

NTC Thermistors, SURGE-GARD™ Inrush Current Limiters



FEATURES

- Lowers rectifier cost by reducing required peak forward surge current rating
- Reduces noise
- Reduces fuse failures
- High current capacity

RoHS
COMPLIANT

APPLICATIONS

- AC current in switching power supplies (SPS)

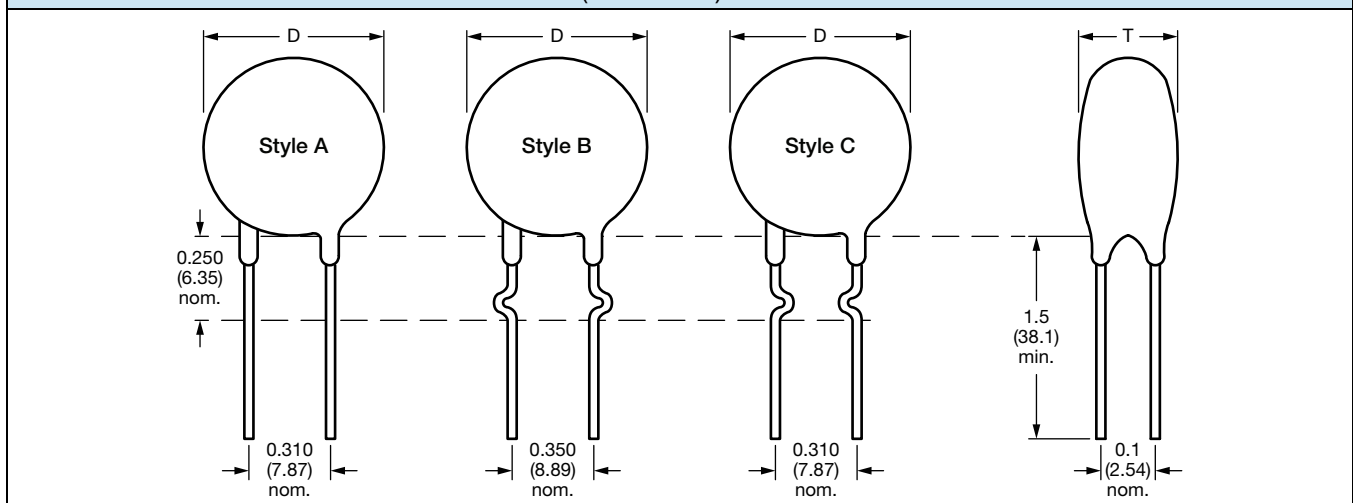
DESCRIPTION

SURGE-GARD™ inrush current limiting devices using specially formulated metal oxide ceramic materials. These devices are capable of suppressing high inrush current surges. They are especially useful in power supplies where the low impedance of the charging capacitor exposes the diode bridge rectifier to an excessively high current surge at turn-on.

QUICK REFERENCE DATA									
PART NUMBER	RESISTANCE AT 25 °C (Ω)	TOLERANCE (%)	I _{max.} (A)	R _{Imax.} (Ω)	ENERGY RATING (J)	MAX. D (mm)	MAX. T (mm)	LEAD DIAMETER (mm)	NTC CURVE
SG100	1	15	20	0.015	31	22.9	7.6	1.0	A
SG110	2	15	18	0.03	80	22.9	8.9	1.0	A
SG120	2.5	15	3	0.15	27	15.2	6.4	0.8	A
SG130	2.5	15	7	0.05	27	15.2	6.4	0.8	A
SG140	2.5	15	9	0.04	27	15.2	6.4	0.8	A
SG150	2.5	15	10	0.04	87	22.9	7.6	1.0	A
SG16	60	10	1.5	1.0	50	15.2	7.9	0.8	-
SG160	2.5	15	15	0.03	87	22.9	7.6	1.0	A
SG170	4	15	8	0.07	27	15.2	6.4	1.0	A
SG190	5	15	4	0.15	36	15.2	6.4	0.8	A
SG200	5	15	7	0.07	40	15.2	6.4	0.8	A
SG210	7	15	4	0.2	50	15.2	7.6	1.0	A
SG220	10	15	3	0.2	17	11.4	7.6	0.8	A
SG230	20	15	1.75	0.6	31	12.7	7.6	0.8	A
SG240	40	15	2	0.6	20	15.9	6.4	0.8	B
SG250	120	15	3	0.9	36	23.5	6.4	1.0	C
SG26	5	15	12	0.06	100	22.9	7.0	1.0	A
SG260	0.5	20	30	0.01	31	31.8	5.1	1.0	A
SG27	10	15	6	0.15	40	12.7	8.9	1.0	A
SG301	1	15	20	0.015	48	22.9	7.6	1.0	A
SG302	2	15	18	0.03	80	22.9	8.9	1.0	A
SG303	2.5	15	3	0.15	27	15.2	6.4	0.8	A
SG304	2.5	15	7	0.05	27	15.2	6.4	0.8	A
SG305	2.5	15	9	0.04	27	15.2	6.4	0.8	A
SG306	2.5	15	10	0.04	87	22.9	7.6	1.0	A

QUICK REFERENCE DATA

PART NUMBER	RESISTANCE AT 25 °C (Ω)	TOLERANCE (%)	I _{max.} (A)	R _{Imax.} (Ω)	ENERGY RATING (J)	MAX. D (mm)	MAX. T (mm)	LEAD DIAMETER (mm)	NTC CURVE
SG307	2.5	15	15	0.03	87	22.9	7.6	1.0	A
SG308	4	15	8	0.07	27	15.2	6.4	1.0	A
SG310	5	15	4	0.15	36	15.2	6.4	0.8	A
SG311	5	15	7	0.07	40	15.2	6.4	0.8	A
SG312	7	15	4	0.2	50	15.2	7.6	1.0	A
SG313	10	15	3	0.2	17	11.4	7.6	0.8	A
SG314	10	15	6	0.15	40	12.7	8.9	1.0	A
SG315	20	15	1.75	0.6	31	12.7	7.6	0.8	A
SG316	40	15	2	0.6	20	15.9	6.4	0.8	B
SG317	120	15	3	0.9	36	23.5	6.4	1.0	C
SG32	4	20	14	0.05	100	22.9	8.9	1.0	A
SG320	16	25	4	0.25	50	19.1	6.4	1.0	J
SG326	0.5	20	30	0.01	31	31.8	5.1	1.0	A
SG328	1	25	30	0.015	157	31.8	6.4	1.0	A
SG330	4	20	14	0.05	100	22.9	8.9	1.0	A
SG332	5	20	8	0.05	40	15.2	6.4	1.0	A
SG333	5	15	12	0.06	100	22.9	7.0	1.0	A
SG336	7	15	10	0.08	100	24.1	7.0	1.0	J
SG337	10	15	2	0.3	17	12.7	6.4	0.8	A
SG338	10	15	5	0.2	44	15.2	8.9	1.0	A
SG355	2	25	23	0.025	250	31.8	7.6	1.0	A
SG379	1	25	30	0.015	157	31.8	8.9	1.0	-
SG39	12	10	4	0.22	40	12.7	7.9	1.0	-
SG40	10	20	8	0.1	50	22.9	8.9	1.0	J
SG405	1	25	30	0.015	157	31.8	6.4	1.0	A
SG416	1.3	25	8	0.05	40	14.0	5.1	1.0	A
SG42	10	15	5	0.2	44	15.2	8.9	1.0	A
SG420	2	25	23	0.025	250	31.8	7.6	1.0	A
SG421	17.5	14	4	0.3	20	12.7	7.9	1.0	-
SG44	5	20	8	0.05	40	15.2	6.4	1.0	A
SG57	5	10	6	0.1	30	15.2	7.9	1.0	-
SG64	7	15	10	0.08	100	24.1	7.0	1.0	J

MECHANICAL SPECIFICATIONS in inches (millimeters)




NTC RESISTANCE TEMPERATURE CONVERSION								
TEMPERATURE (°C)	RESISTANCE TEMPERATURE CURVE A		RESISTANCE TEMPERATURE CURVE B		RESISTANCE TEMPERATURE CURVE C		RESISTANCE TEMPERATURE CURVE J	
	R_T/R_{25}	DEV.	R_T/R_{25}	DEV.	R_T/R_{25}	DEV.	R_T/R_{25}	DEV.
-60	43	-	75	6.6	140.5	6.6	52.5	-
-55	31.9	-	54.1	6.1	96.4	6.1	39	-
-50	24.3	-	39.7	5.6	67	5.6	29.2	19
-45	18.6	-	29.2	5.2	47.2	5.2	22.1	17
-40	14.4	7.6	21.7	4.7	33.7	4.7	16.9	15
-35	11.3	6.9	16.4	4.3	24.3	4.3	13	14
-30	8.93	6.2	12.5	3.8	17.7	3.8	10.1	13
-25	7.1	5.6	9.58	3.4	13	3.4	7.9	11
-20	5.69	5	7.42	3	9.71	3	6.24	9.9
-15	4.56	4.4	5.75	2.6	7.3	2.6	4.96	8.7
-10	3.68	3.7	4.5	2.2	5.53	2.2	3.97	7.4
-5	2.99	3.1	3.55	1.9	4.23	1.9	3.2	6.2
0	2.45	2.5	2.82	1.5	3.27	1.5	2.6	5
5	2.02	2	2.26	1.2	2.54	1.2	2.12	3.9
10	1.68	1.6	1.83	0.8	1.99	0.8	1.74	2.7
15	1.42	1.1	1.48	0.5	1.57	0.5	1.44	1.6
20	1.18	0.6	1.22	0.2	1.25	0.2	1.2	0.5
25	1	0	1	0	1	0	1	0
30	0.854	0.6	0.828	0.4	0.806	0.4	0.841	1.4
35	0.732	1.1	0.689	0.7	0.653	0.7	0.71	2.3
40	0.628	1.6	0.576	1	0.533	1	0.602	3.2
45	0.537	2	0.482	1.3	0.437	1.3	0.513	4.3
50	0.464	2.5	0.406	1.5	0.36	1.5	0.439	5
55	0.403	3	0.343	1.8	0.299	1.8	0.377	5.9
60	0.35	3.4	0.292	2	0.249	2	0.326	6.7
65	0.305	3.8	0.247	2.3	0.208	2.3	0.282	7.5
70	0.267	4.2	0.212	2.5	0.175	2.5	0.245	8.2
75	0.236	4.6	0.182	2.8	0.148	2.8	0.214	9
80	0.208	4.9	0.157	3	0.126	3	0.188	9.8
85	0.183	5.3	0.137	3.2	0.107	3.2	0.165	11
90	0.163	5.6	0.12	3.4	0.0916	3.4	0.146	11
95	0.145	6	0.105	3.6	0.0787	3.6	0.129	12
100	0.13	6.3	0.092	3.8	0.0679	3.8	0.114	13
105	0.117	6.7	0.0812	4	0.0588	4	0.102	13
110	0.105	7	0.0723	4.2	0.0511	4.2	0.0908	14
115	0.0943	7.3	0.0641	4.4	0.0445	4.4	0.0813	14
120	0.0852	7.6	0.0569	4.6	0.0389	4.6	0.073	15
125	0.0771	7.9	0.0508	4.8	0.0342	4.8	0.0657	16
130	0.07	8.2	0.0455	4.9	0.0301	4.9	0.0593	16
135	0.0636	8.4	0.0408	5.1	0.0265	5.1	0.0536	17
140	0.0579	8.6	0.0368	5.3	0.0235	5.3	0.0486	18
145	0.0529	9	0.0332	5.4	0.0208	5.4	0.0442	18
150	0.0483	9.3	0.03	5.5	0.0185	5.5	0.0402	18

NTC RESISTANCE TEMPERATURE CURVE CHARACTERISTICS				
RESISTANCE TEMPERATURE CURVE	A	B	C	J
Temperature coefficient at 25 °C	-3.3 %/°C	-3.9 %/°C	-4.4 %/°C	-3.5 %/°C
Beta, β	3000 °K	3530 °K	3965 °K	3200 °K



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