

# Ferrite EMI Disks and Plates

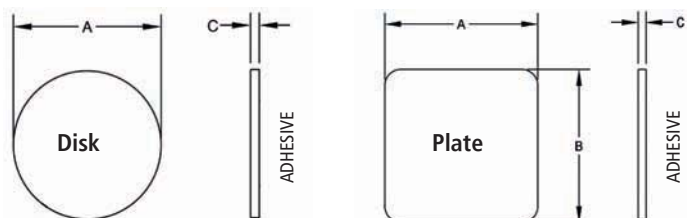
Laird Technologies, Ferrite Disks and Plates provide a simple, cost-effective solution for radiated and inductively-coupled electromagnetic interference. After the PC board soldering process, a ferrite disk or plate can be installed directly on the source of EMI (such as active devices or unwanted antennas).

## Features:

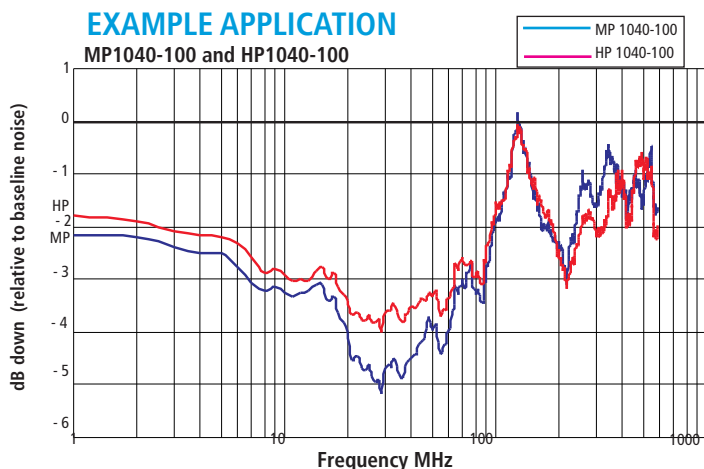
- Easy installation
- Each part for volume production is provided with permanent, double sided 3,5 mil acrylic adhesive with 218 oz./inch<sup>2</sup> adhesion.
- Samples and sample kits are available with removable and reusable adhesive for "trial and error" testing
- Variety of sizes offered
- For frequencies above 250 MHz, H series material is generally better than M series material
- Custom parts also available.

## Applications:

- Laird Technologies, ferrite disks and plates can be utilized either as inductively-coupled components or EMI shields on PC board components and traces. (Inductive coupling occurs when the ferrite affects the conducted wave form leaving the active component. The rise time of the wave form is effectively slowed by the ferrite, and the overshoot and associated ringing are attenuated. EMI shielding occurs when the ferrite absorbs the radiated emissions from active components, effectively protecting other boards or components in the vicinity from radiated contamination).
- Can be used to locate unwanted EMI antennas.
- Flat Flex & Ribbon cables.
- Can also provide retrofit, auxiliary EMI attenuation.



PART NUMBERING SYSTEM			
<b>H</b>	<b>M</b>	<b>0787</b>	<b>100</b>
H - MATERIAL	M - DISK	PART SIZE IDENTIFICATION	THICKNESS CODE
M - MATERIAL	P - PLATE		



## Example Application Graph Explanation:

The zero line on the graph represents the base line noise recorded for an unprotected microprocessor. The curves (dB down) represent the performance of the Laird Technologies' ferrite plates relative to the baseline. The addition of the ferrite plates to the top of the processor in this specific application exhibits up to a 5 dB EMI reduction relative to the unprotected part. In the example application graph above, the ferrite plate MP1040-100 exhibits up to a 1 dB advantage over the HP1040-100 from 1-100 MHz, while the HP1040-100 exhibits a 0,5 dB advantage between 200 and 400 MHz. Performance can vary with different sizes, materials, processors and applications.

## Test Conditions:

- Microprocessor — Motorola HC16
- Clock Speed — 16 MHz
- Mini-Tem radiated emissions using an sbec3a tem cell board
- Sweep Rate — 100 s
- No. of Sweeps — 1
- Resolution BW — 10 kHz
- Video BW — 30 kHz
- Amplification — 31,00 dB

Ferrite disc & plate samples are available with temporary adhesive so the sample part can be tested in numerous locations. Production parts have permanent adhesive. Custom parts available.

PART NUMBER	A mm (inches)	B mm (inches)	C mm (inches)
HM0787-100	20,00 (0,787)		1,27 (0,050)
HM0787-200	20,00 (0,787)		1,91 (0,075)
HM1400-200	35,56 (1,400)		1,91 (0,075)
HM1400-300	35,56 (1,400)		2,54 (0,100)
MM0650-100	16,51 (0,650)		1,27 (0,050)
MM0787-100	20,00 (0,787)		1,27 (0,050)
MM0787-200	20,00 (0,787)		1,91 (0,075)
MM1400-200	35,56 (1,400)		1,91 (0,075)
MM1400-300	35,56 (1,400)		2,54 (0,100)
HP1040-100	26,42 (1,040)	26,42 (1,040)	1,27 (0,050)
HP1040-200	26,42 (1,040)	26,42 (1,040)	1,91 (0,075)
MP0315-200	8,00 (0,315)	8,00 (0,315)	2,00 (0,079)
MP0350-000	26,42 (1,040)	8,89 (0,350)	1,27 (0,050)
MP0433-000	11,00 (0,433)	11,00 (0,433)	1,96 (0,077)
MP0512-200	13,00 (0,512)	13,00 (0,512)	2,00 (0,079)
MP0590-200	21,00 (0,827)	15,00 (0,591)	2,00 (0,079)
MP0591-200	15,00 (0,591)	15,00 (0,591)	2,00 (0,079)
MP0760-100	19,30 (0,760)	19,30 (0,760)	1,27 (0,050)
MP1040-100	26,42 (1,040)	26,42 (1,040)	1,27 (0,050)
MP1040-200	26,42 (1,040)	26,42 (1,040)	1,91 (0,075)
MP1040-300	26,42 (1,040)	26,42 (1,040)	2,25 (0,089)
MP1496-000	38,00 (1,496)	38,00 (1,496)	2,00 (0,079)