Masach Technologies

ENG

Board Level Shielding
Design & Fabrication

MS PCB Mounting Enclosures

MS-ENG-KIT21 / Engineering Kit

Seamless Protective Cage!

SAVE TIME & COSTS

CHECK OUT OUR WIDE RANGE OF STANDARD DRAWN EMI/RFI SHIELDS **TODAY!**

SMT

RoHS

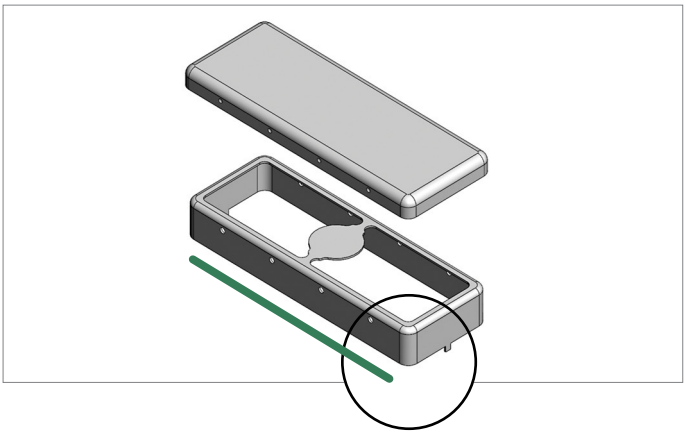
new

OnlineOrdering

Complimentary CAD files downloads

www.masach.com

Seamless Protective Cage!

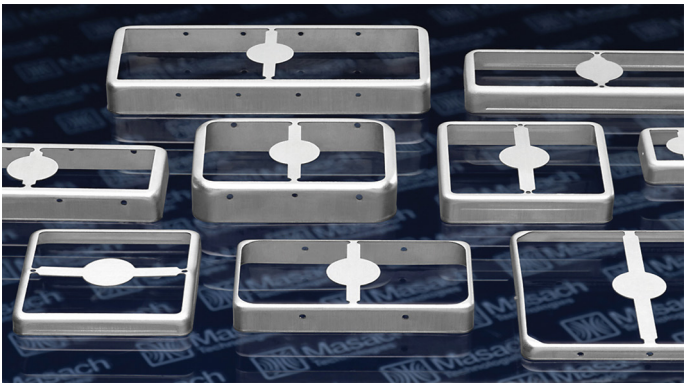


» Masach's Drawn EMI/RFI Shields

At higher frequencies the preference of EMI/RFI engineers turns to more hermetically sealed shields. Drawn EMI/RFI shields provide a seamless protective cage. These shields are fabricated as drawn frames with drawn snap on covers. As opposed to bent frames & covers which can be manufactured in single units by manual process, these shields must be tooled.

Main Advantages

- **Seamless Protective Cage**
  Promotes high shielding effectiveness
- **Robust & Solid Construction**
  Resists warping during transit and handling
- **Optimal Planarity**
  Promotes high yield on reflow soldering
- **Two-piece Shield Design (Frame & Cover)**
  Enables the flexibility to inspect or repair shielded components without having to risk board damage by removing the entire shield or incur any tooling costs



» Extensive Range of Standard Drawn Shields

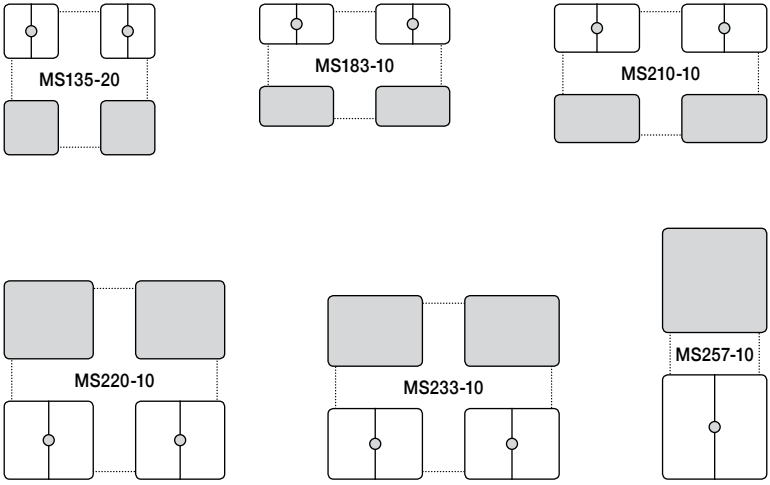
Throughout the years Masach has built a wide variety of Standard Drawn EMI/RFI Shielding Enclosures, unique in the board level shields field. The Drawn shields are all tooled items which are optimized for small, medium & large-scale runs (SMT compatible).
The nature of Masach's activity is to constantly add more standards (Monthly) and significantly enhancing the attraction of "Off the shelf" products of this kind.

Masach's Standard Drawn EMI/RFI Shields maximize flexibility of design for surface mount configurations in situations where engineers are aware of potential interference during the board design phase. Ordering a standard product eliminates the design of the shield and the production of prototypes for evaluation. Added advantages are translated into relatively low cost and short delivery times.
In addition, complimentary CAD files are available for download on Masach's website for immediate use: **www.masach.com**

Trays Spread ↘

ATTENTION! Do not attempt to assemble snap cover on frame prior to PCB assembly – Covers are very difficult to remove from non-soldered frames.

A



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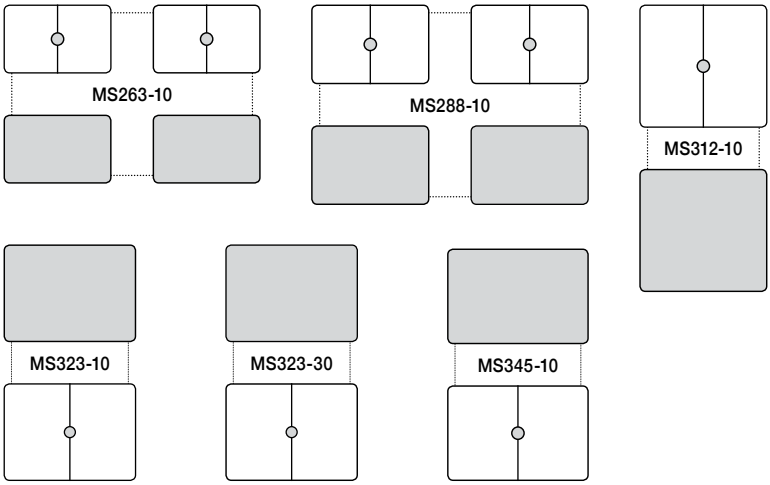

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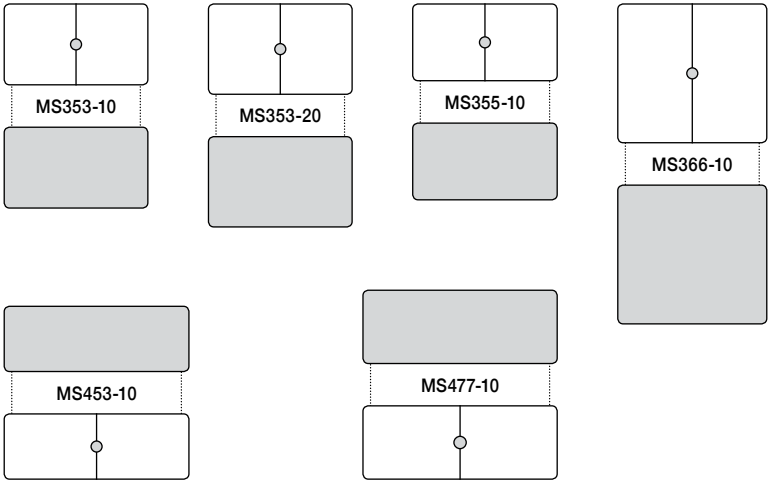
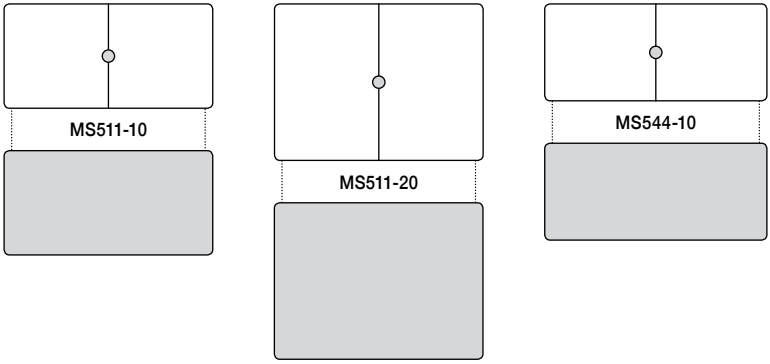
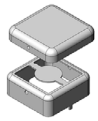
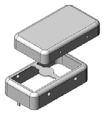
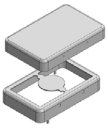


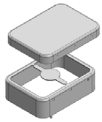
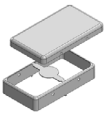
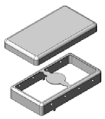
D



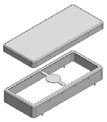
Specifications ↘

MS Cat No.	MS Part No.	Description	Ext. Length		Ext. Width		Ext. Height	
			mm	inch	mm	inch	mm	inch
MS135-20	MS135-20C	EMI/RFI Cover	14.1	0.555	14.1	0.555	3	0.118
	MS135-20F	EMI/RFI Frame	13.5	0.531	13.5	0.531	5.1	0.201
	Two-piece shield							
MS183-10	MS183-10C	EMI/RFI Cover	18.9	0.744	11.1	0.437	3	0.118
	MS183-10F	EMI/RFI Frame	18.3	0.720	10.5	0.413	3	0.118
	Two-piece shield							
MS210-10	MS210-10C	EMI/RFI Cover	21.6	0.850	12.6	0.496	4	0.157
	MS210-10F	EMI/RFI Frame	21	0.827	12	0.472	5	0.197
	Two-piece shield							
MS220-10	MS220-10C	EMI/RFI Cover	22.6	0.890	19.9	0.783	3	0.118
	MS220-10F	EMI/RFI Frame	22	0.866	19.3	0.760	3.3	0.130
	Two-piece shield							
MS233-10	MS233-10C	EMI/RFI Cover	23.7	0.933	17.9	0.704	2.8	0.110
	MS233-10F	EMI/RFI Frame	23.3	0.917	17.5	0.689	3.3	0.130
	Two-piece shield							

MS Cat No.	MS Part No.	Description	Ext. Length		Ext. Width		Ext. Height	
			mm	inch	mm	inch	mm	inch
MS257-10	MS257-10C	EMI/RFI Cover	26.3	1.035	26.3	1.035	4	0.157
	MS257-10F	EMI/RFI Frame	25.7	1.012	25.7	1.012	6.5	0.256
	Two-piece shield							
MS263-10	MS263-10C	EMI/RFI Cover	26.9	1.059	17.4	0.685	4	0.157
	MS263-10F	EMI/RFI Frame	26.3	1.035	16.8	0.661	4.5	0.177
	Two-piece shield							
MS288-10	MS288-10C	EMI/RFI Cover	29.4	1.157	20	0.787	4	0.157
	MS288-10F	EMI/RFI Frame	28.8	1.134	19.4	0.764	5	0.197
	Two-piece shield							
MS312-10	MS312-10C	EMI/RFI Cover	31.8	1.252	30.6	1.205	4	0.157
	MS312-10F	EMI/RFI Frame	31.2	1.228	30	1.181	5	0.197
	Two-piece shield							
MS323-10	MS323-10C	EMI/RFI Cover	32.9	1.295	24.4	0.961	4	0.157
	MS323-10F	EMI/RFI Frame	32.3	1.272	23.8	0.937	3.7	0.146
	Two-piece shield							

MS Cat No.	MS Part No.	Description	Ext. Length		Ext. Width		Ext. Height	
			mm	inch	mm	inch	mm	inch
MS323-30	MS323-30C	EMI/RFI Cover	32.9	1.295	24.4	0.961	4	0.157
	MS323-30F	EMI/RFI Frame	32.3	1.272	23.8	0.937	9	0.354
	Two-piece shield							
MS345-10	MS345-10C	EMI/RFI Cover	35.1	1.382	23.9	0.941	3.3	0.130
	MS345-10F	EMI/RFI Frame	34.5	1.358	23.3	0.917	3.5	0.138
	Two-piece shield							
MS353-10	MS353-10C	EMI/RFI Cover	35.7	1.405	20.4	0.803	3.5	0.138
	MS353-10F	EMI/RFI Frame	35.3	1.390	20	0.787	6.4	0.252
	Two-piece shield							
MS353-20	MS353-20C	EMI/RFI Cover	35.7	1.405	22.7	0.893	3.5	0.138
	MS353-20F	EMI/RFI Frame	35.3	1.390	22.3	0.878	6.4	0.252
	Two-piece shield							
MS355-10	MS355-10C	EMI/RFI Cover	36.1	1.421	19.6	0.772	3.8	0.150
	MS355-10F	EMI/RFI Frame	35.5	1.398	19	0.748	5.5	0.217
	Two-piece shield							

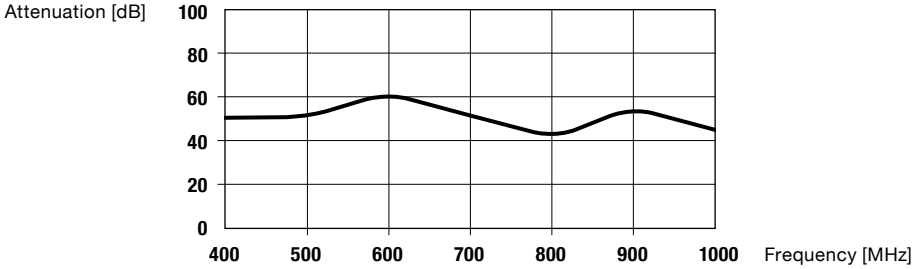
MS Cat No.	MS Part No.	Description	Ext. Length		Ext. Width		Ext. Height	
			mm	inch	mm	inch	mm	inch
MS366-10	MS366-10C	EMI/RFI Cover	37	1.456	34.5	1.358	2.8	0.110
	MS366-10F	EMI/RFI Frame	36.6	1.441	34.1	1.343	3.3	0.130
	Two-piece shield							
MS453-10	MS453-10C	EMI/RFI Cover	45.9	1.807	16.8	0.661	3.2	0.126
	MS453-10F	EMI/RFI Frame	45.3	1.783	16.2	0.638	6	0.236
	Two-piece shield							
MS477-10	MS477-10C	EMI/RFI Cover	48.3	1.902	18.8	0.740	3	0.118
	MS477-10F	EMI/RFI Frame	47.7	1.878	18.2	0.717	4	0.157
	Two-piece shield							
MS511-10	MS511-10C	EMI/RFI Cover	51.7	2.035	26.3	1.035	4	0.157
	MS511-10F	EMI/RFI Frame	51.1	2.012	25.7	1.012	6.5	0.256
	Two-piece shield							
MS511-20	MS511-20C	EMI/RFI Cover	51.7	2.035	39	1.535	4	0.157
	MS511-20F	EMI/RFI Frame	51.1	2.012	38.4	1.512	6.5	0.256
	Two-piece shield							

MS Cat No.	MS Part No.	Description	Ext. Length		Ext. Width		Ext. Height	
			mm	inch	mm	inch	mm	inch
MS544-10	MS544-10C	EMI/RFI Cover	55	2.165	24.5	0.965	5	0.197
	MS544-10F	EMI/RFI Frame	54.4	2.142	23.9	0.941	7.5	0.295
	Two-piece shield							
	And more to come..							

Complimentary CAD files downloads

www.masach.com

Typical PCB Shielding Effectiveness



[Typical performance of 51.1mm x 38.4mm EMI/RFI shield as reference]

Tinplate Steel Stock / Storage & Handling

Materials Specification: Cold Reduced Electrolytic Tinplate Steel
Tinplate Standard: TS275E8.4/8.4 EN 10202:2001

The material used to fabricate these shields are based on a mild steel with less than 0.12% Carbon and no more than 1% alloying elements and naturally occurring impurities. Major shielding elements are thus ferrous and tin. The thin resultant layer of tin enables shields to be soldered easily to pc boards as well as providing a corrosion resistant protection during the assembly process. Tin plate shields are the most cost effective materials in the shielding screen family provided the following care is taken during storage and handling.

1. Do not pass these components through a salt bath test, they are not designed for such severe treatment, alternate materials (albeit more expensive) are available.
2. Frames should be left in package trays until assembly, the trays preserve the planarity of the shields.
3. Store in a cool dry place and avoid water or other liquids from coming into contact with shields.
4. Mild scratching and scuffs are natural for processed shields from pre-plated material. Protective films can be ordered specially for unblemished finish of covers.
5. Extremely thin film of oil may cover some shields, this does not have any effect on solder ability and does not have to be removed.

Tinplate shields constitute over 85% of the materials used in the Masach production programme and have proven effective in their respective applications.

Tray	MS Cat No.	Description	Ext. Length		Ext. Width		Ext. Height	
			mm	inch	mm	inch	mm	inch
A	MS135-20	Two-piece shield	13.5	0.531	13.5	0.531	5.3	0.209
	MS183-10	Two-piece shield	18.3	0.720	10.5	0.413	3	0.118
	MS210-10	Two-piece shield	21	0.827	12	0.472	5	0.197
	MS220-10	Two-piece shield	22	0.866	19.3	0.760	3.3	0.130
	MS233-10	Two-piece shield	23.3	0.917	17.5	0.689	3.3	0.130
	MS257-10	Two-piece shield	25.7	1.012	25.7	1.012	6.5	0.256
B	MS263-10	Two-piece shield	26.3	1.035	16.8	0.661	4.5	0.177
	MS288-10	Two-piece shield	28.8	1.134	19.4	0.764	5	0.197
	MS312-10	Two-piece shield	31.2	1.228	30	1.181	5	0.197
	MS323-10	Two-piece shield	32.3	1.272	23.8	0.937	3.7	0.146
	MS323-30	Two-piece shield	32.3	1.272	23.8	0.937	9	0.354
	MS345-10	Two-piece shield	34.5	1.358	23.3	0.917	3.5	0.138
C	MS353-10	Two-piece shield	35.3	1.390	20	0.787	6.4	0.252
	MS353-20	Two-piece shield	35.3	1.390	22.3	0.878	6.4	0.252
	MS355-10	Two-piece shield	35.5	1.398	19	0.748	5.5	0.217
	MS366-10	Two-piece shield	36.6	1.441	34.1	1.343	3.6	0.142
	MS453-10	Two-piece shield	45.3	1.783	16.2	0.638	6	0.236
	MS477-10	Two-piece shield	47.7	1.878	18.2	0.717	4	0.157
D	MS511-10	Two-piece shield	51.1	2.012	25.7	1.012	6.5	0.256
	MS511-20	Two-piece shield	51.1	2.012	38.4	1.512	6.5	0.256
	MS544-10	Two-piece shield	54.4	2.142	23.9	0.941	7.5	0.295

NOTE. All Items in this category are according to our Tinplate Standard Steel: (1) TS275E 8.4/8.4 (2) Electrolytic Tin Plate As Per En 10202:2001 Min Tin Thickness 3.5 um (3) General tolerance (+/-) 0.2mm unless otherwise specified, Non Dimensioned items remain Masach Technologies Ltd. property.

If you cannot find a standard shield according to your requirements, you are welcome to contact us at: **info@masach.com** and we will make the adjustments or find a suitable solution for your specific needs.

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RoHS

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