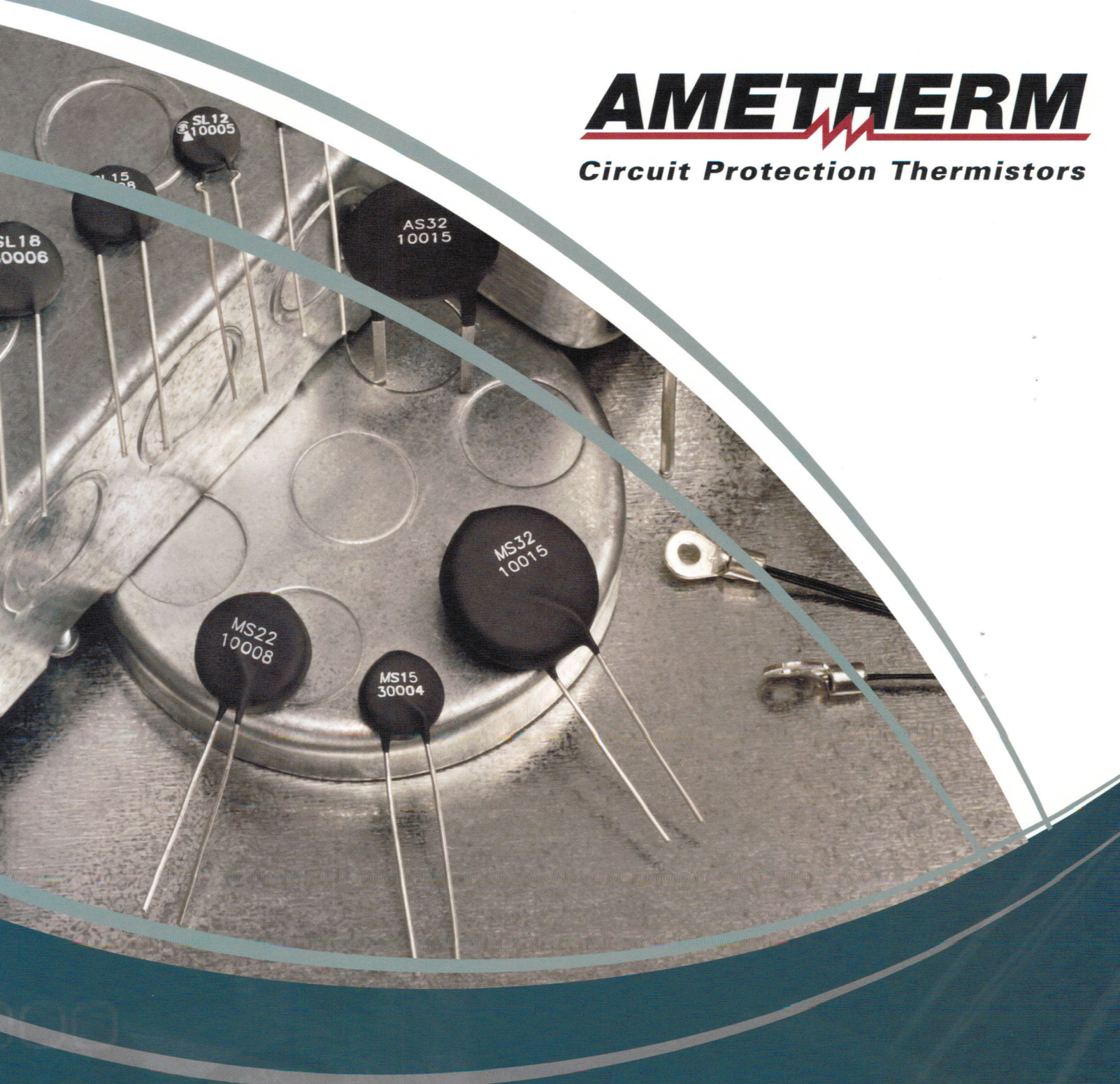


AMETHERM

Circuit Protection Thermistors



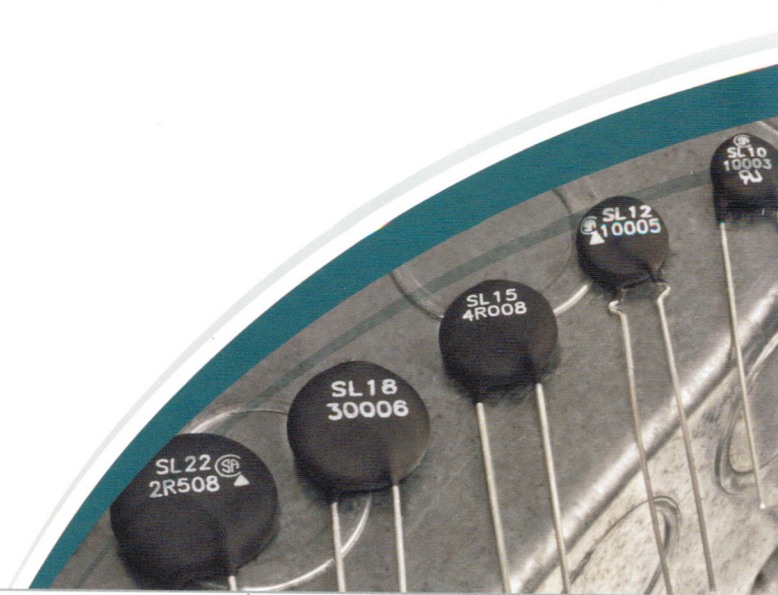
HIGHEST RATED, BROADEST RANGE OF INRUSH CURRENT LIMITERS

For Power Supplies with
Outputs from 50 to 7,500 watts
and 1.0 To 50 AMPs SSI

Protect your sensitive electronic components from damaging surge currents that can occur when electrical circuits are switched on. Ametherm's durable, highly-rated inrush current limiters are designed to effectively control damaging surges in a wide range of applications.

Protection.

PROTECTING YOUR ELECTRONIC COMPONENTS
WITH INRUSH CURRENT LIMITERS



MINI AMP INRUSH CURRENT LIMITERS

Part Number	I _{max} Max Steady State Current (Amperes)	Resistance at 25°C (ohms)	Resistance Tolerance %	R _{imax} Resistance at Max Current (ohms)	J _{max} Energy Rating (Joules) (Ws)	V _{max} Voltage Rating	D _{max} (mm) Max Dia. Over Coating	T _{max} (mm) Max Thickness Over Coating	Lead Dia. (mm)
SL03 10001	1	10.0	20	0.80	2.0	120	3.0	3.0	0.5
SL03 22101	1	220.0	20	2.20	2.0	120	3.5	3.5	0.5
SL05 5R001	1	5.0	25	0.80	5.0	120	6.0	3.5	0.5
SL05 60001	1	60.0	20	0.82	3.0	120	6.0	4.5	0.5
SL05 12101	1	120.0	20	1.40	1.5	120	6.0	4.5	0.5
SL08 10002	2	10.0	20	0.29	9.0	240	8.8	4.5	0.5
SL08 33001	2	33.0	20	0.75	8.0	240	8.5	4.5	0.5
SL08 50001	1.1	50.0	20	0.90	8.0	265	8.0	4.0	0.5
SL08 12101	1	120.0	20	1.60	8.0	265	8.5	5.5	0.5
SL08 10101	1	100.0	20	1.40	8.0	265	8.5	5.5	0.5

STANDARD INRUSH CURRENT LIMITERS

SL10 5R002	2	5.0	20	0.35	20	265	10.5	4.0	0.5
SL12 5R002	2	5.0	20	0.30	25	265	12.0	6.0	0.8
SL12 20003	2	20.0	20	0.45	30	265	12.5	5.1	0.8
SL12 25002	2	25.0	20	0.55	30	265	12.5	5.1	0.8
SL15 22102	2	220.0	25	0.90	50	265	15.0	4.5	0.8
SL10 10003	3	10.0	15	0.26	17	265	10.0	4.0	0.5
SL12 25003	3	25.0	20	0.35	30	265	12.5	5.1	0.8
SL12 12103	3	120.0	20	0.48	25	265	12.0	5.0	0.8
SL12 5R004	4	5.0	15	0.15	25	265	12.5	5.1	0.8
SL15 7R004	4	7.0	20	0.10	55	265	15.5	5.0	0.8
SL12 12004	4	12.0	20	0.22	40	265	12.5	6.0	0.8
SL15 16004	4	16.0	20	0.25	50	265	15.0	5.2	0.8
SL15 40004	4	40.0	20	0.30	30	265	15.5	5.0	0.8
SL10 2R505	5	2.5	30	0.12	30	265	10.0	5.0	0.5
SL12 5R005	5	5.0	20	0.15	50	265	15.5	5.1	0.8
SL12 10005	5	10.0	20	0.13	40	265	12.5	5.1	0.8
SL12 10006	6	10.0	20	0.12	40	265	12.0	5.1	0.8
SL15 2R508	7	2.5	20	0.06	40	265	15.5	4.5	0.8
SL15 5R007	7	5.0	20	0.09	50	265	15.0	5.0	0.8
SL15 4R008	8	4.0	20	0.07	40	265	15.0	4.5	0.8
SL15 2R509	9	2.5	20	0.04	40	265	15.0	5.5	0.8
SL18 2R508	8	2.5	20	0.06	90.0	265	19.0	5.0	1.0
SL18 5R006	6	5.0	20	0.14	75.0	265	19.0	5.0	1.0
SL18 10005	5	10.0	20	0.18	75.0	265	19.0	6.0	1.0
SL18 30006	6	30.0	25	0.17	75.0	265	19.0	6.0	1.0
SL18 47003	3	47.0	25	0.13	75.0	265	19.0	6.0	1.0

INRUSH CURRENT LIMITERS

Inrush current limiters are power NTC thermistors manufactured from a specially-formulated metal oxide ceramic material that is capable of suppressing high inrush current surges. Connected in series with the load at switch-on, the thermistor's relatively high cold resistance limits the current.

As the current flows, the thermistor heats, reducing its resistance value so that once the initial surge has been safely held off, the resistance in the circuit is held at a low value to maximize efficiency. Applications include:

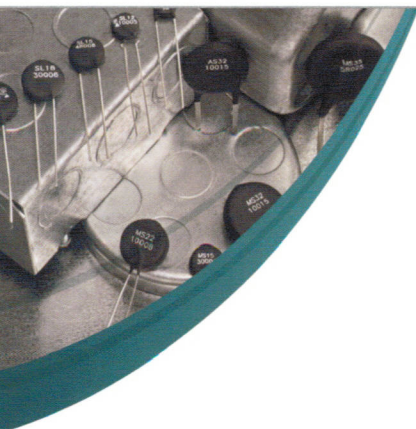
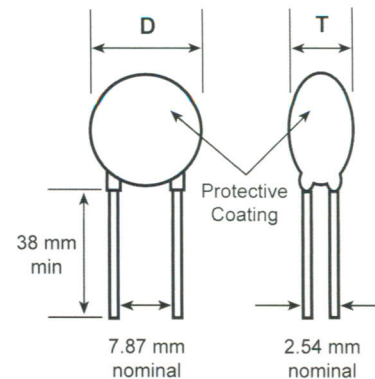
- Power Supplies
- Lighting Circuits
- Any Circuit Subject To
 - Switch-On Current Surges
 - Electric Motors
 - Thermostat Protection



DESIGN TIPS FOR INRUSH CURRENT LIMITERS

The SL22 series of inrush current limiters is CSA & UL approved, and other SL series parts are CSA approved. Refer to the following guidelines when using these designs.

1. The body should not touch other components on the PCB.
2. A fuse rated at the maximum current rating of the device (allowing for any derating that may be needed for ambient temperatures in excess of 65°C) or lower than the maximum current rating of the 7.87 mm device should be used.



BIG AMP INRUSH CURRENT LIMITERS

bigAMP
Inrush Current Limiters

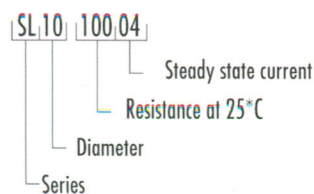
Big Amp inrush current limiters are high current, high energy handling devices capable of absorbing up to 250Js and suitable for large switch mode power supplies, UPSs, HVAC, and motor speed controllers.

Part Number	I _{max} Max Steady State Current (Amperes)	Resistance at 25°C (ohms)	Resistance Tolerance %	R _{imax} Resistance at Max Current (ohms)	J _{max} Energy Rating (Joules) (Ws)	V _{max} Voltage Rating	D _{max} (mm) Max Dia. Over Coating	T _{max} (mm) Max Thickness Over Coating	Lead Dia. (mm)
SL22 12103	3	120	25	0.9	80	265	22	6.0	1.0
SL22 50004	4	50	20	0.44	80	265	22	6.0	1.0
SL22 30005	5	30	20	0.4	80	265	22	6.0	1.0
SL22 14007	7	14	25	0.12	75	265	22	6.0	1.0
SL22 10008	8	10	20	0.095	90	265	22	6.0	1.0
SL22 2R510	10	2.5	20	0.04	90	265	22	6.0	1.0
SL22 7R010	10	7	20	0.08	100	265	22	6.0	1.0
SL22 0R712	12	0.7	20	0.03	120	265	22	6.0	1.0
SL22 5R012	12	5	20	0.05	100	265	22	6.0	1.0
SL22 4R014	14	4	20	0.05	100	265	22	6.0	1.0
SL22 2R515	15	2.5	20	0.03	90	265	22	6.0	1.0
SL22 0R516	16	0.5	20	0.02	160	265	22	6.0	1.0
SL22 2R018	18	2	20	0.037	90	265	22	6.0	1.0
SL22 1R020	20	1	20	0.015	65	265	22	6.0	1.0
SL32 0R230	30	0.25	25	0.010	100	265	32	6.0	1.0

Part Number	I _{max} Max Steady State Current (Amperes)	Resistance at 25°C (ohms)	Resistance Tolerance %	J _{max} Energy Rating (Joules) (Ws)	V _{max} Voltage Rating	Resistance at 100% SS Current (ohms)	Resistance at 70% SS Current (ohms)	Resistance at 50% SS Current (ohms)
SL32 10015	15	10	20	150	265	0.048	0.074	0.102
SL32 5R020	20	5	20	200	265	0.034	0.056	0.082
SL32 2R025	25	2	20	250	265	0.025	0.031	0.049
SL32 0R530	30	0.5	20	150	265	0.011	0.019	0.058
SL32 1R030	30	1	20	160	265	0.014	0.018	0.048
SL32 1R036	36	1	20	160	265	0.01	0.015	0.028

D _{max} (mm) Max Dia. Over Coating	T _{max} (mm) Max Thickness Over Coating	Lead Dia. (mm)	Lead Spacing (mm) Nominal	Length (mm) Nominal
32	6	1.0	7.9	38

PART NUMBERING



100 = 10
221 = 220

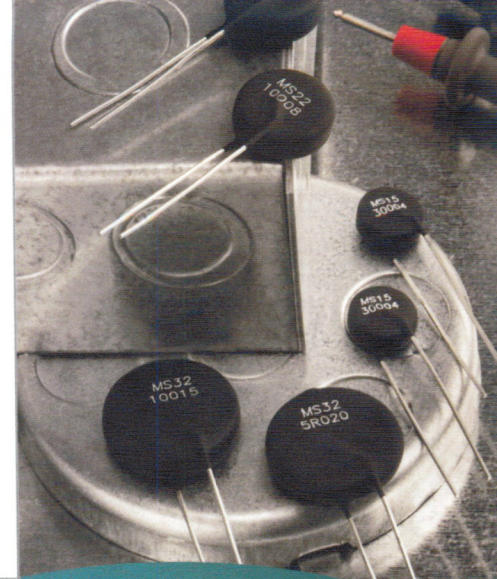
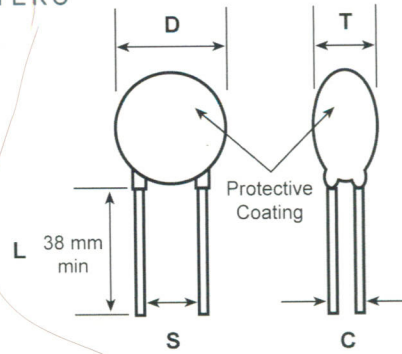


MOUNTING INRUSH CURRENT LIMITERS

Inrush current limiters may get hot in operation.

For best results, use the following guidelines:

- Do not place on the PCB near temperature sensitive components.
- Use a high temperature solder on the PCB.
- If equipped, use a ceramic spacer to stand off the surge guard from the PCB or contact us for pre-formed devices.
- Keep away from wiring looms.



MEGA SURGE INRUSH CURRENT LIMITERS

Part Number	I _{max} Max Steady State Current (Amperes)	Resistance at 25°C (ohms)	Resistance Tolerance %	J _{max} Energy Rating (Joules) (Ws)	V _{max} Voltage Rating	Max Cap @ Max V uF	Resistance at 100% SS Current (ohms)	Resistance at 75% SS Current (ohms)	Resistance at 50% SS Current (ohms)
MS12 15102	2	150	25	110	440	560	1.05	1.9	2.71
MS22 12103	3	120	25	220	440	1100	1.2	1.4	2.5
MS22 22103	3	220	25	75	265	580	1.4	1.67	3
MS15 66003	3.5	66	25	125	440	600	0.4	0.824	1.73
MS15 40004	4	40	25	135	440	700	0.4	0.623	0.96
MS22 50004	4	50	25	240	440	1200	0.4	0.625	1.1
MS22 75004	4	75	25	240	440	1200	0.5	0.77	1.35
MS22 20005	5	20	25	180	440	1000	0.32	0.5	0.72
MS32 20008	8	20	25	250	440	1250	0.2	0.33	0.9
MS35 20010	10	20	25	500	680	1000	0.3	0.4	0.5
MS32 10015	15	10	25	250	440	1250	0.06	0.1	0.19
MS35 10018	18	10	25	500	680	1000	0.1	0.32	0.48
MS32 5R020	20	5	25	300	440	1250	0.035	0.06	0.1
MS32 2R025	25	2	25	300	440	1500	0.02	0.032	0.06
MS35 5R025	25	5	25	600	680	1000	0.05	0.1	0.15
MS35 3R030	30	3	25	750	680	1250	0.03	0.052	0.08
MS35 2R035	35	2	25	750	680	1600	0.02	0.027	0.04
MS32 1R036	36	1	25	300	440	1500	0.012	0.015	0.03
MS35 1R040	40	1	25	800	680	1700	0.012	0.02	0.03
MS35 0R550	50	0.5	25	900	680	2000	0.008	0.013	0.02

Part Series	D mm (Nom)	T mm (Nom)	Lead Dia. (mm)	S mm (Nom)	L mm (Nom)	C mm (Nom)
MS12	12.0 Nom	7.0 Nom	1.0 Nom	7.80 Nom	38.0 Nom	3.42 Nom
MS15	15.0 Nom	7.0 Nom	1.0 Nom	7.80 Nom	38.0 Nom	6.70 Nom
MS22	22.0 Nom	8.5 Nom	1.0 Nom	7.80 Nom	38.0 Nom	3.82 Nom
MS32	32.0 Nom	8.5 Nom	1.0 Nom	7.80 Nom	38.0 Nom	4.5 Nom
MS35	35.0 Nom	10 Nom	2.5 Nom	19.0 Nom	39.0 Nom	7.50 Nom

MegaSurge Inrush Current Limiters

Features

- Up to 50A SSI
- 0.5 ohm to 220 ohms
- Limits up to 900 Joules of inrush energy

With energy ratings to 900J, Megasurge inrush current limiters are suitable for very high power applications, such as:

- AC Motors
- Compressors
- Frequency Generators
- High Power Motor Controllers
- High Power Battery Chargers
- Motor Drives
- MRI Machines
- Plasma Cutting Tools
- Power Supplies
- Toroidal Transformers up to 7.5 KVA
- Welding Machines

