CDE

Snubber Capacitors

FILM CAPACITORS FOR IGBT POWER ELECTRONICS APPLICATIONS

RoHS COMPLIANT



Intelligent Capacitor Solutions



As a world-class supplier of capacitors for industrial, medical and specialty applications, Cornell Dubilier can address all of your capacitor needs. CDE's snubber capacitors provide the highest electrical performance of any snubber capacitors currently available.

Constructed of polypropylene film dielectric and dual metallized film electrodes, our snubbers are the optimal capacitor design for IGBT (Insulated Gate Bipolar Transistors) applications. They combine high current carrying capability with low inductance, low dielectric losses and capacitance stability across a wide frequency range.



All capacitors are built using Lean Six Sigma manufacturing practices and undergo rigorous quality assurance testing under an ISO 9001-certified quality management system. Our products undergo 100% electrical testing to further ensure high level performance. If you have specialized needs, our flexible manufacturing processes allow us to quickly provide custom configurations.

CDE provides intelligent capacitor solutions.



Snubber Capacitors

FILM CAPACITORS FOR IGBT POWER ELECTRONICS APPLICATIONS



Snubber capacitors are designed for the high peak current operation required for protection against transient voltages. Such voltages are caused by the high di/dt generated in switching power electronics applications.

CDE IGBT Snubber capacitors are offered in standard voltages of 630 VDC to 3,000 VDC for 100,000-hour operation. They are available with direct IGBT module terminals, radial wire leads, or a unique printed circuit board dual in-line pin mount.

Applications

- Inverters
- Electric Vehicles
- UPS (Uninterruptible Power Supplies)
- Alternative Energy Power Management Systems
- Switch Mode Power Supplies
- Power Supplies
- Motor Controllers

Highlights

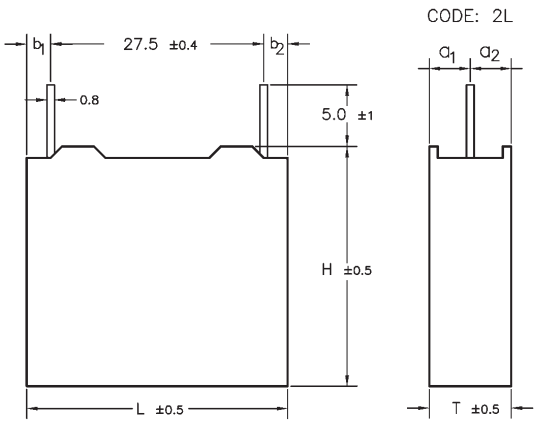
- High dV/dt
- Direct or board mount configurations
- RoHS compliant
- Wide temperature range; low ESR
- Low inductance
- CE (IEC) 61071 certified

Specifications

Capacitance Range:	0.033 µF to 20.0 µF
Capacitance Tolerance:	±5% to ±10%
AC Voltage Range:	300 VAC to 1,000 VAC
DC Voltage Range:	630 VDC to 3,000 VDC
Operating Life:	>100,000 hours
Dissipation Factor:	<0.1% @ 1 kHz
Approval Certification:	CE to IEC 61071

Termination Options

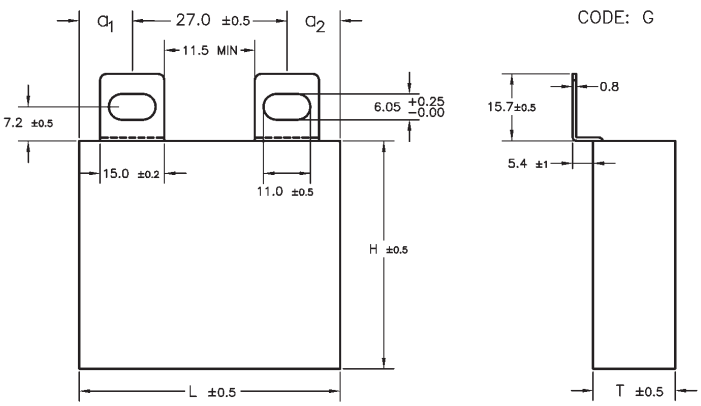
2 & 4 Pin PCB Terminals



$|a_1 - a_2| < 0.4$

$|b_1 - b_2| < 0.6$

Direct IGBT Mount Terminals



$|a_1 - a_2| < 0.5$

All dimensions in mm.

CDE CORNELL DUBILIER
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Part Numbering System

CDE's part numbering system is explained here using RBPS10591KB8GNZ as a representative part number:

RBPS 105 91 K B8 G NZ

- **TYPE**: RBPS
- **CAPACITANCE**: 334 = 0.33 µF; 105 = 1.0 µF
- **VOLTAGE**: 63 = 630 VDC; 91 = 1000 VDC; 96 = 1600 VDC; 97 = 2000 VDC; 98 = 3000 VDC
- **TOLERANCE**: J = ±5%; K = ±10%
- **CASE DIMS L x T x H (mm)**: R4 = 59 x 29 x 41; R5 = 59 x 46 x 36; R6 = 57 x 29 x 44; R7 = 57 x 39 x 51; R8 = 42 x 14 x 27; R9 = 42 x 20 x 33; B7 = 42.5 x 22 x 30; B8 – 41 x 27.5 x 37.5
- **TERMINATION**: 2L = 2-pin PCB; 4L = 4-pin PCB; G = direct connect
- **CDE FACTORY**: NZ = China; "XX" = CDE US

Snubber Capacitor Specifications

CAP (µF)	CDE P/N	PEAK CURRENT A (Ipeak)	RIPPLE CURRENT A (I_{RMS})	dV/dt (V/µs)	LENGTH L (mm)	THICKNESS T (mm)	HEIGHT H (mm)
Rated Voltage: 630 VDC (300 VAC 60 Hz)							
0.33	RBPS33463KR8GNZ	51	1	155	42.0	14.0	27.0
0.47	RBPS47463KR8GNZ	73	1	155	42.0	14.0	27.0
0.68	RBPS68463KR8GNZ	79	2	116	42.0	14.0	27.0
1.00	RBPS10563KR8GNZ	116	3	116	42.0	14.0	27.0
2.00	RBPS20563KR9GNZ	207	6	104	42.0	20.0	33.0
3.00	RBPS30563KR9GNZ	272	9	91	42.0	20.0	33.0
9.00	RBPS90563KR6GNZ	537	18	60	57.0	29.0	44.0
20.00	RBPS20663KR7GNZ	1194	40	60	57.0	39.0	51.0
Rated Voltage: 1,000 VDC (530 VAC 60 Hz)							
0.22	RBPS22491KR8GNZ	180	6	817	42.0	14.0	27.0
0.33	RBPS33491KR8GNZ	236	9	715	42.0	14.0	27.0
0.47	RBPS47491KR9GNZ	384	13	817	42.0	20.0	33.0
0.68	RBPS68491KR9GNZ	486	19	715	42.0	20.0	33.0
1.00	RBPS10591KB8GNZ	817	28	817	41.0	27.5	37.5
1.20	RBPS12591KB8GNZ	858	33	715	41.0	27.5	37.5
2.00	RBPS20591KR6GNZ	854	37	427	57.0	29.0	44.0
3.00	RBPS30591KR7GNZ	1465	45	488	57.0	39.0	51.0

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CAP (µF)	CDE P/N	PEAK CURRENT A (Ipeak)	RIPPLE CURRENT A (I_{RMS})	dV/dt (V/µs)	LENGTH L (mm)	THICKNESS T (mm)	HEIGHT H (mm)
Rated Voltage: 1,600 VDC (550 VAC 60 Hz)							
0.22	RBPS22496KR9GNZ	270	10	1226	42.0	20.0	33.0
0.33	RBPS33496KB8GNZ	404	14	1226	41.0	27.5	37.5
0.47	RBPS47496KB8GNZ	576	20	1226	41.0	27.5	37.5
0.68	RBPS68496KR6GNZ	498	20	732	57.0	29.0	44.0
1.00	RBPS10596KR6GNZ	732	29	732	57.0	29.0	44.0
2.00	RBPS20596KR7GNZ	1343	45	671	57.0	39.0	51.0
Rated Voltage: 2,000 VDC (800 VAC 60 Hz)							
0.033	RBPS33397KR8GNZ	96	2	2912	42.0	14.0	27.0
0.047	RBPS47397KR8GNZ	120	3	2548	42.0	14.0	27.0
0.068	RBPS68397KR9GNZ	198	4	2912	42.0	20.0	33.0
0.10	RBPS10497KR9GNZ	255	6	2548	42.0	20.0	33.0
0.22	RBPS22497KB8GNZ	560	14	2548	41.0	27.5	37.5
0.33	RBPS33497KR6GNZ	480	14	1456	57.0	29.0	44.0
0.47	RBPS47497KR6GNZ	599	20	1274	57.0	29.0	44.0
0.68	RBPS68497KR7GNZ	990	29	1456	57.0	39.0	51.0
1.00	RBPS10597KR7GNZ	1274	43	1274	57.0	39.0	51.0
Rated Voltage: 3,000 VDC (1,000 VAC 60 Hz)							
0.033	RBPS33398KR9GNZ	144	3	4367	42.0	20.0	33.0
0.047	RBPS47398KR9GNZ	188	4	4003	42.0	20.0	33.0
0.068	RBPS68398KB8GNZ	297	6	4367	41.0	27.5	37.5
0.10	RBPS10498KB8GNZ	364	9	3639	41.0	27.5	37.5
0.22	RBPS22498KR6GNZ	400	16	1820	57.0	29.0	44.0
0.33	RBPS33498KR7GNZ	721	24	2184	57.0	39.0	51.0
0.47	RBPS47498KR7GNZ	855	34	1820	57.0	39.0	51.0

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About CDE

CDE is a leading provider of film capacitors for industrial, medical and specialized applications serving original equipment manufacturers (OEM) and distributors. The company has world-class design, manufacturing and testing facilities in New Bedford, Massachusetts and global manufacturing facilities in China and India to enable quick turn-around for shipping and delivery worldwide.

CDE capacitors are among the world's most reliable components. Our extensive custom design and development capabilities coupled with broad, standardized product offerings allow us to provide intelligent capacitor solutions that meet or exceed our customers' application requirements.

Our aim is to be the best and most sought after provider of capacitor solutions for specialty markets.

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