

Snubber Capacitor for IGBT(Lug Terminals)

■ Structure

- Dielectric: Metallized Polypropylene Film
- Electrode: Special process metal vacuum evaporation layer.
- Encapsulation: Flame retardant epoxy resin sealing, conforming to UL94 V-0
- Shell: Flame retardant PBT plastic shell, conforming to UL94 V-0
- Lead-wire: Tinned copper wire

■ Typical Application

- Widely used in high voltage and high frequency pulse circuit; low dissipation; small internal temperature rise; excellent flame retardant performance; suitable as Snubber Capacitor of IGBT.

■ Characteristics

- Good appearance consistency, good self-healing property, strong humidity resistance; can withstand high pulse current; long lifetime; excellent overvoltage resistance.

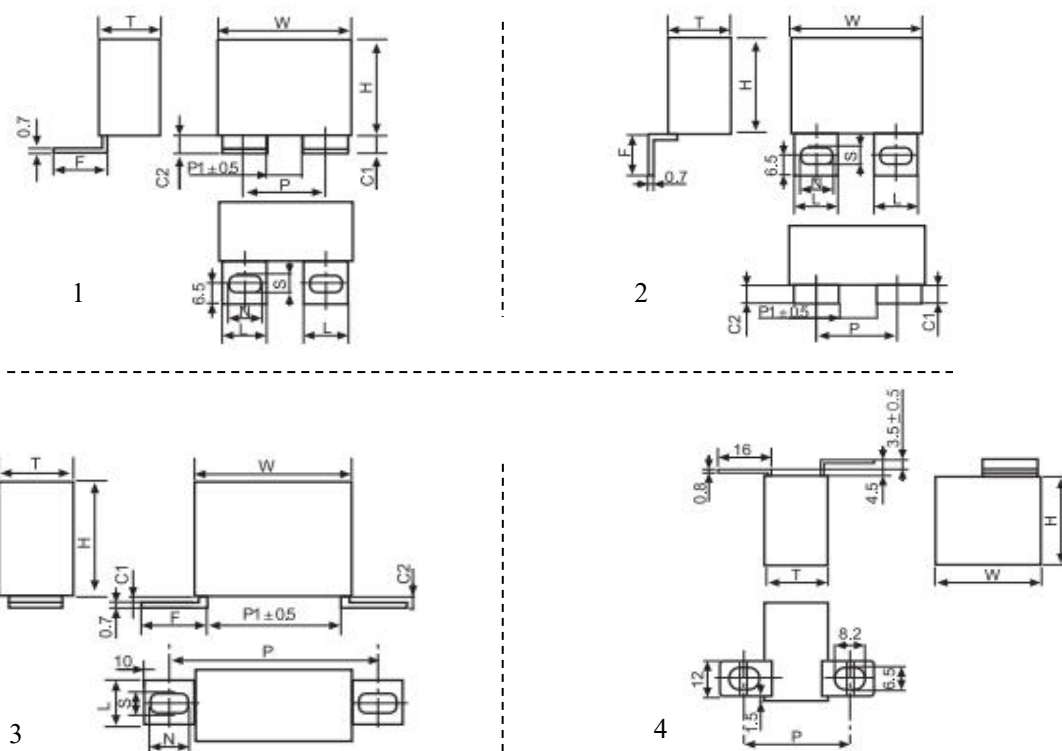
■ Conform to RoHS standards

■ Technical Parameter

Reference Standards	GB/T17702 (IEC 61071)	
Climate condition	-40/+85°C/56d	
Rated Voltage	630Vdc、850Vdc、1000Vdc、1200Vdc、1600Vdc、1700Vdc 2000Vdc、2500Vdc、3000Vdc	
Operating Temperature Range (Shell)	-40°C~85°C	
Capacitance Tolerance	0.047μF—9.0μF	20°C; testing voltage: 1V
Capacitance Range	J (±5%)、K (±10%)	
Voltage Proof	Terminal to terminal: 1.6 UR; 10S Terminal to shell: 2000VAC; 5S	No breakdown or electric arcing
Insulation Resistance	CR≤0.33μF R≥100000MΩ CR>0.33μF RC≥30000S	20°C; Charging Voltage: 100V Charging Time: 1 Min
Dissipation Factor	≤0.0010 (1kHz)	20°C; testing voltage: 1V
Expected Lifetime	≥100 000h@UN θhs=70°C	
Note: Products capacitance can be customized. Details specific parameters are according to Approval Sheet.		

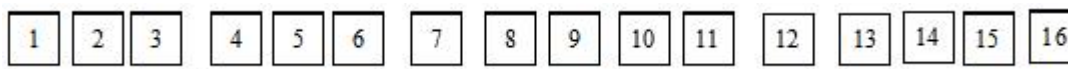
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Outline Drawing



C38 Part Number System

The 16-digit part number is formed as follow:



Digit 1 to 3	Series Code: C38=IGBT Snubber Capacitor (Lug Terminals)							
Digit 4 to 6	Rated Capacitance Value: 104=10×10 ⁴ pF=0.1μF							
Digit 7	Capacitance Tolerance: J=±5%、K=±10%							
Digit 8 to 9	Rated Voltage: 2J=630Vdc、2X=850Vd、3A=1000Vdc、3M=1200Vdc、3C=1600Vdc 3R=1700Vdc、3D=2000Vdc、3E=2500Vdc、3F=3000Vdc							
Digit 10 to 11	Dimensions Code: See The Dimension Comparison Table							
	Plastic Shell Code	Plastic Shell Dimensions W*T*H	Plastic Shell Code	Plastic Shell Dimensions W*T*H	Plastic Shell Code	Plastic Shell Dimensions W*T*H	Plastic Shell Code	Plastic Shell Dimensions W*T*H
	S1	37*15*25	S2	37*16*30	S3	37*20*34	G1	42*20*40
	G2	42*24*36	G3	42*24*44	G4	42*30*45	G5	42*42*43
	T1	57*25*45	T2	57*30*45	T3	57*35*50	T4	57*45*55
Digit 12	Internal Recognition code							

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Digit 13	Distance of Hole for Fixing								
	Rated voltage	Style of solder slice	Plastic shell code	P(mm) Distance of hole for fixing	P1(mm) The distance of solder slice	code			
630Vdc 700Vdc 850Vdc 1000Vdc	Diagram one or diagram two	S1/S2/S3/ G1/G2/G3/G4/G5	17~25	7	1				
			22~30	12	2				
		T1/T2/T3/T4	30~38	20	3				
			35~43	25	4				
	Diagram three	S1/S2/S3	52~62	33	5				
		G1/G2/G3/G4/G5	57~67	38	6				
		T1/T2/T3/T4	70~80	51	7				
	1200Vdc 1600Vdc 1700Vdc 2000Vdc 2500Vdc 3000Vdc	Diagram one or diagram two	S1/S2/S3/ G1/G2/G3/G4/G5	16~24	6	8			
				21~29	11(14.5)	9			
			T1/T2/T3/T4	31~39	21	A			
				36~44	26	B			
		Diagram three	S1/S2/S3	51~61	32	C			
			G1/G2/G3/G4/G5	56~66	37	D			
	T1/T2/T3/T4		71~81	52	E				
Note	We can tell the customer specific leading-out way after the customer provide customized dimensions, Product in diagram four.								
Digit 14 to 16	Terminal Code:								
	14 th digit (C height)			15 th digit (lead-out way of welding tabs)		16 th digit (Size of solder slice)		Case dimension of T	
	Code	C1	C2	Code	Lead-out diagram number	Code	L*F*N*S		
	0	(C1=C2)<3		1	Diagram one	1	14*16*10.2*6.2	—	
	1	C1=C2=6		2	Diagram two	2	14*22*11.2*6.2	T≥20	
3				Diagram three	6	12*22*11.2*6.2	T<20		

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Technical data

630Vdc/700Vdc(420Vac)									
μF	Part number	Dimensions (mm)			dV/dt (V/us)	I (A)	ESR(mΩ) @100KHZ	Ls (nH)	Imax (A) 100KHZ@70°C
		W±1.0	T±1.0	H±1.0					
0.68	C38684J2JS1*#===	37.0	15.0	25.0	900	612	5.0	23	13
1.0	C38105J2JS2*#===	37.0	16.0	30.0	900	900	5.0	23	14
1.2	C38125J2JS2*#===	37.0	16.0	30.0	900	1080	4.5	23	16
1.5	C38155J2JS3*#===	37.0	20.0	34.0	900	1350	4.5	23	17
1.8	C38185J2JS3*#===	37.0	20.0	34.0	900	1620	4.5	23	18
2.0	C38205J2JG1*#===	42.0	20.0	40.0	600	1200	4.0	29	18
2.2	C38225J2JG1*#===	42.0	20.0	40.0	600	1320	4.0	29	18.5
2.5	C38255J2JG1*#===	42.0	20.0	40.0	600	1500	4.0	29	19
3.0	C38305J2JG3*#===	42.0	24.0	44.0	600	1800	4.0	29	20
3.3	C38335J2JG3*#===	42.0	24.0	44.0	600	1982	3.5	29	20
4.0	C38405J2JG3*#===	42.0	24.0	44.0	600	2400	3.5	29	21
4.7	C38475J2JG4*#===	42.0	30.0	45.0	600	2820	3.5	29	23
5.0	C38505J2JG4*#===	42.0	30.0	45.0	600	3000	3.0	19	23.5
6.0	C38605J2JG5*#===	42.0	42.0	43.0	600	3600	3.0	29	25
6.5	C38655J2JG5*#===	42.0	42.0	43.0	600	3900	3.0	29	26
6.5	C38655J2JT2*#===	57.0	30.0	45.0	360	2340	2.5	33	24
7.0	C38705J2JT2*#===	57.0	30.0	45.0	360	2520	2.5	33	25
8.0	C38805J2JT3*#===	57.0	35.0	50.0	360	2880	2.5	33	27
9.0	C38905J2JT3*#===	57.0	35.0	50.0	360	3240	2.5	33	29

850Vdc(450Vac)									
μF	Part number	Dimensions (mm)			dV/dt (V/us)	I (A)	ESR(mΩ) @100KHZ	Ls (nH)	Imax (A) 100KHZ@70°C
		W±1.0	T±1.0	H±1.0					
0.47	C38474J2XS1*#===	37.0	15.0	25.0	1200	564	5.0	23	15
0.68	C38684J2XS2*#===	37.0	16.0	30.0	1200	816	5.0	23	16
1.0	C38105J2XS3*#===	37.0	20.0	34.0	1200	1200	5.0	23	17
1.2	C38125J2XS3*#===	37.0	20.0	34.0	1200	1440	5.0	23	17.5
1.5	C38155J2XS3*#===	37.0	20.0	34.0	1200	1800	5.0	23	18
1.5	C38155J2XG1*#===	42.0	20.0	40.0	750	1125	4.5	29	18.5
2.0	C38205J2XG1*#===	42.0	20.0	40.0	750	1500	4.5	29	19
2.2	C38225J2XG1*#===	42.0	20.0	40.0	750	1650	4.5	29	19.5
2.5	C38225J2XG3*#===	42.0	24.0	44.0	750	1875	4.5	29	20
3.0	C38305J2XG3*#===	42.0	24.0	44.0	750	2250	4.5	29	21
3.3	C38335J2XG4*#===	42.0	30.0	45.0	750	2475	4.5	29	21.5
4.0	C38405J2XG5*#===	42.0	42.0	43.0	750	3000	4.5	29	22
4.0	C38405J2XT2*#===	57.0	30.0	45.0	450	1800	4.0	33	23
4.7	C38475J2XT2*#===	57.0	30.0	45.0	450	2115	4.0	33	24.5
5.0	C38505J2XT2*#===	57.0	30.0	45.0	450	2250	4.0	33	25

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6.0	C38605J2XT3*#===	57.0	35.0	50.0	450	2700	4.0	33	26
6.5	C38655J2XT3*#===	57.0	35.0	50.0	450	2925	4.0	33	27

1000Vdc(500Vac)									
μF	Part number	Dimensions (mm)			dV/dt (V/us)	I (A)	ESR(mΩ) @100KHZ	Ls (nH)	Imax (A) 100KHZ@70℃
		W±1.0	T±1.0	H±1.0					
0.47	C38474J3AS1*#===	37.0	15.0	25.0	1300	611	5.0	23	14
0.68	C38684J3AS2*#===	37.0	16.0	30.0	1300	884	5.0	23	15
0.82	C38824J3AS2*#===	37.0	16.0	30.0	1300	1066	5.0	23	16
1.0	C38105J3AS3*#===	37.0	20.0	34.0	1300	1300	4.5	23	17
1.2	C38125J3AS3*#===	37.0	20.0	34.0	1300	1560	4.5	23	17
1.2	C38125J3AG1*#===	42.0	20.0	40.0	850	1020	4.5	29	16
1.5	C38155J3AG1*#===	42.0	20.0	40.0	850	1275	4.5	29	16
2.0	C38205J3AG3*#===	42.0	24.0	44.0	850	1700	4.5	29	17
2.2	C38225J3AG3*#===	42.0	24.0	44.0	850	1870	4.0	29	20
2.5	C38255J3AG4*#===	42.0	30.0	45.0	850	2125	4.0	29	21
3.0	C38305J3AG4*#===	42.0	30.0	45.0	850	2550	4.0	29	21.5
3.3	C38335J3AG5*#===	42.0	42.0	43.0	850	2805	4.0	29	22
3.3	C38335J3AT2*#===	57.0	30.0	45.0	500	1650	4.0	33	20
4.0	C38405J3AT2*#===	57.0	30.0	45.0	500	2000	4.0	33	21
4.7	C38475J3AT3*#===	57.0	35.0	50.0	500	2350	4.0	33	22
5.0	C38505J3AT3*#===	57.0	35.0	50.0	500	2500	4.0	33	23

1200Vdc(600Vac)									
μF	Part number	Dimensions (mm)			dV/dt (V/us)	I (A)	ESR(mΩ) @100KHZ	Ls (nH)	Imax (A) 100KHZ@70℃
		W±1.0	T±1.0	H±1.0					
0.33	C38334J3MS1*#===	37.0	15.0	25.0	1500	495	4.5	23	15
0.47	C38474J3MS2*#===	37.0	16.0	30.0	1500	705	4.5	23	16
0.68	C38684J3MS3*#===	37.0	20.0	34.0	1500	1020	4.5	23	17
0.75	C38754J3MS3*#===	37.0	20.0	34.0	1500	1125	4.5	23	18
0.82	C38824J3MG1*#===	42.0	20.0	40.0	950	779	4.0	29	18
1.0	C38105J3MG1*#===	42.0	20.0	40.0	950	950	4.0	29	19
1.2	C38125J3MG3*#===	42.0	24.0	44.0	950	1140	4.0	29	19
1.5	C38155J3MG3*#===	42.0	24.0	44.0	950	1425	4.0	29	19.5
2.0	C38205J3MG4*#===	42.0	30.0	45.0	950	1900	4.0	29	20
2.2	C38225J3MG5*#===	42.0	42.0	43.0	950	2090	4.0	29	21
2.5	C38255J3MG5*#===	42.0	42.0	43.0	950	2375	4.0	29	22
2.2	C38225J3MT2*#===	57.0	30.0	45.0	600	1320	3.8	33	20
2.5	C38255J3MT2*#===	57.0	30.0	45.0	600	1500	3.8	33	21
3.0	C38305J3MT2*#===	57.0	30.0	45.0	600	1800	3.8	33	22
3.3	C38335J3MT3*#===	57.0	35.0	50.0	600	1980	3.8	33	23
4.0	C38405J3MT3*#===	57.0	35.0	50.0	600	2400	3.8	33	24

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1600Vdc(650Vac)									
μF	Part number	Dimensions (mm)			dV/dt (V/us)	I (A)	ESR(mΩ) @100KHZ	Ls (nH)	Imax (A) 100KHZ@70°C
		W±1.0	T±1.0	H±1.0					
0.22	C38224J3CS1*#===	37.0	15.0	25.0	1900	418	6.0	23	15
0.33	C38334J3CS2*#===	37.0	16.0	30.0	1900	627	6.0	23	15.5
0.39	C38394J3CS3*#===	37.0	20.0	34.0	1900	741	5.5	23	16
0.47	C38474J3CS3*#===	37.0	20.0	34.0	1900	893	5.5	23	17
0.68	C38684J3CG1*#===	42.0	20.0	40.0	1250	850	4.0	29	18
0.82	C38824J3CG3*#===	42.0	24.0	44.0	1250	1025	4.0	29	19
1.0	C38105J3CG4*#===	42.0	30.0	45.0	1250	1250	4.0	29	19.5
1.2	C38125J3CG4*#===	42.0	30.0	45.0	1250	1500	4.0	29	20
1.5	C38155J3CG5*#===	42.0	42.0	43.0	1250	1875	4.0	29	21
1.5	C38155J3CT2*#===	57.0	30.0	45.0	750	1125	3.5	33	22
2.0	C38205J3CT3*#===	57.0	35.0	50.0	750	1500	3.5	33	24

1700Vdc(675Vac)									
μF	Part number	Dimensions (mm)			dV/dt (V/us)	I (A)	ESR(mΩ) @100KHZ	Ls (nH)	Imax (A) 100KHZ@70°C
		W±1.0	T±1.0	H±1.0					
0.15	C38154J3RS1*#===	37.0	15.0	25.0	2000	300	7.0	23	14
0.22	C381224J3RS2*#===	37.0	16.0	30.0	2000	440	6.0	23	15
0.33	C381334J3RS3*#===	37.0	20.0	34.0	2000	660	5.5	23	15.5
0.39	C381394J3RS3*#===	37.0	20.0	34.0	2000	780	5.5	23	16
0.47	C381474J3RG2*#===	42.0	24.0	36.0	1260	592	4.0	29	16
0.56	C381564J3RG2*#===	42.0	24.0	36.0	1260	706	4.0	29	17
0.68	C381684J3RG3*#===	42.0	24.0	44.0	1260	857	3.5	29	18
0.82	C381824J3RG3*#===	42.0	24.0	44.0	1260	1033	3.5	29	19
1.0	C381105J3RG4*#===	42.0	30.0	45.0	1260	1260	3.5	29	20
1.2	C381125J3RG5*#===	42.0	42.0	43.0	1260	1512	3.5	29	21
1.0	C381105J3RT1*#===	57.0	25.0	45.0	780	780	3.5	33	18
1.2	C381125J3RT2*#===	57.0	30.0	45.0	780	936	3.5	33	19
1.5	C381155J3RT3*#===	57.0	35.0	50.0	780	1170	3.0	33	22
2.0	C381205J3RT3*#===	57.0	35.0	50.0	780	1560	3.0	33	24
3.0	C381305J3RT4*#===	57.0	45.0	55.0	780	2340	3.0	33	28

Note:

1. “#” indicates for internal recognition code.
2. “= =” indicates for lead-wire Forming Type code, see table 1.
3. “Imax” test conditions: the effective value of the ambient temperature is 70°C, the frequency is 100KHZ, and the shell temperature reaches 85°C.
4. “ESR” are both typical value test data.