

# Product specification

| Product name             | Neodymium 4.5mmX4.5mmX1mm           |           |                |                   |           |         |
|--------------------------|-------------------------------------|-----------|----------------|-------------------|-----------|---------|
| Item                     | Name                                | Symbol    | SI             |                   | CGS       |         |
| Shape                    | Length                              | L         | 4.5            | mm                | 0.45      | cm      |
|                          | Width                               | W         | 4.5            | mm                | 0.45      | cm      |
|                          | Height                              | H         | 1              | mm                | 0.1       | cm      |
|                          | Dimensional tolerance +/-           | L         | 0.1            | mm                | 0.01      | cm      |
|                          |                                     | W         | 0.1            | mm                | 0.01      | cm      |
|                          |                                     | H         | 0.1            | mm                | 0.01      | cm      |
|                          | Direction of magnetization          | M         | Assiale        |                   |           |         |
| Surface treatment        | Ni                                  | 12        | $\mu$ m        |                   |           |         |
| Measuring point          | Surface flux density                | B         | 180.5          | mT                | 1805      | G       |
|                          | Attractive force                    | F         | 0.278          | kgf               | 278       | gf      |
|                          | Magnetic flux density on load point | Bd        | 366.8          | mT                | 3668      | G       |
|                          | Total flux                          | Dia o     | 0.0000074<br>2 | Wb                | 742       | Mx      |
|                          | Permeance coefficient               | Pc        | 0.47           | Pc                | -         |         |
|                          | Operating temperature range         | Tw        | 75             | deg C             | 167       | deg F   |
|                          | Operating temperature range         | Tw        | -              | deg C             | -         | deg F   |
| Material characteristics | Material grade                      | Neodymium | 35             |                   |           |         |
|                          | Remanence                           | Br        | 1170-1220      | mT                | 11.7-12.2 | kG      |
|                          | Coercive forces                     | Hcb       | >868           | kA/m              | >10.9     | kOe     |
|                          | Intrinsic coercivity                | Hcj       | >955           | kA/m              | >12       | kOe     |
|                          | Maximum energy product              | BH        | 263-287        | kJ/m <sup>3</sup> | 33-36     | MGOe    |
|                          | Temperature coefficient             | Br        | -0.12          | %/deg C           | 31.78     | %/deg F |
|                          |                                     | Hcj       | -0.55          | %/deg C           | 31.01     | %/deg F |
|                          | Max. operating temperature          | Tw        | <80            | deg C             | <176      | deg F   |
|                          | Curie temperature                   | Tc        | 310            | deg C             | 590       | deg F   |
|                          | Density                             | P         | 7.5            | kg/m <sup>3</sup> | -         |         |
|                          | Weight                              | Net       | 0.00015        | kg                | 0.15      | g       |
| Remark                   | REACH RoHS Directive                |           |                |                   |           |         |

Information on these magnetic characteristics are approximate and reference values. When using the calculated values for actual magnetic application products and research and development of the application of magnetic products, use these values as reference values. We are not responsible for the results from the reference values. The details can be found by referring to the product specifications. All specifications are subject to change without notice.