

IGBT Snubber Protection Capacitor

C31



Characteristics

- Plastic shell, flame-retardant epoxy encapsulation
- Tinned copper sheet extraction
- Resistance to high voltage, low dissipation factor
- Low ESL, low ESR, low temperature rise
- High pulse current, High dv/dt affordability

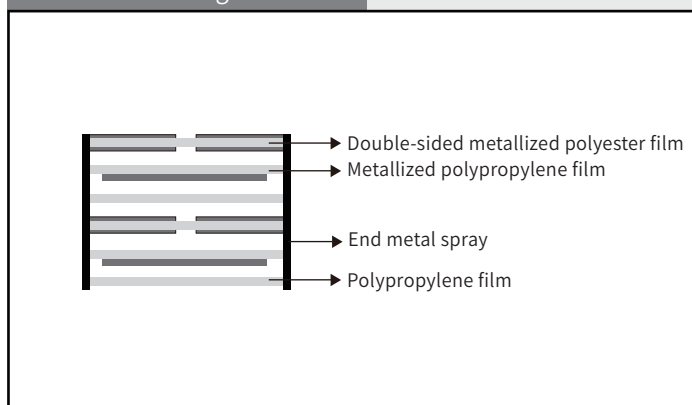
Application

- IGBT buffer absorption circuit protection; IGBT buffer absorption device
- Widely used in power electronic equipment UPS, inverter, induction heating, electric welding machine and other equipment peak voltage, peak current absorption protection

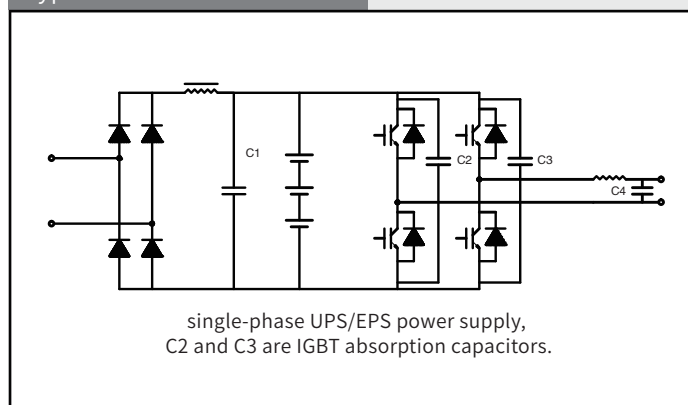
Technical Data

• Reference Standard	IEC61071 .GB/T17702
• Operating Temperature Range	-40°C~85°C Tmax+105°C
• Capacitance Range	0.047µF -10µF
• Rated Voltage	700 VDC -3000VDC
• Capacity Tolerance	±5%(J); ±10%(K)
• Withstand Voltage	1.5Un Dc/10S
• Dissipation Factor	$tg\delta \leq 0.0005 \quad C \leq 1\mu F \quad f=10KHz \quad \text{at } 20^\circ C$
	$tg\delta \leq 0.0010 \quad C \geq 1\mu F \quad f=10KHz \quad \text{at } 20^\circ C$
• Insulation Resistance	$C \leq 0.33\mu F \quad R_s \geq 30000M\Omega \text{ (at } 20^\circ C \text{ 100VDC 60S)}$
	$C > 0.33 \mu F \quad R_s \geq 10000S \text{ (at } 20^\circ C \text{ 100VDC 60S)}$
• Flame retardation	UL94V-0
• Life expectancy	100000hrs (Un hotspot $\leq 85^\circ C$)

Construction Diagram



Typical Circuit



C31

IGBT Snubber Protection Capacitor

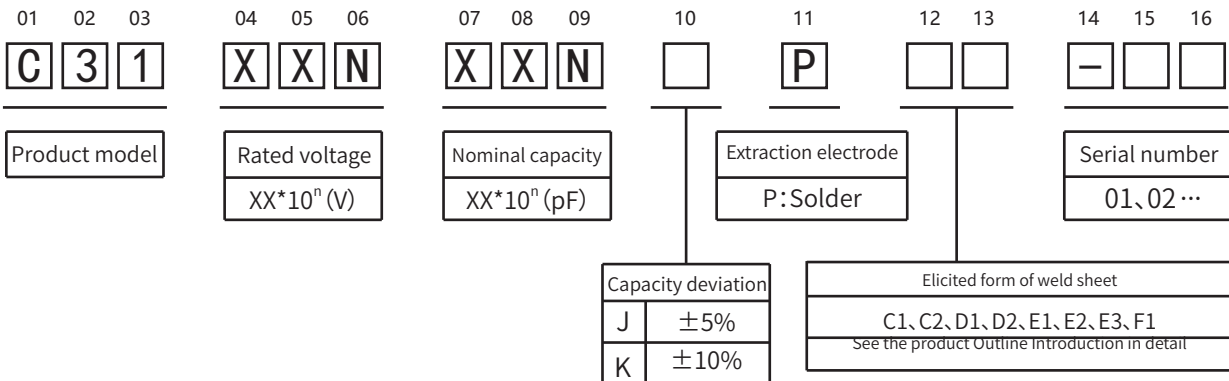
Product Shape

<p>Style C1 Style C2</p>															
<p>Style D1 Style D2</p>															
<p>Style E1 Style E2 Style E3</p>															
<p>Style F1</p>															
<p>Fixing pitch and distance between lugs(mm)</p>															
Style	C1		C2		D1		D2		E1		E2		E3		F1
L	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P
42.5	23~28	11	20~23	8	23~28	11	20~23	8	29~39	11	33~45	15			50
57.5	23~28	11	36~41	24	23~28	11	36~41	24	29~39	11	33~45	15	46~58	28	65

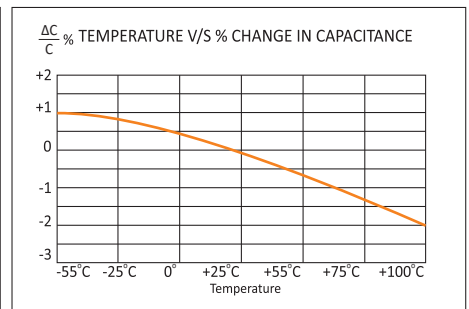
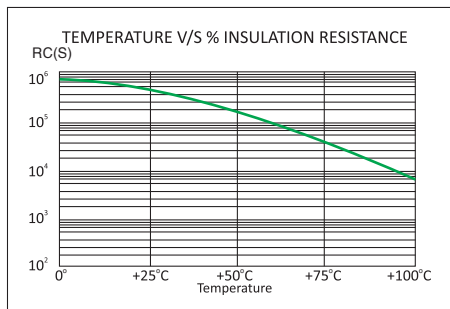
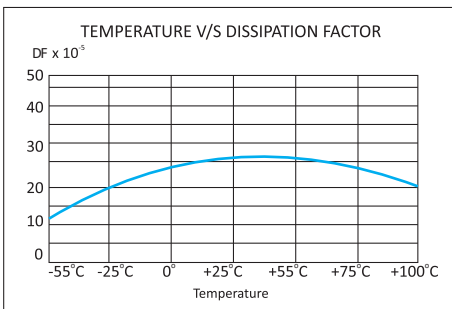
C31

IGBT Snubber Protection Capacitor

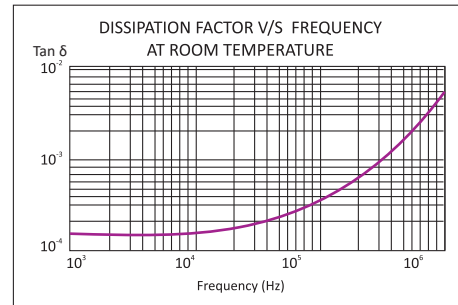
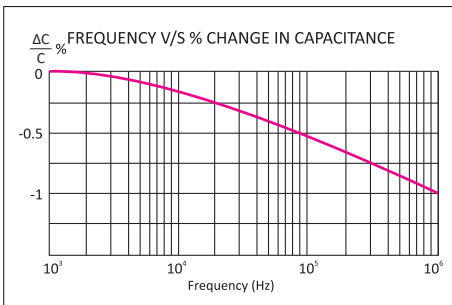
Product Coding



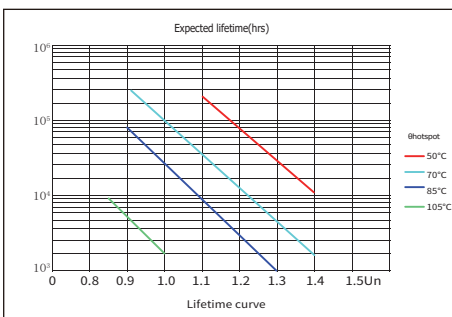
Frequency Characteristics



Temperature Characteristics



Life Expectancy



C31

IGBT Snubber Protection Capacitor

Article Table

Part Number	CAP μF	Dimension(mm)			dv/dt (V/μs)	Ipeak (A)	Irms @100KHz70°C (A)	ESL (nH)	ESR @100KHz20°C (mΩ)
		L	T	H					
U _N 700VDC Urms 380VAC Upk 1000VDC									
C31701105JP*****	1.0	42.5	24.5	27.5	450	450	12	24	8.0
C31701125JP*****	1.2	42.5	24.5	27.5	450	540	13	25	7.5
C31701155JP*****	1.5	42.5	24.5	27.5	430	645	14	25	7.0
C31701205JP*****	2.0	42.5	28.0	37.0	420	840	15	24	6.5
C31701225JP*****	2.2	42.5	28.0	37.0	400	880	17	23	6.0
C31701255JP*****	2.5	42.5	28.0	37.0	400	1000	18	23	6.0
C31701305JP*****	3.0	42.5	33.0	45.0	380	1140	20	22	5.5
C31701335JP*****	3.3	42.5	33.0	45.0	350	1155	21	22	5.3
C31701355JP*****	3.5	42.5	33.0	45.0	350	1225	25	22	5.1
C31701405JP*****	4.0	57.5	30.0	45.0	280	1120	24	26	5.0
C31701475JP*****	4.7	57.5	35.0	50.0	280	1316	25	28	5.0
C31701565JP*****	5.6	57.5	35.0	50.0	250	1400	26	30	4.0
C31701685JP*****	6.8	57.5	35.0	50.0	220	1496	28	32	3.2
C31701106JP*****	10.0	57.5	42.5	56.0	200	2000	33	33	2.5
U _N 1000VDC Urms 480VAC Upk 1400VDC									
C31102684JP*****	0.68	42.5	24.5	27.5	800	544	12	25	8.0
C31102105JP*****	1.0	42.5	28.0	37.0	800	800	13	24	6.5
C31102125JP*****	1.2	42.5	33.5	35.5	700	840	15	24	6.0
C31102155JP*****	1.5	42.5	33.5	35.5	700	1050	15	24	6.0
C31102205JP*****	2.0	42.5	33.0	45.0	700	1400	20	22	5.2
C31102225JP*****	2.2	57.5	30.0	45.0	600	1320	21	28	5.0
C31102255JP*****	2.5	57.5	30.0	45.0	600	1500	22	30	5.0
C31102305JP*****	3.0	57.5	35.0	50.0	550	1650	25	30	4.0
C31102335JP*****	3.3	57.5	30.0	45.0	500	1650	25	30	3.5
C31102475JP*****	4.7	57.5	42.5	56.0	420	1974	30	25	3.0
U _N 1200VDC Urms 500VAC Upk 1600VDC									
C31122224JP*****	0.22	42.5	24.5	27.5	1500	330	5.0	28	20
C31122334JP*****	0.33	42.5	24.5	27.5	1500	495	7.0	26	15
C31122474JP*****	0.47	42.5	24.5	27.5	1200	564	10	24	11
C31122564JP*****	0.56	42.5	24.5	27.5	1200	672	11	23	8.0
C31122684JP*****	0.68	42.5	33.5	35.5	1100	748	12	23	7.0
C31122824JP*****	0.82	42.5	33.5	35.5	1000	820	13	23	6.5
C31122105JP*****	1.0	42.5	33.5	35.5	1000	1000	14	22	6.0
C31122125JP*****	1.2	42.5	33.0	45.0	800	960	14	21	5.5
C31122155JP*****	1.5	42.5	33.0	45.0	800	1200	15	20	5.0
C31122205JP*****	2.0	57.5	30.0	45.0	750	1500	20	30	4.0
C31122225JP*****	2.2	57.5	35.0	50.0	750	1650	22	28	4.0
C31122255JP*****	2.5	57.5	35.0	50.0	700	1750	25	28	4.0
C31122305JP*****	3.0	57.5	35.0	50.0	600	1800	25	27	4.0
C31122475JP*****	4.7	57.5	42.5	56.0	420	1974	32	23	3.2

The above table / graphics are for reference only, subject to the actual product (unit: mm)

Article Table

Part Number	CAP μF	Dimension(mm)			dv/dt (V/μs)	Ipeak (A)	Irms @100KHz70°C (A)	ESL (nH)	ESR @100KHz20°C (mΩ)
		L	T	H					
U _N 1600VDC Urms 500VAC Upk 2000VDC									
C31162334JP*****	0.33	42.5	24.5	27.5	1300	429	9.0	25	12
C31162474JP*****	0.47	42.5	33.5	35.5	1300	611	10	24	10
C31162564JP*****	0.56	42.5	33.5	35.5	1300	728	11	23	9.0
C31162684JP*****	0.68	42.5	33.5	35.5	1300	884	12	23	8.0
C31162824JP*****	0.82	42.5	33.5	35.5	1200	984	13.5	22	7.5
C31162105JP*****	1.0	42.5	33.5	35.5	1200	1200	15	22	7.0
C31162125JP*****	1.2	57.5	30.0	45.0	1200	1440	16	22	6.5
C31162155JP*****	1.5	57.5	35.0	50.0	1200	1800	18	31	6.0
C31162205JP*****	2.0	57.5	42.5	56.0	1200	2400	25	30	5.0
U _N 2000VDC Urms 630VAC Upk 2500VDC									
C31202104JP*****	0.1	42.5	24.5	27.5	1800	180	6.0	30	25
C31202154JP*****	0.15	42.5	24.5	27.5	1800	270	8.0	28	20
C31202224JP*****	0.22	42.5	24.5	27.5	1500	330	10	25	15
C31202334JP*****	0.33	42.5	33.5	35.5	1500	495	12	24	12
C31202474JP*****	0.47	42.5	33.0	45.0	1400	658	15	23	11
C31202564JP*****	0.56	42.5	33.0	45.0	1200	672	16	22	9.5
C31202684JP*****	0.68	57.5	30.0	45.0	1200	816	18	22	8.0
C31202824JP*****	0.82	57.5	30.0	45.0	1100	902	22	28	7.0
C31202105JP*****	1.0	57.5	35.0	50.0	1100	1100	25	28	6.0
U _N 3000VDC Urms 750VAC Upk 3500VDC									
C31302473JP*****	0.047	42.5	24.5	27.5	3000	141	6.0	40	35
C31302683JP*****	0.068	42.5	24.5	27.5	3000	204	10	35	27
C31302104JP*****	0.1	42.5	33.5	35.5	2500	250	18	30	23
C31302154JP*****	0.15	42.5	33.5	35.5	2500	375	25	28	18
C31302224JP*****	0.22	42.5	33.0	45.0	2200	484	28	27	15
C31302334JP*****	0.33	57.5	30.0	45.0	1800	594	20	24	12
C31302474JP*****	0.47	57.5	42.0	56.5	1500	705	22	23	11

The above table / graphics are for reference only, subject to the actual product (unit: mm)