PTC Thermistors Motor Start Pellets



FEATURES

- Rugged silver electrodes well suited for long life OEM pressure contact mounting
- Various pellet sizes for optimum inrush current and switching time
- Withstanding voltage is 2 times the maximum voltage rating
- UL approved pellets
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

APPLICATIONS

- Single Phase motorstart assist in
- Refrigerator systems
- Airconditioning systems
- Heat-pumps
- Small compressors
- Inrush current generation

QUICK REFERENCE DATA		
PARAMETER	**VALUE**	**UNIT**
Resistance value at 25 °C	3.3 to 75	Ω
Tolerance on resistance value	± 30	%
Current ratings	4 to 16	A_{RMS}
Switching times (typical)	0.25 to 1.0	s
Maximum voltage rating	160 to 450	V_{RMS}
Operating temperature range	-10 to +85	°C
Storage temperature range	-25 to +105	°C

DESCRIPTION

These directly heated thermistors have a positive temperature coefficient and are primarily intended for inrush current generation. They consist of a high grade ceramic disk with two rugged pattern silver electrodes for contact pressure mounting. These ceramic pellets can be build into proprietary motor start devices for compressor, refrigerator and HVAC OEMs.

MOUNTING

The PTC thermistor pellets are suitable for pressure contact mounting in application specific housing assemblies. Examples of such assemblies can be found in the PTC305C series. Assembly housing must be appropriate for usage up to 180 °C surface temperature of the PTC pellets.

The pellets are not solderable.

MARKING

The pellets are not marked. Marking is available on request for customized parts.

SAFETY AGENCY RECOGNITION

Vishay Cera-Mite motor start PTC pellet thermistors are recognized by Underwriter Laboratories file E148885 in accordance with Standard for Thermistor Type Devices UL 1434; and Canadian Standards C22.2 No. 0-1991.

For technical questions, contact: ceramitesupport@vishay.com

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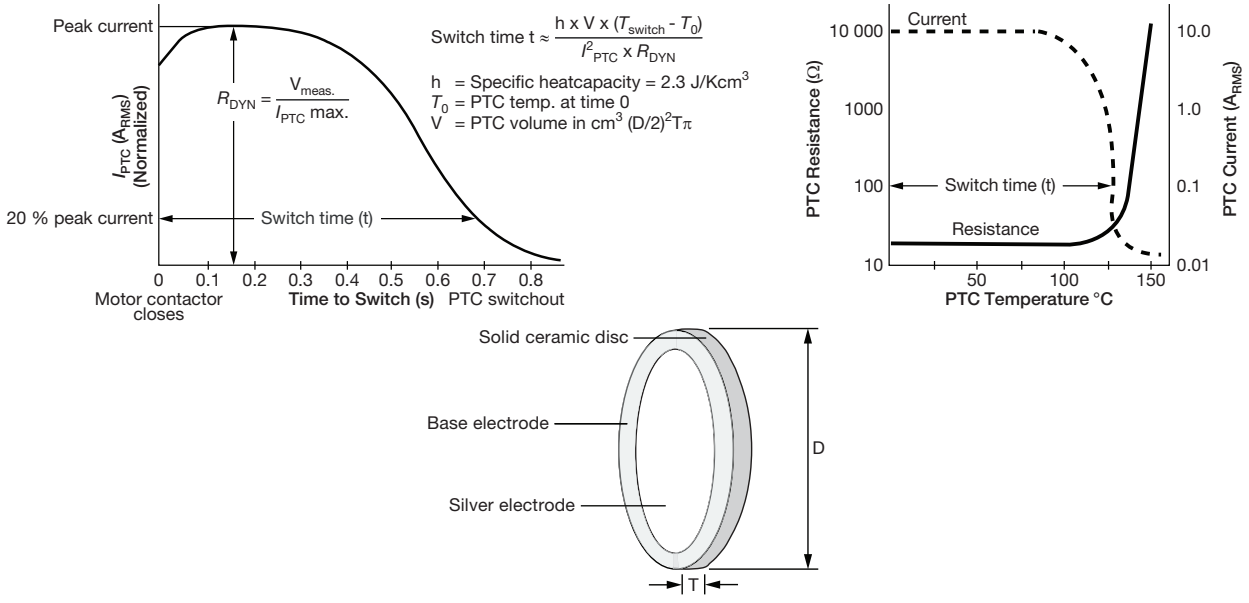
ELECTRICAL DATA AND ORDERING INFORMATION

PART NUMBER	R_{25} (1) ± 30 % (Ω)	R_{DYN} (2) (Ω)	$V_{meas.}$ R_{DYN} (V_{RMS})	MAX. VOLTAGE (3) (V_{RMS})	MAX. CURRENT (A_{RMS})	SIZE Ø x T (mm)	UL (4)	T_{SWITCH} (°C)
PTC307C1674P	5.0	4.0	120	200	10	16 + 0.2/- 0.4 x 2.5 ± 0.25	Y	105
PTC307C1700P	6.8	5.0	120	200	10		Y	105
PTC307C1711P	10	7.2	120	200	10		Y	105
PTC307C1668P	5.0	4.0	120	180	12	17.5 ± 0.3 x 2.5 ± 0.25	Y	120
PTC307C1644P	6.8	5.0	120	200	10		Y	120
PTC307C1651P	10	7.2	120	200	10		Y	120
PTC307C1720P	20	13	120	320	8		Y	120
PTC307C1411P	3.3	2.6	120	160	12	20 + 0.2/- 0.8 x 2.5 ± 0.25	Y	120
PTC307C1484P	4.7	3.5	120	180	12		Y	120
PTC307C1544P	5.6	4.1	120	180	12		Y	120
PTC307C1399P	6.8	5.0	120	200	10		Y	120
PTC307C1489P	10	7.2	120	230	9		Y	120
PTC307C1476P	12	8.5	120	250	8.5		Y	120
PTC307C1530P	15	10.5	120	300	8		Y	120
PTC307C1531P	22	15	120	400	8		Y	120
PTC307C1282P	33	22	120	355	6		Y	120
PTC307C1533P	47	30	120	400	5		Y	120
PTC307C1292P	68	42	120	430	4		Y	120
PTC307C1487P	3.9	3.0	50	175	16	20 + 0.2/- 0.8 x 3.2 ± 0.25	Y	120
PTC307C1529P	12	10.3	100	350	8		Y	120
PTC307C1545P	14	12	100	320	8		Y	120
PTC307C1640P	30	15.9	240	380	12		Y	120
PTC307C1740P	30	15.9	240	450	7		Y	120
PTC307C1024P	38	25	240	400	9	20 + 0.2/- 0.8 x 5.0 ± 0.25	Y	120
PTC307C1409P	50	35	240	400	7.5		Y	120
PTC307C1410P	75	50	240	400	5.5		Y	120

Notes

- R_{25} = zero power resistance measured at < 0.5 V_{DC}, standard tolerance ± 30 %, other tolerances and values on request
- R_{DYN} = nominal dynamic resistance during inrush, measured with $V_{meas.}$ applied, for information only
- The maximum voltage is the voltage that appears across the PTC in a motor start application. This is not the applied line voltage. Withstanding voltage of all UL approved types is minimum twice the specified maximum operating voltage.
- UL recoginition following XGPU2 category of standard UL1434, file E148885

TYPICAL PTC CURRENT VS. TIME SHOWING DEFINITION OF R_{DYN} AND SWITCH TIME (t)



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