

# Diamond-M-Shunt – Datasheet (v1.0 | 2026)

## Low Insertion Inductance

Due to its planar design, the Diamond-M-Shunt offers low insertion inductance and easy integration. Expect **0.5 nH to 1.5 nH** insertion.

## High Maximum Energy

Due to its wide area for cooling, the Diamond-M-Shunt can handle large amounts of energy.

## High 10% Bandwidth

For the **Diamond-M-Shunt**, the transfer characteristic is optimized by design to achieve the maximum possible bandwidth within  $\pm 5\%$  tolerance band.

## Fully Temperature Compensated

Due to the use of temperature-compensated resistors the Diamond-M-Shunt can be used from  $-20^{\circ}\text{C}$  to  $100^{\circ}\text{C}$  without correction.

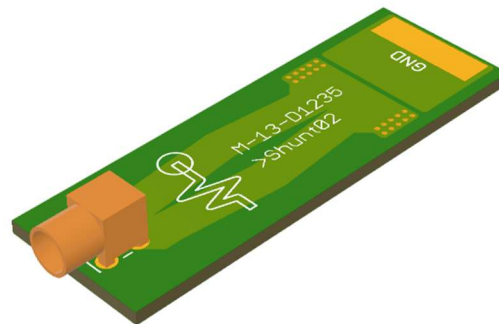
## Customisable

Transfer characteristics and maximum energy are independent. Please request a custom-made option if you have a specific application.

## Diamond-M-Shunt model:

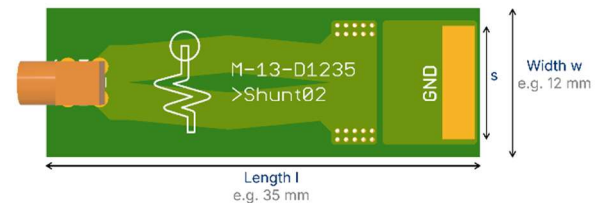
- #D1235

The name indicates the **design-resistance** and the **size** as follows:



resistance[mΩ] M-Shunt ID  
**M-13-D1235** **XXXXXX**  
model number

Model #	Width w [mm]	Length l [mm]	Width s [mm]
D1235	12	35	9.1



Model #*	R [mΩ]	$E_{\max 100, \text{theory}}$ [J]	$\pm 3_{\text{dB}}$ BW [MHz]*	10% BW [MHz]**	PP BW [MHz]***	$I_{\text{DC,max}}$ [A]****	$I_{\text{max}}$ [kA]
D1235	13	3.55	240	<b>190</b>	600	12	3

\*In this overview only conventional and confirmed datasheet specifications are given, like for other shunts. More detailed, realistic & typical values are given on page 2 or in the application notes which are not guaranteed. Please also refer to the linked publications on our website for explanations.

\*\*Values are without filtering or post processing.

\*\*\*PP BW is the maximum frequency for high accuracy post processing

\*\*\*\* $I_{\text{DC,max}}$  is rated at ambient temperature without external cooling, based on a maximum allowable shunt temperature of  $100^{\circ}\text{C}$ .

# Typical bandwidth & maximum energy

Which bandwidth should I use?

From our point of view, the 3 dB bandwidth is not an accurate statement. Please refer to the typical deviation table or use post processing. More information on

[www.m-shunt.com/bw/](http://www.m-shunt.com/bw/)

How much energy can I consider?

The maximum energy level can be exceeded significantly for short periods and pulses. This is at your own risk or should be checked with us.

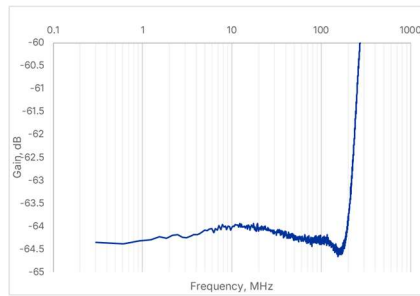
FAQ Products



Support

Please feel free to contact us

[info@m-shunt.com](mailto:info@m-shunt.com)



## Energy Rating:

- The specified value is based on theoretical considerations for infinitely short pulse duration.
- These values may be significantly exceeded in practical applications.
- Approval for higher energy loads is required. Please send a detailed description of your application to [info@m-shunt.com](mailto:info@m-shunt.com)

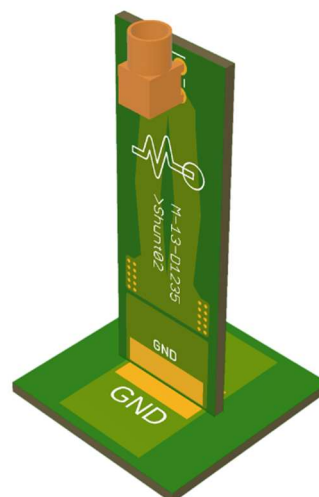
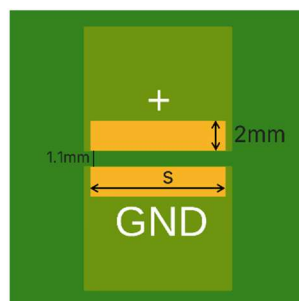
## Bandwidth Rating:

Due to the inductive behavior of the **Diamond-M-Shunt**, the transfer function is optimized to maximize the 10% bandwidth window. For high-precision applications, we recommend evaluating the frequency response based on this 10% deviation limit rather than the standard 3dB bandwidth, eliminating the need for additional correction factors.

For more details please visit <http://www.m-shunt.com/bw/> or the [publications](#) on bandwidth.

# Application Notes

- The low-side connection-pad of the shunt is labeled as GND.
- In order to avoid potential common-ground issues, utilising optical probes is recommended.
- Do not use the shunt if the resistance value has changed more than 10%.
- The measurement takes place between the middle pin and the soldering pad. SMA or MMCX connectors can be replaced with wire connectors.
- 3D models and recommended PCB footprints for M-Shunts are available upon request.



## Visit our website:

[How to connect the shunt?](#)  
[Measuring the bandwidth](#)  
[Increasing the bandwidth](#)  
[Measurement deviations](#)  
[Post-Processing](#)

## Scientific Papers:



[www.m-shunt.com/scientific/](http://www.m-shunt.com/scientific/)



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H. Lutzen, V. Polezhaev, S. Clausner,  
T. Huesgen, N. Kaminski  
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