



Inrush Current Limiting Power Thermistors

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U.S. Sensor's inrush current limiting power thermistors are specially formulated and processed NTC thermistors suitable for suppressing high inrush currents in switching power supplies and other applications where the high initial starting currents are undesirable. Their unique design enables them to handle extremely high current and voltage levels. In a typical power supply application, the device is used in series with the filter capacitors. Upon application of the initial voltage, the device, due to its relatively high resistance, limits the current flow to an acceptable level until the capacitors are charged. Thereafter, the device decreases in resistance substantially to a level where the voltage drop across it is negligible.

Maximum Steady State Current (I_{max})

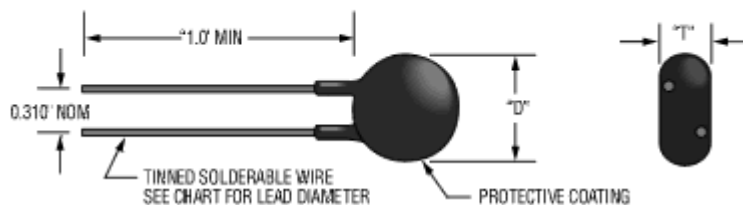
For power thermistors, the maximum continuous steady state current, either DC or RMS AC, which the device is capable of passing. The maximum steady state current for U.S. Sensor power thermistors is determined assuming a maximum operating ambient temperature of 65°C. If a specific application requires ambient temperature operation above 65°C, custom designed devices are available.

Resistance At Maximum Current (R_{I_{max}})

For power thermistors, the approximate resistance of the device under maximum steady state current conditions.



INRUSH CURRENT LIMITING POWER THERMISTORS



[View Photo](#)

IN-RUSH CURRENT LIMITING POWER

Part Number	R ₀ Resistance @ 25°C ± 20% Ohms	I _{max} Max. Steady State Current (Amps)	R _{I_{max}} Resis. @ Max. Current Ohms	Dim. "D" (Max. Over Coating)	Dim. "T" (Max. Over Coating)	Lead (Dia. Nom.)
ST1R020B	1.0	20	0.015	0.900	0.300	0.040
ST1R030B	1.0	30	0.015	1.250	0.250	0.040
ST2R018B	2.0	18	0.030	0.900	0.350	0.040
ST2R503B	2.5	3	0.150	0.600	0.250	0.032
ST2R507B	2.5	7	0.050	0.600	0.250	0.032
ST2R509B	2.5	9	0.040	0.600	0.250	0.032
ST2R510B	2.5	10	0.040	0.900	0.300	0.040
ST2R515B	2.5	15	0.030	0.900	0.300	0.040
ST5R002B	5.0	2	0.400	0.600	0.250	0.032
ST5R005B	5.0	5	0.100	0.600	0.250	0.032
ST5R007B	5.0	7	0.070	0.600	0.250	0.032
ST7R004B	7.0	4	0.200	0.600	0.300	0.040

ST10003B	10.0	3	0.200	0.450	0.300	0.032
ST10005B	10.0	5	0.200	0.610	0.350	0.040
ST10006B	10.0	6	0.150	0.610	0.350	0.040
ST10010B	10.0	10	0.100	1.250	0.300	0.040
ST20002B	20.0	2	0.600	0.500	0.300	0.032
ST40002B	40.0	2	0.600	0.625	0.250	0.032

Note: All Dimensions are in Inches

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