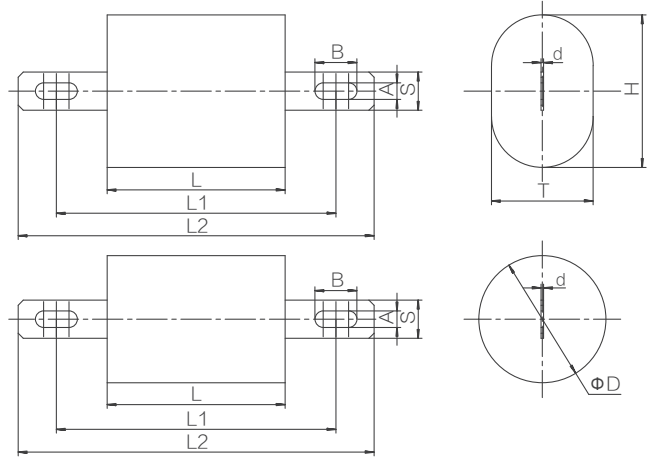
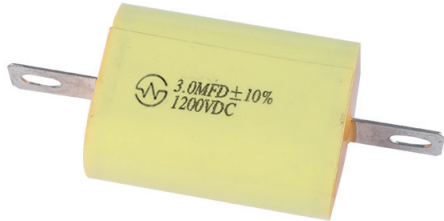


WSA 轴向IGBT吸收电容器

Axial-type IGBT snubber capacitor

外形图 Outline Drawing



单位 Unit: mm

特点 Features

- 双面金属化电极，聚丙烯膜介质
- 轴向引出，损耗小，内部温升小
- 聚酯胶带包裹，阻燃环氧树脂灌封（UL94-0）
- Double sided metallized electrode, polypropylene film dielectric
- Axial leaded, low loss and small inherent temperature rise
- Wrapped with polyester tape and filled with flame-retardant epoxy resin (UL94 V-0)

主要用途 Typical Applications

- 广泛应用于各种高压、高频、大电流场合，尤其适用于IGBT吸收电路
- Widely used in high voltage, high frequency, large current application, especially suitable for IGBT snubber circuit

技术要求 Specifications

引用标准 Reference Standard	GB/T 17702 (IEC 61071)
气候类别 Climatic Category	40/105/56
额定温度 Rated Temperature	85℃
工作温度 Operating Temperature	-40~105℃
额定电压 U_N Normal Voltage	630/850/1000/1200/1600/2000/2500/3000Vdc 420/450/500/600/650/700/725/750Vac
容量偏差 Capacitance Tolerance	±5% (J) ±10% (K)
耐电压 Voltage Proof	$1.5U_N(10s)$
绝缘电阻 R_{ins} Insulation Resistance	$C_N \leq 0.33 \mu F: \geq 15000M\Omega$ $C_N > 0.33 \mu F: \geq 5000s$ (20℃ 100Vdc, 1min)
损耗角正切 $\tan \delta$ Dissipation Factor	≤ 0.0005 (1kHz, 20℃)
预期寿命 t_{EL} Expected Lifetime	100,000h@ $U_N, \theta_{hs}=70^\circ C$

■ 外形尺寸 Dimensions (mm)

630Vdc (420Vac)											
C _N (μF)	Flat shap			Cylindershap		d (mm)	L _s (nH)	dV/dt (V/μs)	ESR @100kHz (mΩ)	I _{max} (A)	备注
	H (mm)	T (mm)	L (mm)	D (mm)	L (mm)						
1	23.3	15.5	39	18.0	39	1.0	20	600	4.5	9.5	
1.5	27.3	19.5	39	21.5	39	1.2	20	600	4.3	12	
2.2	31.9	24.0	39	25.5	39	1.2	22	600	4.0	14	
3.3	38.4	29.0	39	31.0	39	1.2	24	600	4.0	14/20	
1	21.8	15.5	44	17.0	44	1.0	21	475	5.0	10	
1.5	25.9	18.0	44	20.5	44	1.2	21	475	4.5	12	
2.2	30.3	22.5	44	24.0	44	1.2	23	475	4.0	14/15	
3.3	36.5	27.0	44	29.0	44	1.2	25	475	4.0	14/18	
3.3	31.9	24.0	54	26.0	54	1.2	26	350	4.0	14/15	
4.7	37.9	28.5	54	30.5	54	1.2	28	350	3.5	14/19	
6.8	44.5	33.5	54	36.0	54	1.2	31	350	3.5	14/25	
3.3	30.4	22.5	58	24.5	58	1.2	27	300	4.5	14/15	
4.7	35.9	26.5	58	29.0	58	1.2	29	300	3.8	14/18	
6.8	42.4	31.5	58	34.0	58	1.2	31	300	3.5	14/23	
10	49.9	39.0	58	41.0	58	1.2	34	300	3.5	14/28	

注：“/”后面电流值指4根引线时的最大电流值。 Note: The current value after "/" refers to the maximum current value when there are 4 leads.

850Vdc (450Vac)											
C _N (μF)	Flat shap			Cylindershap		d (mm)	L _s (nH)	dV/dt (V/μs)	ESR @100kHz (mΩ)	I _{max} (A)	备注
	H (mm)	T (mm)	L (mm)	D (mm)	L (mm)						
0.47	20.1	12.5	34	17.0	34	1.0	17	900	5.5	7.8	
0.68	22.7	15.0	34	20.0	34	1.0	18	900	4.5	9.9	
1	26.6	19.0	34	23.5	34	1.2	19	900	4	12.9	
0.47	17.5	11.5	39	15.5	39	1.2	19	750	6	7.5	
0.68	21.2	13.5	39	18.0	39	1.2	19	750	5	8.9	
1	24.6	17.0	39	21.5	39	1.2	20	750	4.5	11.5	
1.5	28.6	21.0	39	26.0	39	1.2	22	750	4	14	
2.2	34.3	25.0	39	30.5	39	1.2	24	750	4	14/20	
0.68	20.1	12.5	44	17.0	44	1.0	21	600	5.5	9.5	
1	23.1	15.5	44	20.0	44	1.0	22	600	4.5	11.5	
1.5	27.1	19.5	44	24.0	44	1.2	22	600	4	14	
2.2	32.2	23.0	44	28.5	44	1.2	24	600	4	14/18	
22	28.1	20.5	54	25.5	54	1.2	26	460	4.5	14	
3.3	34.3	25.0	54	30.5	54	1.2	28	460	4	14/19	
4.7	40.3	29.5	54	36.0	54	1.2	31	460	4	14/24	
2.2	27.1	19.5	58	24.0	58	1.2	27	375	4.3	14	
3.3	32.7	23.5	58	29.0	58	1.2	29	375	4	14/17	
4.7	38.3	27.5	58	34.0	58	1.2	31	375	4	14/21	
6.8	44.8	34.0	58	40.5	58	1.2	34	375	4	14/26	

注：“/”后面电流值指4根引线时的最大电流值。 Note: The current value after "/" refers to the maximum current value when there are 4 leads.

■ 外形尺寸 Dimensions (mm)

1000Vdc (500Vac)											
C _N (μF)	Flat shap			Cylindershap		d (mm)	L _s (nH)	dV/dt (V/μs)	ESR @100kHz (mΩ)	I _{max} (A)	备注
	H (mm)	T (mm)	L (mm)	D (mm)	L (mm)						
0.47	20.1	12.5	39	17.0	39	1.0	19	850	5.5	8.8	
0.68	22.6	15	39	20.0	39	1.0	20	850	4.5	11.1	
1	26.6	19.0	39	23.5	39	1.2	21	850	4	14	
1.5	31.8	22.5	39	28	39	1.2	23	850	4	14/18	
0.47	18.6	11	44	16	44	1.0	21	780	6	92	
0.68	212	13.5	44	18.5	44	1.0	21	780	5	10.1	
1	24.6	17.0	44	21.5	44	1.2	22	780	4	12.8	
1.5	29.8	20.5	44	26.0	44	1.2	23	780	4	14/16	
1.5	25.8	20.5	54	23.0	54	1.2	25	500	4.5	14	
2.2	31.2	22.0	54	27.5	54	1.2	27	500	4	14/16	
3.3	37.3	26.5	54	33.0	54	1.2	29	500	4	14/21	
L5	25.2	17.5	58	22	58	1.2	26	425	5	14	
2.2	29.7	20.5	58	26.5	58	1.2	28	425	4	14/15	
3.3	35.8	25	58	31.5	58	1.2	30	425	4	14/20	
4.7	41.3	30.5	58	37.5	58	1.2	32	425	4	14/22	

注：“/”后面电流值指4根引线时的最大电流值。 Note: The current value after "/" refers to the maximum current value when there are 4 leads.

1200Vdc (600Vac)											
C _N (μF)	Flat shap			Cylindershap		d (mm)	L _s (nH)	dV/dt (V/μs)	ESR @100kHz (mΩ)	I _{max} (A)	备注
	H (mm)	T (mm)	L (mm)	D (mm)	L (mm)						
0.33	21.4	13.5	39	16.5	39	1.0	19	1050	6.5	7.7	
0.47	24.3	16.5	39	19	39	1.0	19	1050	5	10.5	
0.68	27.8	20	39	22	39	1.2	20	1050	4.5	12.1	
1	33.24	24.0	39	26.5	39	1.2	22	1050	4	14/15	
0.33	19.2	13	44	15	44	0.8	21	1000	6.7	9	
0.47	22.8	15.0	44	17.5	44	1.0	21	1000	5.5	9.8	
0.68	26.4	18.5	44	20.5	44	1.2	21	1000	5	11.7	
1	31	21.5	44	24.5	44	1.2	22	1000	4.5	14	
1.5	37.5	26.5	44	29.5	44	1.2	25	1000	4	14/18	
1.5	33.4	24.0	54	26.5	54	1.2	27	700	4.5	14/15	
2.2	39.5	28.5	54	31.5	54	1.2	30	700	4	14/19	
3.3	48.1	34.0	54	38.0	54	1.2	32	700	4	14/22	
1.5	31.4	22.0	58	24.5	58	1.2	28	600	4	14	
2.2	37.0	26.0	58	29.0	58	1.2	29	600	4	14/18	
3.3	44.6	32.0	58	35.0	58	1.2	32	600	4	14/21	

注：“/”后面电流值指4根引线时的最大电流值。 Note: The current value after "/" refers to the maximum current value when there are 4 leads.

■ 外形尺寸 Dimensions (mm)

1600Vdc (650Vac)											
C _N (μF)	Flat shap			Cylindershap		d (mm)	L _s (nH)	dV/dt (V/μs)	ESR @100kHz (mΩ)	I _{max} (A)	备注
	H (mm)	T (mm)	L (mm)	D (mm)	L (mm)						
0.22	22.1	14.5	39	19	39	1.0	20	1650	7.6	9.5	
0.33	25.7	18.0	39	23.0	39	1.2	20	1650	52	12.4	
0.47	30.2	21	39	27.0	39	1.2	22	1650	4.5	14	
0.68	36.4	25.5	39	31.5	39	1.2	24	1650	4	14/17	
0.22	20.7	13.0	44	17.5	44	1.0	21	1400	9.5	8.6	
0.33	24.2	16.5	44	21.0	44	1.2	21	1400	6.5	11	
0.47	27.7	20.0	44	24.5	44	1.2	22	1400	5	13.2	
0.68	32.8	23.5	44	29.0	44	1.2	24	1400	4.5	14/16	
1	43.1	24.5	44	34.5	44	1.2	27	1400	4	14/18	
1.5	49.3	31.5	44	42.0	44	1.2	31	1400	4	14/21	
1	33.7	24.5	54	30.0	54	1.2	28	1000	4.5	14/16	
1.5	41.3	29.0	54	36.0	54	1.2	31	1000	4	14/20	
2.2	48.9	35.0	54	43.0	54	1.2	3S	1000	4	14/22	
1	32.2	23.0	58	28.5	58	1.2	30	780	5	14/16	
1.5	41.0	25.5	58	34.5	58	1.2	31	780	4.2	14/19	
2.2	49.1	30.5	58	41.0	58	1.2	35	780	4	14/22	

注：“/”后面电流值指4根引线时的最大电流值。 Note: The current value after "/" refers to the maximum current value when there are 4 leads.

2000Vdc (700Vac)											
C _N (μF)	Flat shap			Cylindershap		d (mm)	L _s (nH)	dV/dt (V/μs)	ESR @100kHz (mΩ)	I _{max} (A)	备注
	H (mm)	T (mm)	L (mm)	D (mm)	L (mm)						
0.047	15.1	9.0	34	12.0	34	0.8	17	2100	22.5	5.1	
0.068	16.6	10.5	34	14.0	34	0.8	17	2100	16	6.7	
0.1	20.2	12.5	34	16.0	34	1.0	17	2100	11.1	8.4	
0.15	23.2	15.5	34	19.0	34	1.0	18	2100	7.6	10.1	
0.22	26.7	19.0	34	22.5	34	1.2	19	2100	5.5	11	
0.068	15.6	9.5	39	13.0	39	0.5	19	1850	20.6	5.8	
0.1	17.6	11.5	39	15.0	39	0.8	19	1850	14.3	6.8	
0.15	21.1	13.5	39	17.2	39	1.0	19	1850	9.8	8.5	
0.22	24.6	17.0	39	20.2	39	1.2	19	1850	6.8	10.7	
0.33	28.6	21.0	39	24.5	39	1.2	21	1850	4.6	14	
0.47	33.7	24.5	39	28.5	39	1.2	23	1850	4	14	
0.1	16.6	10.5	44	14.0	44	1.0	21	1650	18	6.4	
0.15	20.2	12.5	44	16.0	44	1.0	20	1650	12.3	8.9	
0.22	22.7	15.0	44	19.0	44	1.0	21	1650	8.5	10.1	
0.33	26.7	19.0	44	22.5	44	1.2	22	1650	5.8	13	
0.47	31.7	22.5	44	26.0	44	1.2	23	1650	4.1	14	
0.68	38.3	26.0	44	31.5	44	1.2	26	1650	4	14	
0.68	32.3	23.0	54	27.0	54	1.2	27	1200	4.5	14	
1	38.3	27.5	S4	32.0	54	1.2	29	1200	4.3	14	
0.68	30.7	21.5	58	27.0	58	1.2	28	850	5	14	
1.0	38.4	24.5	58	32.5	58	1.2	30	850	4.5	14	
1.5	45.5	30.0	58	39.0	58	1.2	34	850	4	14	

■ 外形尺寸 Dimensions (mm)

2500Vdc (725Vac)											
C _N (μF)	Flat shap			Cylindershap		d (mm)	L _s (nH)	dV/dt (V/μs)	ESR @100kHz (mΩ)	I _{max} (A)	备注
	H (mm)	T (mm)	L (mm)	D (mm)	L (mm)						
0.047	17.6	11.5	34	15.5	34	1.0	17	2600	18.3	5.3	
0.068	20.6	13.0	34	17.5	34	1.0	18	2600	13.0	7	
0.1	23.6	16.0	34	20.5	34	1.2	18	2600	9.0	8.6	
0.15	27.6	20.0	34	24.5	34	1.2	20	2600	6.1	10.5	
0.1	21.7	14.0	39	19.0	39	1.0	120	2100	11.7	7.1	
0.15	25.2	17.5	39	22.5	39	1.2	20	2100	8.0	7.5	
0.22	30.2	21.0	39	26.5	39	1.2	22	2100	5.6	11	
0.33	36.2	25.5	39	32.0	39	1.2	25	2100	4	14	
0.47	42.4	30.0	39	37.5	39	1.2	28	2100	4	14	
0.1	20.6	13.0	44	17.5	44	1.0	21	1950	14.9	6.8	
0.15	23.6	16.0	44	20.5	44	1.2	21	1950	10.1	9.2	
0.22	27.1	19.5	44	24.5	44	1.2	22	1950	7	10.4	
0.33	32.8	23.5	44	29.5	44	1.2	25	1950	4.8	14	
0.47	28.8	28.0	44	34.5	44	1.2	27	1950	4	14	
0.68	46.7	33.0	44	41.0	44	1.2	31	1950	4	14	
0.33	28.2	20.5	54	25.5	54	1.2	27	1450	6.9	11.7	
0.47	33.3	24	54	29.5	54	1.2	28	1450	4.9	14	
0.68	39.3	28.5	54	35.0	54	1.2	31	1450	4	14	
0.33	27.1	19.5	58	24.0	58	1.2	27	925	8.5	10.6	
0.47	31.7	22.5	58	28.5	58	1.2	29	925	6	13.2	
0.68	37.6	27.0	58	33.5	58	1.2	31	925	4.2	14	
1.0	46.0	32.0	58	40.0	58	1.2	34	925	4	14	

3000Vdc (750Vac)											
C _N (μF)	Flat shap			Cylindershap		d (mm)	L _s (nH)	dV/dt (V/μs)	ESR @100kHz (mΩ)	I _{max} (A)	备注
	H (mm)	T (mm)	L (mm)	D (mm)	L (mm)						
0.047	19.6	12.0	39	16.5	39	1.0	19	2500	20.8	4.5	
0.068	22.1	14.5	39	19.0	39	1.0	20	2500	14.7	6	
0.1	25.2	17.5	39	22.5	39	1.2	20	2500	10.2	7.5	
0.15	30.2	21.0	39	26.5	39	1.2	22	2500	7	9.3	
0.22	35.8	25.0	39	31.5	39	1.2	24	2500	4.9	12.3	
0.047	18.1	10.5	44	15.5	44	1.0	20	2100	26.7	5.1	
0.068	20.7	13.0	44	17.5	44	1.0	21	2100	18.8	6.3	
0.1	23.6	16.0	44	20.5	44	1.2	21	2100	13.1	7.9	
0.15	27.1	19.5	44	24.5	44	1.2	22	2100	8.9	10.2	
0.22	32.8	23.5	44	29.0	44	1.2	24	2100	6.1	13.2	
0.22	28.2	20.5	54	25.0	54	1.2	26	1650	9	11	
0.33	33.7	24.5	54	30.0	54	1.2	28	1650	6.1	14	
0.47	40.4	28.0	54	35.0	54	1.2	31	1650	4.4	14	
0.22	26.6	19.0	58	24.0	58	1.2	27	1275	11.1	11	
0.33	32.3	23.0	58	28.5	58	1.2	29	1275	7.5	14	
0.47	37.8	27.0	58	33.5	58	1.2	31	1275	5.4	14	

注：1、I_{max}为10kHz、环境70℃、ΔT_{case}=15℃的电流值。

2、表中未包含的产品规格可根据用户要求进行设计和制造。

Note:

1. I_{max} is the current value of 10kHz, environment 70℃, ΔT_{case}=15℃.

2. Product specifications not included in the table can be designed and manufactured according to user requirements.