

**AS5306**
**Magnetic Multipole Strip, MS12-15**
**Pole Length 1,2 mm, 15 poles**
**MAGNET SPECIFICATION**

## General

This specification defines the dimensional and magnetic properties of a multi pole magnetic strip for use with the AS5306 magnetic linear motion and off-axis rotary angle encoder.

Material: rubber bonded Strontium Ferrite SrFe.

## 1 Dimensional Specification

Magnet Order # MS12-15 on austriamicrosystems web shop, refer to Figure 1

Parameter	Symbol	Min	Typ	Max	Unit	Note
Strip width	W	18,44	19,2	19,96	mm	0,567" +/- 0,030"
Strip cut length	S	2,12	2,5	2,88	mm	0,098" +/- 0,015"
Strip thickness	T	0,33	0,38	0,38	mm	0,015" +0,00" / - 0,002"
Thermal expansion			49		x10 <sup>-6</sup> /K	Mechanical length expansion
Density			3,4		g/cm <sup>3</sup>	estimated
Delivery	7,09" x 0,015" x 200' Outdoor adhesive, cut thru 0,098". Minimum 1 rolls (~ 24.500 pieces).					

## 2 Magnetic Input Specification

Magnet Order # MS12-15 on austriamicrosystems web shop, refer to Figure 1

Parameter	Symbol	Min	Typ	Max	Unit	Note
Pole length	L <sub>p</sub>		1,20		mm	results in pole pair length of 2,4mm (11 poles @ 1,2mm, 2 border poles -0,6mm)
Pole length deviation				+/- 50	µm	Measured at B <sub>z</sub> =0, all poles (L <sub>p</sub> ) within active region
Number of poles			15		poles	Excluding poles with L<L <sub>p</sub> at the ends of the strip
Resolution	Res		15		µm	With AS5306
Magnetic field amplitude @ 0,5mm distance	B <sub>pk</sub>		9		mT	Vertical component of the magnetic field strength in the center of the strip at 25°C
Amplitude variation				+/-0,9	mT	All poles within active region
Active region to strip edge	A			0,5	mm	estimated
First B <sub>z</sub> =0 position to strip edge	D1	TBD	0,6	TBD	mm	Tolerance estimated +/-0,25µm
Last B <sub>z</sub> =0 position to strip edge	D2	TBD	0,6	TBD	mm	Tolerance estimated +/-0,25µm
Temperature range	T <sub>amb</sub>	-18	25	80	°C	
Temperature drift	T <sub>kBr</sub>		+0,2		%/K	Magnetic field temp. drift

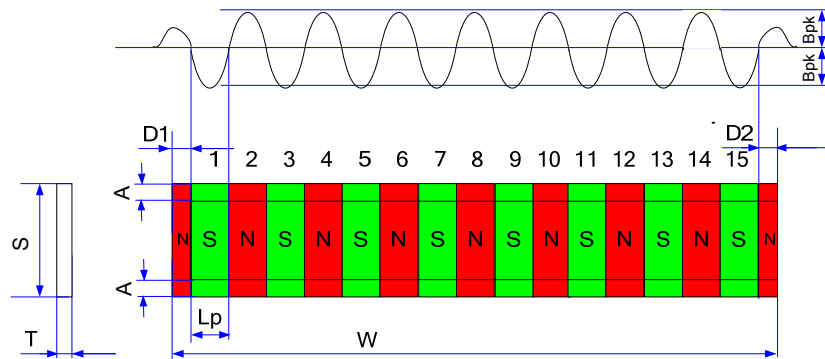


Figure 1

## Contact

### Headquarters

austriamicrosystems AG

A 8141 Schloss Premstätten, Austria

Phone: +43 3136 500 0

Fax: +43 3136 525 01

[www.austriamicrosystems.com](http://www.austriamicrosystems.com)

### Magnet Supplier Information

ARNOLD Magnetic Technologies

107 Industry Road

Marietta, OH 45750

<http://www.arnoldmagnetics.com/sales/index.htm>

## Copyright

Devices sold by austriamicrosystems are covered by the warranty and patent indemnification provisions appearing in its Term of Sale. austriamicrosystems makes no warranty, express, statutory, implied, or by description regarding the information set forth herein or regarding the freedom of the described devices from patent infringement. austriamicrosystems reserves the right to change specifications and prices at any time and without notice. Therefore, prior to designing this product into a system, it is necessary to check with austriamicrosystems for current information. This product is intended for use in normal commercial applications.

Copyright © 2008 austriamicrosystems. Trademarks registered ®. All rights reserved. The material herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner. To the best of its knowledge, austriamicrosystems asserts that the information contained in this publication is accurate and correct. However, austriamicrosystems shall not be liable to recipient or any third party for any damages, including but not limited to personal injury, property damage, loss of profits, loss of use, interruption of business or indirect, special, incidental or consequential damages, of any kind, in connection with or arising out of the furnishing, performance or use of the technical data herein. No obligation or liability to recipient or any third party shall arise or flow out of austriamicrosystems rendering of technical or other services.