compressors in refrigerators or freezers.

■ Part Number Code



■ Structures and Dimensions



Gap: 0.9±0.6 mm

Series	Dimensions (mm)	
	D	T
PSA*04	20.0(+0.5/-1.0)	2.5±0.2
PSA*05	17.5(+0.5/-1.0)	2.5±0.2
PSA*06	16(+0.5/-1.0)	2.5±0.2
PSA*33	20(+0.5/-1.0)	3.2±0.2

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■ Characteristics

Part No.	Zero-power Resistance at 25°C	Rated Voltage	Max. Voltage	Max. Current	Operating Time	Power Consumption	Recovery Time	Safety Approvals			
	R ₂₅ (Ω)	V _r (V _{ac})	V _{max} (V _{ac})	I _{max} (A)	t _o (Sec.)	P _{max} (W)	t _r (Sec.)	UL/cUL	VDE	TUV	CQC
PSA3R3□AGA604	3.3	120	160	12	0.3-1.2	3.5	70	√		√	√
PSA4R7□AGA804	4.7	120	180	12	0.3-1.2	3.5	70	√		√	√
PSA6R8□AGB004	6.8	120	200	10	0.3-1.8	3.5	70	√		√	√
PSA100□AGB304	10	120	230	9	0.2-1.3	3.2	65	√		√	√
PSA150□AGB504	15	230	250	8	0.2-1.0	3.2	65	√		√	√
PSA220□AGC004	22	230	300	7	0.2-1.0	3.2	65	√		√	√
PSA330□AGC604	33	230	360	6	0.2-1.0	3.2	65	√		√	√
PSA470□AGD004	47	230	400	5	0.2-1.0	3.2	65	√		√	√
PSA680□AGD304	68	230	430	4	0.2-1.0	3.2	65	√		√	√
PSA4R7□AGA805	4.7	120	180	10	0.3-1.0	3.4	65	√		√	√
PSA6R8□AGB005	6.8	120	200	9	0.3-1.0	3.4	65	√		√	√
PSA100□AGB205	10	120	220	8	0.3-1.0	3.2	65	√		√	√
PSA150□AGB405	15	230	240	7	0.2-0.8	3.2	65	√		√	√
PSA220□AGB805	22	230	280	6	0.2-0.8	3.2	65	√		√	√
PSA330□AGC205	33	230	320	4	0.2-0.8	3.2	65	√		√	√
PSA470□AGC505	47	230	350	4	0.2-0.8	3.2	65	√		√	√
PSA680□AGD005	68	230	400	4	0.2-0.8	3.2	65	√		√	√
PSA4R7□AGA606	4.7	120	160	10	0.3-1.0	3.0	50	√		√	√
PSA6R8□AGA806	6.8	120	180	9	0.3-1.0	3.0	50	√		√	√
PSA100□AGB006	10	120	200	8	0.3-1.0	3.0	50	√		√	√
PSA150□AGC506	15	230	350	7	0.2-0.6	3.0	50	√	√		
PSA220□AGC506	22	230	350	6	0.2-0.6	3.0	50	√	√		
PSA330□AGC506	33	230	350	6	0.2-0.6	3.0	50	√	√		
PSA150□A2C533	15	230	350	8	0.2-1.0	3.2	120	√	√		
PSA250□A2C533	25	230	350	8	0.2-1.0	3.2	120	√	√		
PSA330□A2C533	33	230	350	7	0.2-1.0	3.2	120	√	√		

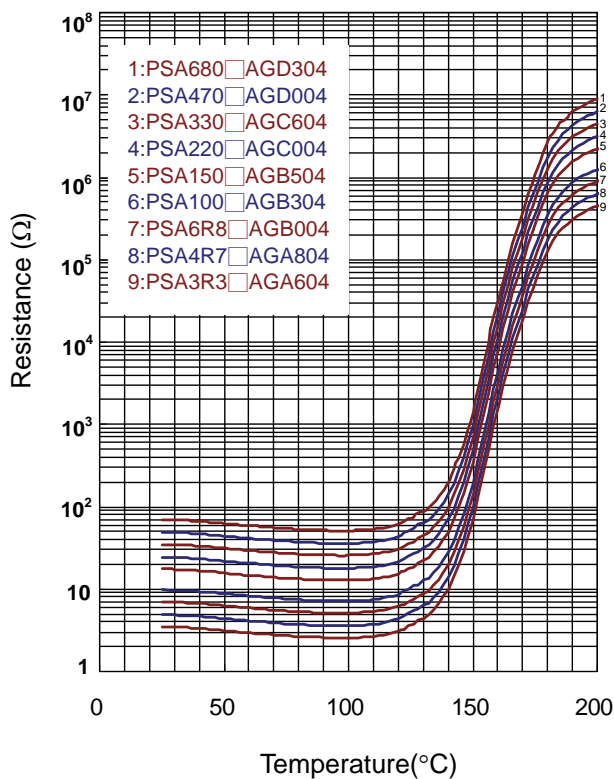
Note: □ is tolerance of R₂₅

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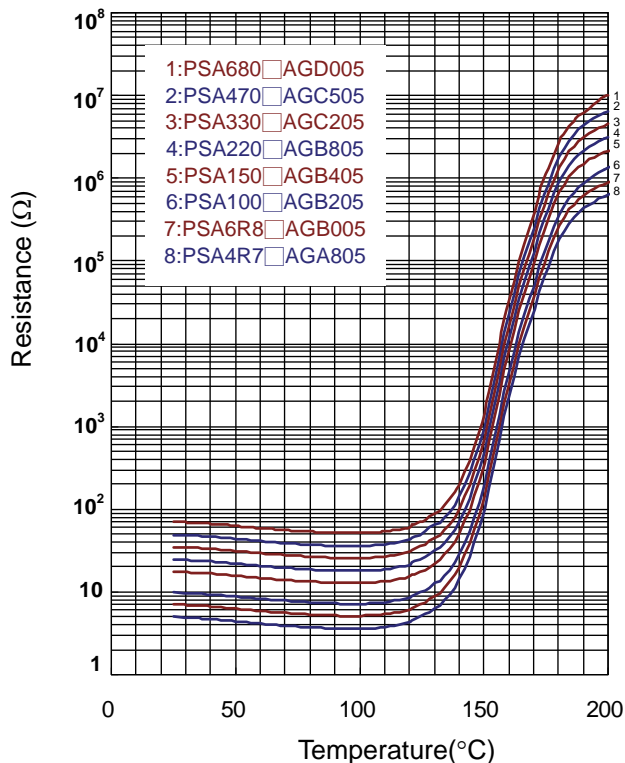
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■ R-T Characteristic Curve (Typical)

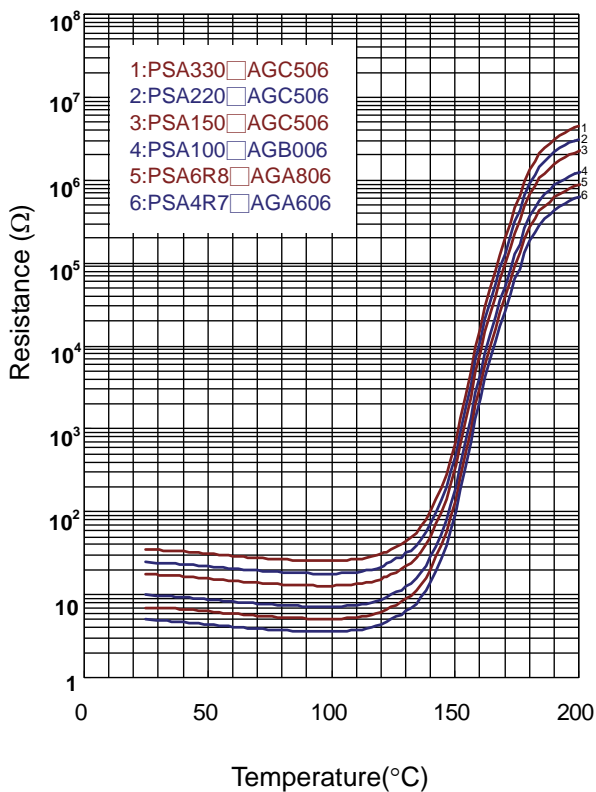
PSA *04 series



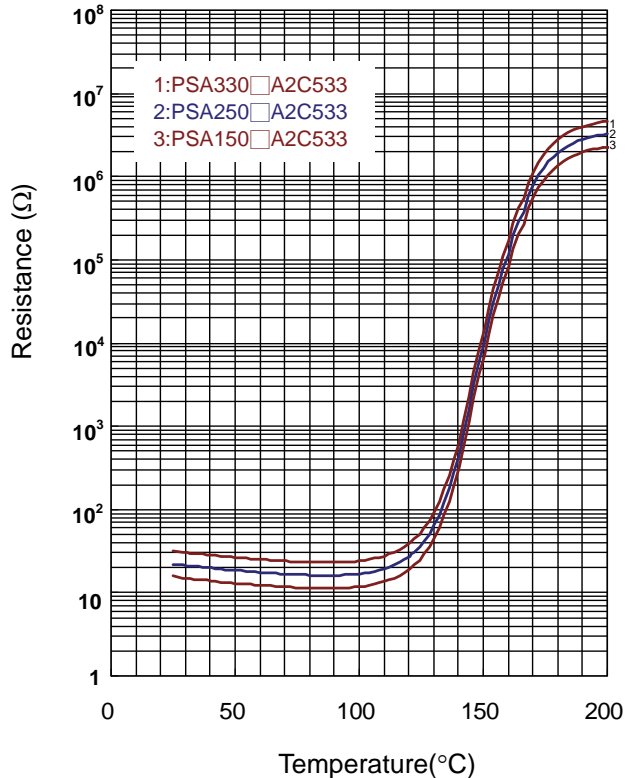
PSA *05 series



PSA *06 series



PSA *33 series



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■ Reliability Test

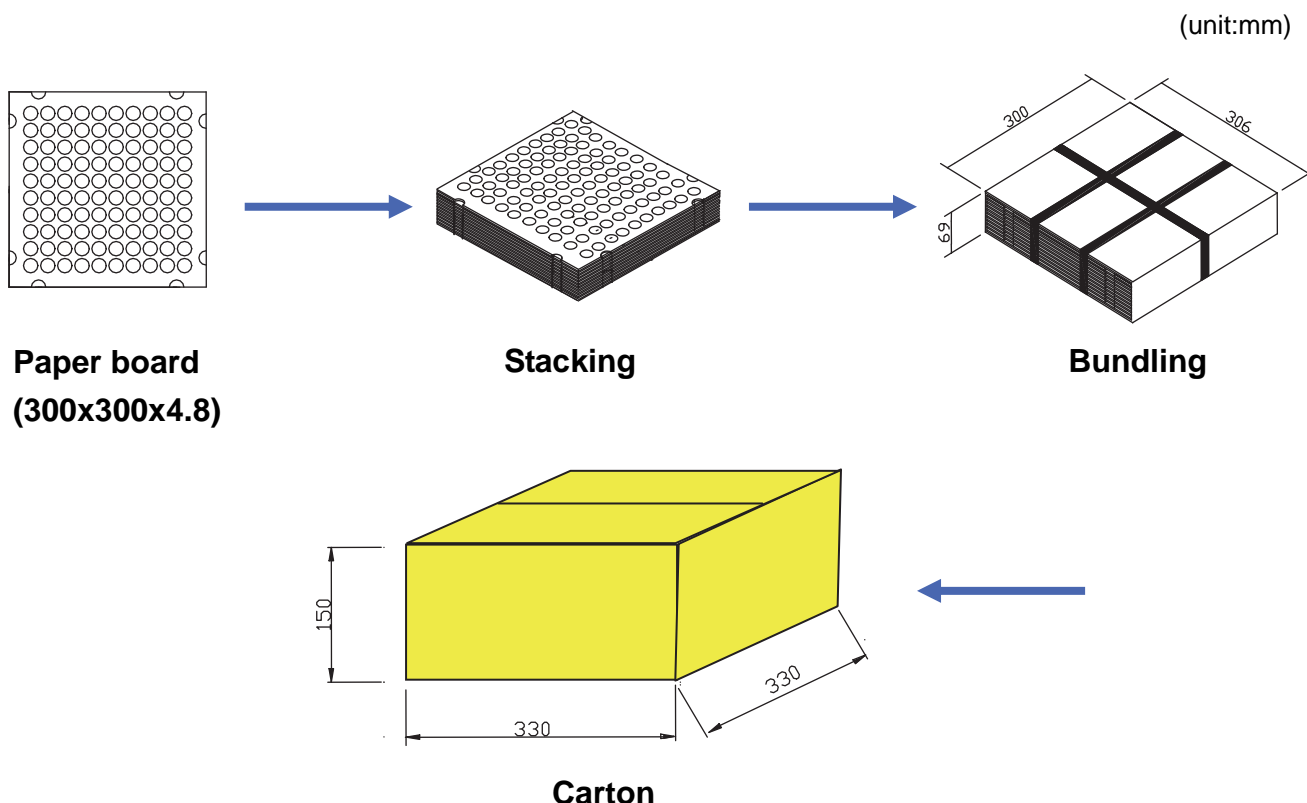
Item	Standard	Test conditions and Methods	Specifications															
Rapid Change of Temperature	IEC 60738-1	<p>The thermal shock conditions shown below shall be repeated 5 cycles.</p> <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Period (minutes)</th> </tr> </thead> <tbody> <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> </tbody> </table>	Step	Temperature (°C)	Period (minutes)	1	-40 ± 5	30 ± 3	2	Room temperature	5 ± 3	3	85 ± 5	30 ± 3	4	Room temperature	5 ± 3	$ \Delta R_{25}/R_{25} \leq 20\%$ No visible damage
Step	Temperature (°C)	Period (minutes)																
1	-40 ± 5	30 ± 3																
2	Room temperature	5 ± 3																
3	85 ± 5	30 ± 3																
4	Room temperature	5 ± 3																
Climatic Sequence	IEC60738-1	Dry heat: 125 °C for 16 hrs Damp heat first cycle: 40°C, 95% R.H ,cycle time: 24 hrs Cold: -25°C for 2 hrs Damp heat (cyclic), remaining cycles: 5 cycles Test according to IEC60068-2-30	$ \Delta R_{25}/R_{25} \leq 20\%$ No visible damage															
Damp Heat, Steady State	IEC 60738-1	40±2°C, 90~95%RH, for 1000±2hrs	$ \Delta R_{25}/R_{25} \leq 20\%$ No visible damage															
Endurance at Maximum Operating Temperature and Maximum Voltage	IEC 60738-1	85±5°C, Vmax, Imax for 1000±2hrs.	$ \Delta R_{25}/R_{25} \leq 20\%$ No visible damage															
Endurance at Maximum Voltage	IEC60738-1	25±5°C, Vmax, Imax, 6 sec. on and 15sec. off x 500,000 cycles	$ \Delta R_{25}/R_{25} \leq 20\%$ No visible damage															

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■ Packaging

Series	Quantity (pcs /carton)
PSA*04	1,000
PSA*05	1,000
PSA*06	1,500
PSA*33	1,000



■ Warehouse Storage Conditions of Products

● Storage Conditions :

1. Storage Temperature : $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$
2. Relative Humidity : $\leq 75\% \text{RH}$
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 , SO_x , NO_x 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