NTC Thermistors, bigAMP Inrush Current Limiters



FEATURES

RoHS COMPLIANT

- Rugged and reliable
- Recognized by UL and CSA
- Can withstand up to 25 A of continuous current and 548 J of input energy
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

APPLICATIONS

- Switching power supplies
- AC motors
- Uninterruptible power supplies
- Variable frequency drive
- Other equipment that can be improved with inrush current protection

DESCRIPTION

The bigAMP inrush current limiter absorbs high amounts of inrush current when electrical equipment is turned on by offering a high resistance to current and quickly decreasing in resistance once steady state current begins to flow through the thermistor.

In a switching power supply, the instantaneous surge energy is caused by the large input filter capacitors and AC input voltage.

During the absorption of energy, the initial high resistance of the thermistor drops within milliseconds to a negligible resistance in preparation of allowing high levels steady state current to flow with a minimal loss of power through the circuit.

QUICK REFERENCE DATA

PART NUMBER	RESISTANCE AT 25 °C (R_{25}) (Ω)	TOLERANCE ON R_{25} VALUE (%)	MAX. STEADY-STATE CURRENT UP TO 65 °C (A)	MAX. RECOMMENDED ENERGY RATING (J)	MAX. VOLTAGE (V_{AC})	MAX. CAPACITANCE AT 120 V_{AC} (µF)	UL RECOGNITION FILE NUMBER
SL320R230	0.3	± 25	30	100	265	6946	E209153
SL320R530	0.5	± 20	30	150	265	10 419	-
SL320R536	0.5	± 20	36	150	265	17 366	-
SL320R540	0.5	± 20	40	250	265	4000	-
SL321R030	1	± 20	30	160	265	11 114	-
SL321R030B	1	± 20	30	160	265	11 114	-
SL321R030100	1	± 20	16	100	240	6900	E209153
SL321R036	1	± 20	36	160	265	11 114	-
SL322R023	2	± 20	23	250	265	17 366	-
SL322R023B	2	± 20	23	250	265	17 366	-
SL322R023100	2	± 20	11	125	240	8200	E209153
SL322R025	2	± 20	25	250	265	20 839	-
SL322R025B	2	± 20	25	250	265	20 839	-
SL322R025100	2	± 20	12	125	240	8200	E209153
SL324R023	4	± 20	23	200	265	13 893	-
SL324R023100	4	± 20	9	125	240	8500	E209153

For technical questions, contact: ametherm@vishay.com

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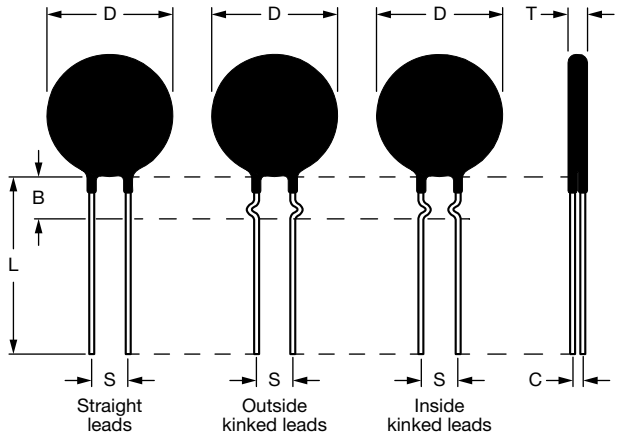
PART NUMBER	RESISTANCE AT 25 °C (R_{25}) (Ω)	TOLERANCE ON R_{25} VALUE (%)	MAX. STEADY-STATE CURRENT UP TO 65 °C (A)	MAX. RECOMMENDED ENERGY RATING (J)	MAX. VOLTAGE (V_{AC})	MAX. CAPACITANCE AT 120 V_{AC} (µF)	UL RECOGNITION FILE NUMBER
SL325R020	5	± 20	20	200	265	13 893	-
SL325R020B	5	± 20	20	200	265	13 893	-
SL325R020100	5	± 20	9	125	240	8200	E209153
SL3210015	10	± 20	15	150	265	10 419	-
SL3210015B	10	± 20	15	150	265	10 419	-
SL3210015100	10	± 20	6	100	240	6900	E209153

ELECTRICAL SPECIFICATIONS

PART NUMBER	RESISTANCE AT 100 % MAX. CURRENT (Ω)	RESISTANCE AT 50 % MAX. CURRENT (Ω)	BODY TEMP. AT 100 % MAX. CURRENT (°C)	DISSIPATION FACTOR (mW/°C)	THERMAL TIME CONSTANT (s)	MATERIAL TYPE (FOR BETA AND CURVE)
SL320R230	0.01	0.02	190	45.4	194	A
SL320R530	0.01	0.06	214	45.4	194	B
SL320R536	0.01	0.06	224	45.4	194	B
SL320R540	0.008	0.038	234	45.4	194	B
SL321R030	0.01	0.05	214	45.4	245	C
SL321R030B	0.01	0.05	214	45.4	245	C
SL321R030100	0.025	0.053	214	45.4	245	C
SL321R036	0.01	0.03	204	45.4	245	C
SL322R023	0.02	0.07	198	80	194	G
SL322R023B	0.02	0.07	198	80	194	G
SL322R023100	0.065	0.138	198	80	194	G
SL322R025	0.01	0.06	236	45.4	194	G
SL322R025B	0.01	0.06	236	45.4	194	G
SL322R025100	0.05	0.104	236	45.4	194	G
SL324R023	0.02	0.07	236	65.4	208	G
SL324R023100	0.095	0.203	236	65.4	208	G
SL325R020	0.02	0.08	206	45.4	194	H
SL325R020B	0.02	0.08	206	45.4	194	H
SL325R020100	0.11	0.224	206	45.4	194	H
SL3210015	0.05	0.11	228	45.4	232	I
SL3210015B	0.05	0.11	228	45.4	232	I
SL3210015100	0.115	0.232	228	45.4	232	I

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MECHANICAL SPECIFICATIONS in millimeters



PART NUMBER	B	C	D	L	S	T	LEAD DIAMETER	LEAD STYLE
SL320R230	7.8 nom.	3.22 nom.	31.0 max.	38.0 nom.	7.8 nom.	6.0 max.	1.0 nom.	Straight
SL320R530	7.8 nom.	2.68 nom.	31.0 max.	38.0 nom.	7.8 nom.	5.0 max.	1.0 nom.	Straight
SL320R536	7.8 nom.	2.68 nom.	31.0 max.	38.0 nom.	7.8 nom.	5.0 max.	1.0 nom.	Straight
SL320R540	11.5 ± 3.5	3.82 ± 1.0	30.0 ± 2.5	38.0 ± 9.0	7.8 ± 2.0	5.0 ± 1.0	1.0 ± 0.1	Straight
SL321R030	7.8 nom.	3.82 nom.	31.0 max.	38.0 nom.	7.8 nom.	5.0 max.	1.0 nom.	Straight
SL321R030B	9.5 ± 1.0	3.82 nom.	31.0 max.	38.0 nom.	9.5 ± 1.0	5.0 max.	1.0 nom.	Outside kinked
SL321R030100	7.8 nom.	3.82 nom.	31.0 max.	38.0 nom.	7.8 nom.	5.0 max.	1.0 nom.	Straight
SL321R036	7.8 nom.	3.35 nom.	31.0 max.	38.0 nom.	7.8 nom.	6.0 max.	1.0 nom.	Straight
SL322R023	7.8 nom.	4.0 nom.	31.0 max.	38.0 nom.	7.8 nom.	6.0 max.	1.0 nom.	Straight
SL322R023B	9.5 ± 1.0	4.0 nom.	31.0 max.	38.0 nom.	9.5 ± 1.0	6.0 max.	1.0 nom.	Outside kinked
SL322R023100	7.8 nom.	4.0 nom.	31.0 max.	38.0 nom.	7.8 nom.	6.0 max.	1.0 nom.	Straight
SL322R025	7.8 nom.	3.9 nom.	31.0 max.	38.0 nom.	7.8 nom.	7.0 max.	1.0 nom.	Straight
SL322R025B	9.5 ± 1.0	3.9 nom.	31.0 max.	38.0 nom.	9.5 ± 1.0	7.0 max.	1.0 nom.	Outside kinked
SL322R025100	7.8 nom.	3.9 nom.	31.0 max.	38.0 nom.	7.8 nom.	7.0 max.	1.0 nom.	Straight
SL324R023	7.8 nom.	4.33 nom.	31.0 max.	38.0 nom.	7.8 nom.	6.3 max.	1.3 nom.	Straight
SL324R023100	7.8 nom.	4.33 nom.	31.0 max.	38.0 nom.	7.8 nom.	6.3 max.	1.3 nom.	Straight
SL325R020	7.8 nom.	3.82 nom.	31.0 max.	38.0 nom.	7.8 nom.	6.0 max.	1.0 nom.	Straight
SL325R020B	9.5 ± 1.0	3.82 nom.	31.0 max.	38.0 nom.	9.5 ± 1.0	6.0 max.	1.0 nom.	Outside kinked
SL325R020100	7.8 nom.	3.82 nom.	31.0 max.	38.0 nom.	7.8 nom.	6.0 max.	1.0 nom.	Straight
SL3210015	7.8 nom.	3.82 nom.	31.0 max.	38.0 nom.	7.8 nom.	6.0 max.	1.0 nom.	Straight
SL3210015B	9.5 ± 1.0	3.82 nom.	31.0 max.	38.0 nom.	9.5 ± 1.0	6.0 max.	1.0 nom.	Outside kinked
SL3210015100	7.8 nom.	3.82 nom.	31.0 max.	38.0 nom.	7.8 nom.	6.0 max.	1.0 nom.	Straight

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