manudax
NEATECH Group.

ABC Taiwan Electronics Corp

ATEC Electronics Group

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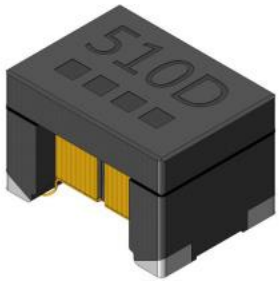
Common Mode Choke

A **Common Mode Choke (CMC)** is an essential component in electrical and electronic circuits, specifically designed to suppress electromagnetic interference (EMI) and enhance signal integrity. These versatile components are widely used in power supplies, communication devices, and other high-frequency applications.



ASF & MSF Series (AEC-Q200 Certified)

ABC's Common Mode Choke ASF & MSF Series consist of a ferrite drum core wounded with copper wire, products are automatically manufactured with winding machine, which keep production stability and maintain coil flatness during production. Partition design of the magnetic core, bifilar winding and wire partitioning technique is also introduced to achieve product electrical performance. Our CMC are compliance with AEC-Q200 and mainly used in various applications while meet industry reliability standard.

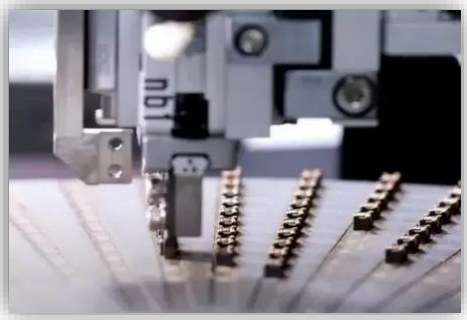
Series	Dimension (mm)	Inductance (μH)	RDC max. (Ω)	IDC max. (A)	Common Mode Impedance (kΩ /@10MHz)	Operating Temp.	AEC-Q200 Grade
MSF3225-B	3.20 x 2.50 x 2.40	22 ~ 100	0.4 ~ 3.3	0.4 ~ 0.15	0.4 ~ 2.6 (min.) 0.8 ~ 5.2 (typ.)	-40℃ ~+125℃	Grade 1
MSF3225-S		2.2 ~ 15	0.36 ~ 0.8	1.2 ~ 0.7	NA	-40℃ ~+125℃	Grade 1
MSF3425-E	3.40 x 2.50 x 2.40	51 ~ 100	1.1 ~ 3.0	0.4 ~ 0.2	2.8 ~ 5.5 (min.) 1.4 ~ 2.0 (typ.)	-55℃ ~+155℃	Grade 0
MSF3425-D		51 ~ 130	1.2 ~ 3.5	0.6 ~ 0.3	1.25 ~ 3.0 (min.) 2.5 ~ 6.1 (typ.)	-40℃ ~+125℃	Grade 1
MSF3425-B		200	5.5	0.25	4.0 (min.) 8.5 (typ.)	-40℃ ~+125℃	Grade 1
MSF4532-H	4.50 x 3.20 x 3.00	51 ~ 100	0.55 ~ 1.0	0.5 ~ 0.4	1.3 ~ 2.5 (min.) 2.6 ~ 5.0 (typ.)	-40℃ ~+125℃	Grade 1
ASF4532-E		200	0.45	0.11	4.5 (min.) 10 (typ.)	-40℃ ~+125℃	Grade 1
ASF4532-C		11 ~ 100	0.5 ~ 1.5	0.36 ~ 0.2	0.3 ~ 3.0 (min.) 0.6 ~ 7.5 (typ.)	-55℃ ~+155℃	Grade 0

Product Application Matrix

Dimension (mm)	Ethernet	CAN-BUS	CAN-FD	100Base-T1	PoC	Mobile Phone Car Infotainment
3.20 x 2.50 x 2.40		MSF3225-B 			MSF3225-S (2024 New) 	
3.40 x 2.50 x 2.40	MSF3425-E 		MSF3425-D (2024 New) 	MSF3425-B (2024 New) 	MSF3425-S (2025 New) 	MSF3425-F (2025 New) 
4.50 x 3.20 x 3.00	ASF4532-E 	ASF4532-C 	MSF4532-H (2025 New) 			ASF4532-F (2025New) 

Production Process

Winding & Welding process is a critical step in the manufacturing of common mode choke because it directly determines inductance value by the number of turns in the winding, the spacing between the turns around a core to create the desired inductance. ABC introduce automatic equipment with different winding methods according to the characteristics of the product, with digital tension control and monitoring of spot welding temperature output guarantee the stability of product quality and efficiency.



Assembling process is a step that involves integrating the wound coil and housing into a finished common mode choke. The automatic assembling process begins with preparing the coil, which is the magnetic core with wounded copper wire, followed by gluing, adhesives are used to assemble the coil and the housing with camera to control gluing position and area. After assembling the common mode choke are cured with high temperature to harden the adhesives and form a strong bond strength.

Automated Optical Inspection (AOI) is a critical quality control process that uses cameras and sophisticated imaging software to inspect common mode chokes to ensure that all they are securely bonded and that there are no gaps, voids, or misalignments, as well as to detect defects in product dimensions, crack and breakage of product appearance, analyzing the defect rate in real time and export the production report.

Testing and Packing are the final stages for ensuring all common mode chokes meet quality standards and are ready for shipment. Products are first marked by laser, and then the 100% electrical characteristics are tested, including RDC, L and SDS value with data collection, and finally packaged into carrier tape.