



PRODUCT SPECIFICATION SHEET:

IGBT FILTER CAPACITORS

High-performance capacitors for power electronic applications

Efficient operation of IGBTs necessitates the use of capacitors that have minimal inductance. API Capacitors has developed a variety of such capacitors, which employ advanced metallised dielectric systems that incorporate the design specifications featured in our DC filter range. Considering the spatial limitations of these applications, we have meticulously optimised both weight and volume during the design phase.

Application

API Capacitors has developed IGBT filter capacitors that are suitable for diverse applications such as tramcars, trolley buses, metro systems, light rail and railways that require converters, choppers and inverter drives. These capacitors are purposefully designed with low inductance properties to meet the specific requirements of such devices.

Capacitors that are based on Insulated Gate Bipolar Transistor (IGBT) technology are utilised in a variety of industrial and marine applications as well.

Technology

Our range of IGBT capacitors were designed using the same criteria as the standard filtering capacitors. Capacitors with lower voltages feature a dry construction and are encapsulated in flame-resistant epoxy resin, while those with higher voltages and in some instances can be impregnated in stable and environmentally safe dielectric insulating oil.

Containers and Termination

Our IGBT capacitors can be supplied in insulated boxes, alternatively in aluminium, mild steel or stainless steel containers. Low profile synthetic moulded terminals or copper strip line connections are available to suit each application.

Electrical specification

API Capacitors has produced a variety of IGBT capacitors that are customised to meet the specific electrical and mechanical needs of our clients. Due to the extensive range of our products, we have chosen not to list a table of ratings and sizes. Instead, we provide the following information to define the extent of our design capacities. If you require further details, we would be delighted to assess your specifications upon request.

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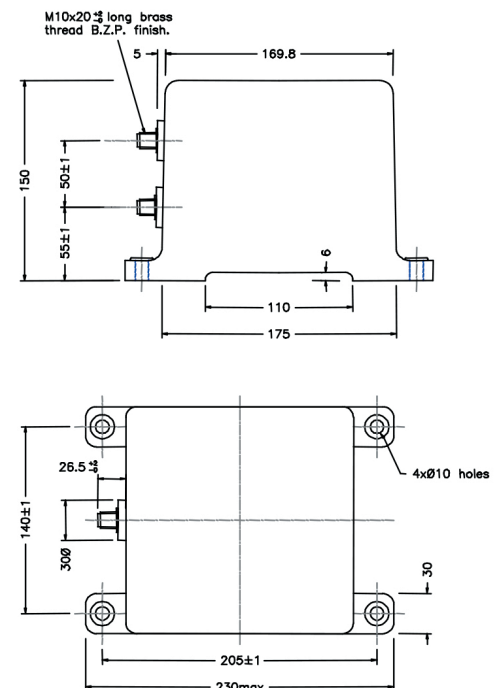
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IGBT Filter Capacitors



Capacitance value: 72 μF to 1450 μF Peak repetitive voltage (U_N): 900 V to 4400 V Current (I_{max}): Dependent on customers specification Operating frequency: Dependent on customers specification, typically 1kHz to 20kHz Operating temperature (\varnothing_{amb}): -40 to +70°C Storage temperature: -40 to +85°C International standard: In accordance with BS EN 61071:2001& BS EN 61881:200

U_N (V)	C (μF)	I_{max} (A_{rms})	I_p (A)	R_s ($\text{m}\Omega$)
900	1450	134	5580	0.56
1000	1200	128	5080	0.60
1100	1250	135	5780	0.54
1300	920	126	4960	0.61
1400	800	123	4620	0.64
1500	700	120	4300	0.68
1650	560	114	3880	0.74
1850	450	108	3460	0.81
2000	370	104	3140	0.87
2200	315	100	2900	0.93
2800	200	89	2300	0.97
3000	160	108	4300	0.69
3300	128	102	3880	0.75
3700	103	96	3460	0.82
4000	85	90	3140	0.89
4400	72	86	2900	0.97



The table presented pertains exclusively to the insulated moulded case version. I_{max} ratings have been determined for a ripple frequency of 1kHz and an ambient temperature of 70°C. Improved performance may be achieved at lower temperatures and/or higher frequencies.