



## SHAPE AND DIMENSIONS



Unit: mm

| Series    | A        | B          | C       | D        | E       | I Typ. | J Typ. | H Typ. |
|-----------|----------|------------|---------|----------|---------|--------|--------|--------|
| MWSA0412S | 4.2±0.25 | 4.4±0.35   | 1.0±0.2 | 0.8±0.3  | 2.0±0.3 | 1.5    | 2.2    | 2.5    |
| MWSA0402S | 4.2±0.25 | 4.4±0.35   | 1.8±0.2 | 0.8±0.3  | 2.0±0.3 | 1.5    | 2.2    | 2.5    |
| MWSA0518S | 5.2±0.2  | 5.4±0.35   | 1.6±0.2 | 1.20±0.2 | 2.2±0.3 | 1.9    | 2.2    | 2.5    |
| MWSA0503S | 5.2±0.2  | 5.4±0.35   | 2.8±0.2 | 1.20±0.2 | 2.2±0.3 | 1.9    | 2.2    | 2.5    |
| MWSA0618S | 6.6±0.2  | 7.0±0.3    | 1.6±0.2 | 1.60±0.3 | 3.0±0.3 | 2.35   | 3.7    | 3.5    |
| MWSA0624S | 6.6±0.2  | 7.0±0.3    | 2.2±0.2 | 1.60±0.3 | 3.0±0.3 | 2.35   | 3.7    | 3.5    |
| MWSA0603S | 6.6±0.2  | 7.0±0.3    | 2.8±0.2 | 1.60±0.3 | 3.0±0.3 | 2.35   | 3.7    | 3.5    |
| MWSA0604S | 6.6±0.2  | 7.0±0.3    | 3.8±0.2 | 1.60±0.3 | 3.0±0.3 | 2.35   | 3.7    | 3.5    |
| MWSA0605S | 6.6±0.2  | 7.0±0.3    | 4.8±0.2 | 1.60±0.3 | 3.0±0.3 | 2.35   | 3.7    | 3.5    |
| MWSA1004S | 10.0±0.3 | 11.5Max    | 3.8±0.2 | 2.0±0.5  | 3.0±0.5 | 4.1    | 5.4    | 4.1    |
| MWSA1205S | 12.6±0.3 | 13.45±0.35 | 4.8±0.2 | 2.0±0.5  | 3.5±0.5 | 3.25   | 8.0    | 5.0    |

## SPECIFICATIONS

### MWSA0412S Series

| Part Number     | Inductance | DC Resistance | Saturation Current <sup>*3</sup> | Heat Rating Current <sup>*4</sup> |
|-----------------|------------|---------------|----------------------------------|-----------------------------------|
|                 | @100KH,1V  | Max.          | Typ.                             | Typ.                              |
| Units           | μH         | mΩ            | A                                | A                                 |
| Symbol          | L          | DCR           | Isat                             | Irms                              |
| MWSA0412S-R15MT | 0.15±20%   | 9             | 15.00                            | 7.50                              |
| MWSA0412S-R22MT | 0.22±20%   | 11            | 11.00                            | 7.00                              |
| MWSA0412S-R33MT | 0.33±20%   | 19            | 8.40                             | 6.50                              |
| MWSA0412S-R47MT | 0.47±20%   | 21            | 6.80                             | 6.00                              |
| MWSA0412S-R68MT | 0.68±20%   | 36            | 6.00                             | 4.70                              |
| MWSA0412S-1R0MT | 1.0±20%    | 47            | 5.50                             | 4.50                              |
| MWSA0412S-1R5MT | 1.5±20%    | 75            | 4.00                             | 3.25                              |
| MWSA0412S-2R2MT | 2.2±20%    | 83.5          | 3.00                             | 2.75                              |
| MWSA0412S-4R7MT | 4.7±20%    | 195           | 2.20                             | 1.80                              |

## SPECIFICATIONS

### MWSA0402S Series

| Part Number     | Inductance | DC Resistance | Saturation Current <sup>*3</sup> | Heat Rating Current <sup>*4</sup> |
|-----------------|------------|---------------|----------------------------------|-----------------------------------|
|                 | @100KH,1V  | Max.          | Typ.                             | Typ.                              |
| Units           | μH         | mΩ            | A                                | A                                 |
| Symbol          | L          | DCR           | Isat                             | Irms                              |
| MWSA0402S-R10MT | 0.10±20%   | 4             | 22.00                            | 13.00                             |
| MWSA0402S-R22MT | 0.22±20%   | 6.6           | 12.50                            | 9.50                              |
| MWSA0402S-R33MT | 0.33±20%   | 11            | 12.00                            | 10.00                             |
| MWSA0402S-R47MT | 0.47±20%   | 14            | 9.50                             | 7.50                              |
| MWSA0402S-R56MT | 0.56±20%   | 16            | 9.00                             | 7.00                              |
| MWSA0402S-R68MT | 0.68±20%   | 18            | 8.00                             | 7.00                              |
| MWSA0402S-1R0MT | 1.0±20%    | 27            | 7.00                             | 6.00                              |
| MWSA0402S-1R2MT | 1.2±20%    | 27            | 6.50                             | 6.00                              |
| MWSA0402S-1R5MT | 1.5±20%    | 46            | 5.50                             | 5.00                              |
| MWSA0402S-2R2MT | 2.2±20%    | 58            | 5.00                             | 4.50                              |
| MWSA0402S-3R3MT | 3.3±20%    | 87            | 3.50                             | 3.30                              |
| MWSA0402S-4R7MT | 4.7±20%    | 105           | 3.00                             | 2.80                              |
| MWSA0402S-6R8MT | 6.8±20%    | 175           | 2.50                             | 2.40                              |
| MWSA0402S-100MT | 10±20%     | 282           | 2.00                             | 1.60                              |

### MWSA0518S Series

| Part Number     | Inductance | DC Resistance | Saturation Current <sup>*3</sup> | Heat Rating Current <sup>*4</sup> |
|-----------------|------------|---------------|----------------------------------|-----------------------------------|
|                 | @100KH,1V  | Max.          | Typ.                             | Typ.                              |
| Units           | μH         | mΩ            | A                                | A                                 |
| Symbol          | L          | DCR           | Isat                             | Irms                              |
| MWSA0518S-R47MT | 0.47±20%   | 9             | 12.00                            | 10.50                             |
| MWSA0518S-R56MT | 0.56±20%   | 10            | 11.00                            | 9.50                              |
| MWSA0518S-1R0MT | 1.0±20%    | 17            | 9.00                             | 8.00                              |
| MWSA0518S-1R5MT | 1.5±20%    | 26            | 8.00                             | 7.50                              |
| MWSA0518S-2R2MT | 2.2±20%    | 35            | 6.00                             | 5.00                              |
| MWSA0518S-3R3MT | 3.3±20%    | 58            | 4.80                             | 4.50                              |
| MWSA0518S-4R7MT | 4.7±20%    | 85            | 4.00                             | 3.50                              |
| MWSA0518S-6R8MT | 6.8±20%    | 120           | 3.40                             | 2.80                              |
| MWSA0518S-100MT | 10±20%     | 155           | 2.50                             | 2.50                              |

## SPECIFICATIONS

### MWSA0503S Series

| Part Number     | Inductance | DC Resistance | Saturation Current <sup>*3</sup> | Heat Rating Current <sup>*4</sup> |
|-----------------|------------|---------------|----------------------------------|-----------------------------------|
|                 | @100KH,1V  | Max.          | Typ.                             | Typ.                              |
| Units           | μH         | mΩ            | A                                | A                                 |
| Symbol          | L          | DCR           | Isat                             | Irms                              |
| MWSA0503S-R10MT | 0.10±20%   | 3.0           | 30.00                            | 25.00                             |
| MWSA0503S-R20MT | 0.20±20%   | 3.9           | 20.00                            | 14.00                             |
| MWSA0503S-R33MT | 0.33±20%   | 5.5           | 18.00                            | 14.00                             |
| MWSA0503S-R47MT | 0.47±20%   | 8.5           | 15.00                            | 11.00                             |
| MWSA0503S-R68MT | 0.68±20%   | 12            | 11.50                            | 9.00                              |
| MWSA0503S-1R0MT | 1.0±20%    | 14            | 10.00                            | 8.50                              |
| MWSA0503S-1R2MT | 1.2±20%    | 16            | 9.50                             | 8.50                              |
| MWSA0503S-1R5MT | 1.5±20%    | 25            | 9.00                             | 8.20                              |
| MWSA0503S-2R2MT | 2.2±20%    | 29            | 7.00                             | 7.00                              |
| MWSA0503S-3R3MT | 3.3±20%    | 38            | 6.00                             | 5.50                              |
| MWSA0503S-4R7MT | 4.7±20%    | 60            | 4.60                             | 4.50                              |
| MWSA0503S-6R8MT | 6.8±20%    | 90            | 3.60                             | 3.50                              |
| MWSA0503S-100MT | 10±20%     | 125           | 3.50                             | 3.20                              |

### MWSA0618S Series

| Part Number     | Inductance | DC Resistance | Saturation Current <sup>*3</sup> | Heat Rating Current <sup>*4</sup> |
|-----------------|------------|---------------|----------------------------------|-----------------------------------|
|                 | @100KH,1V  | Max.          | Typ.                             | Typ.                              |
| Units           | μH         | mΩ            | A                                | A                                 |
| Symbol          | L          | DCR           | Isat                             | Irms                              |
| MWSA0618S-R10MT | 0.10±20%   | 2.3           | 38.00                            | 25.00                             |
| MWSA0618S-R22MT | 0.22±20%   | 3.5           | 24.00                            | 22.00                             |
| MWSA0618S-R47MT | 0.47±20%   | 8.4           | 18.00                            | 11.50                             |
| MWSA0618S-R68MT | 0.68±20%   | 12            | 16.50                            | 9.50                              |
| MWSA0618S-1R0MT | 1.0±20%    | 16            | 12.00                            | 8.50                              |
| MWSA0618S-1R5MT | 1.5±20%    | 26            | 9.20                             | 8.00                              |
| MWSA0618S-2R2MT | 2.2±20%    | 35            | 8.00                             | 7.00                              |
| MWSA0618S-3R3MT | 3.3±20%    | 50            | 6.00                             | 4.50                              |
| MWSA0618S-4R7MT | 4.7±20%    | 62            | 5.00                             | 4.00                              |
| MWSA0618S-6R8MT | 6.8±20%    | 110           | 4.50                             | 3.00                              |
| MWSA0618S-100MT | 10±20%     | 155           | 4.00                             | 2.30                              |

## SPECIFICATIONS

### MWSA0624S Series

| Part Number     | Inductance | DC Resistance | Saturation Current <sup>*3</sup> | Heat Rating Current <sup>*4</sup> |
|-----------------|------------|---------------|----------------------------------|-----------------------------------|
|                 | @100KH,1V  | Max.          | Typ.                             | Typ.                              |
| Units           | μH         | mΩ            | A                                | A                                 |
| Symbol          | L          | DCR           | Isat                             | Irms                              |
| MWSA0624S-R22MT | 0.22±20%   | 3             | 30.00                            | 21.00                             |
| MWSA0624S-R33MT | 0.33±20%   | 4.1           | 24.50                            | 18.00                             |
| MWSA0624S-R47MT | 0.47±20%   | 5.1           | 20.00                            | 15.00                             |
| MWSA0624S-R56MT | 0.56±20%   | 6.5           | 17.00                            | 13.00                             |
| MWSA0624S-R68MT | 0.68±20%   | 7             | 16.00                            | 12.00                             |
| MWSA0624S-1R0MT | 1.0±20%    | 13.5          | 15.00                            | 9.00                              |
| MWSA0624S-1R5MT | 1.5±20%    | 20            | 13.50                            | 8.20                              |
| MWSA0624S-2R2MT | 2.2±20%    | 28            | 10.00                            | 7.00                              |
| MWSA0624S-3R3MT | 3.3±20%    | 39            | 8.00                             | 5.50                              |
| MWSA0624S-4R7MT | 4.7±20%    | 50            | 6.50                             | 5.00                              |
| MWSA0624S-6R8MT | 6.8±20%    | 70            | 6.00                             | 4.00                              |
| MWSA0624S-100MT | 10±20%     | 101           | 4.00                             | 3.10                              |
| MWSA0624S-150MT | 15±20%     | 160           | 3.30                             | 2.50                              |
| MWSA0624S-220MT | 22±20%     | 230           | 2.50                             | 2.00                              |

### MWSA0603S Series

| Part Number     | Inductance | DC Resistance | Saturation Current <sup>*3</sup> | Heat Rating Current <sup>*4</sup> |
|-----------------|------------|---------------|----------------------------------|-----------------------------------|
|                 | @100KH,1V  | Max.          | Typ.                             | Typ.                              |
| Units           | μH         | mΩ            | A                                | A                                 |
| Symbol          | L          | DCR           | Isat                             | Irms                              |
| MWSA0603S-R22MT | 0.22±20%   | 3             | 34.00                            | 24.00                             |
| MWSA0603S-R33MT | 0.33±20%   | 3.5           | 25.00                            | 21.00                             |
| MWSA0603S-R47MT | 0.47±20%   | 4.1           | 20.00                            | 18.00                             |
| MWSA0603S-R56MT | 0.56±20%   | 4.5           | 18.00                            | 16.50                             |
| MWSA0603S-R68MT | 0.68±20%   | 5.3           | 17.00                            | 16.00                             |
| MWSA0603S-R82MT | 0.82±20%   | 6.0           | 16.00                            | 14.00                             |
| MWSA0603S-1R0MT | 1.0±20%    | 7.4           | 15.00                            | 12.00                             |
| MWSA0603S-1R5MT | 1.5±20%    | 12.1          | 12.00                            | 12.00                             |
| MWSA0603S-2R2MT | 2.2±20%    | 15            | 10.00                            | 9.50                              |
| MWSA0603S-3R3MT | 3.3±20%    | 22            | 9.50                             | 8.50                              |
| MWSA0603S-4R7MT | 4.7±20%    | 33            | 9.00                             | 6.00                              |
| MWSA0603S-5R6MT | 5.6±20%    | 42            | 6.50                             | 6.00                              |
| MWSA0603S-6R8MT | 6.8±20%    | 48            | 6.00                             | 5.00                              |
| MWSA0603S-8R2MT | 8.2±20%    | 60            | 5.50                             | 5.00                              |
| MWSA0603S-100MT | 10±20%     | 68            | 5.20                             | 4.50                              |
| MWSA0603S-150MT | 15±20%     | 113           | 4.00                             | 3.00                              |
| MWSA0603S-220MT | 22±20%     | 170           | 3.00                             | 2.50                              |
| MWSA0603S-330MT | 33±20%     | 270           | 2.50                             | 2.00                              |
| MWSA0603S-470MT | 47±20%     | 385           | 2.00                             | 1.50                              |

## SPECIFICATIONS

### MWSA0604S Series

| Part Number     | Inductance | DC Resistance | Saturation Current <sup>*3</sup> | Heat Rating Current <sup>*4</sup> |
|-----------------|------------|---------------|----------------------------------|-----------------------------------|
|                 | @100KH,1V  | Max.          | Typ.                             | Typ.                              |
| Units           | μH         | mΩ            | A                                | A                                 |
| Symbol          | L          | DCR           | Isat                             | Irms                              |
| MWSA0604S-2R2MT | 2.2±20%    | 18            | 12.00                            | 8.00                              |

### MWSA0605S Series

| Part Number     | Inductance | DC Resistance | Saturation Current <sup>*3</sup> | Heat Rating Current <sup>*4</sup> |
|-----------------|------------|---------------|----------------------------------|-----------------------------------|
|                 | @100KH,1V  | Max.          | Typ.                             | Typ.                              |
| Units           | μH         | mΩ            | A                                | A                                 |
| Symbol          | L          | DCR           | Isat                             | Irms                              |
| MWSA0605S-100MT | 10±20%     | 60            | 5.30                             | 4.50                              |
| MWSA0605S-150MT | 15±20%     | 90            | 4.00                             | 3.10                              |
| MWSA0605S-220MT | 22±20%     | 140           | 3.50                             | 2.60                              |
| MWSA0605S-330MT | 33±20%     | 190           | 3.00                             | 2.30                              |

### MWSA1004S Series

| Part Number     | Inductance | DC Resistance | Saturation Current <sup>*3</sup> | Heat Rating Current <sup>*4</sup> |
|-----------------|------------|---------------|----------------------------------|-----------------------------------|
|                 | @100KH,1V  | Max.          | Typ.                             | Typ.                              |
| Units           | μH         | mΩ            | A                                | A                                 |
| Symbol          | L          | DCR           | Isat                             | Irms                              |
| MWSA1004S-R22MT | 0.22±20%   | 1             | 60.00                            | 35.00                             |
| MWSA1004S-R30MT | 0.30±20%   | 1.1           | 45.00                            | 35.00                             |
| MWSA1004S-R36MT | 0.36±20%   | 1.2           | 45.00                            | 30.00                             |
| MWSA1004S-R47MT | 0.47±20%   | 1.7           | 40.00                            | 30.00                             |
| MWSA1004S-R56MT | 0.56±20%   | 1.8           | 33.00                            | 25.00                             |
| MWSA1004S-R68MT | 0.68±20%   | 2.4           | 30.00                            | 23.00                             |
| MWSA1004S-R80MT | 0.80±20%   | 2.7           | 29.00                            | 23.00                             |
| MWSA1004S-1R0MT | 1.0±20%    | 3.3           | 28.00                            | 19.00                             |
| MWSA1004S-1R5MT | 1.5±20%    | 4.2           | 24.00                            | 16.00                             |
| MWSA1004S-2R2MT | 2.2±20%    | 7             | 16.50                            | 12.00                             |
| MWSA1004S-3R3MT | 3.3±20%    | 11.8          | 16.00                            | 11.00                             |
| MWSA1004S-4R7MT | 4.7±20%    | 20            | 13.00                            | 9.00                              |
| MWSA1004S-6R8MT | 6.8±20%    | 25            | 12.00                            | 8.50                              |
| MWSA1004S-8R2MT | 8.2±20%    | 27            | 9.00                             | 8.00                              |
| MWSA1004S-100MT | 10±20%     | 30            | 8.50                             | 7.80                              |
| MWSA1004S-150MT | 15±20%     | 45            | 7.00                             | 6.50                              |
| MWSA1004S-220MT | 22±20%     | 66            | 5.50                             | 5.00                              |
| MWSA1004S-330MT | 33±20%     | 92            | 4.80                             | 4.40                              |
| MWSA1004S-470MT | 47±20%     | 145           | 3.50                             | 3.30                              |
| MWSA1004S-680MT | 68±20%     | 195           | 3.00                             | 2.50                              |

## SPECIFICATIONS

### MWSA1205S Series

| Part Number     | Inductance | DC Resistance | Saturation Current <sup>*3</sup> | Heat Rating Current <sup>*4</sup> |
|-----------------|------------|---------------|----------------------------------|-----------------------------------|
|                 | @100KH,1V  | Max.          | Typ.                             | Typ.                              |
| Units           | μH         | mΩ            | A                                | A                                 |
| Symbol          | L          | DCR           | Isat                             | Irms                              |
| MWSA1205S-R36MT | 0.36±20%   | 0.85          | 50.00                            | 42.00                             |
| MWSA1205S-R50MT | 0.50±20%   | 1.15          | 48.00                            | 38.00                             |
| MWSA1205S-R68MT | 0.68±20%   | 1.55          | 46.00                            | 33.00                             |
| MWSA1205S-R82MT | 0.82±20%   | 1.67          | 39.00                            | 30.00                             |
| MWSA1205S-R36MT | 0.36±20%   | 0.85          | 50.00                            | 42.00                             |
| MWSA1205S-R50MT | 0.50±20%   | 1.15          | 48.00                            | 38.00                             |
| MWSA1205S-R68MT | 0.68±20%   | 1.55          | 46.00                            | 33.00                             |
| MWSA1205S-R82MT | 0.82±20%   | 1.67          | 39.00                            | 30.00                             |
| MWSA1205S-1R0MT | 1.0±20%    | 2.2           | 35.00                            | 26.00                             |
| MWSA1205S-1R5MT | 1.5±20%    | 3.2           | 33.00                            | 23.00                             |
| MWSA1205S-2R2MT | 2.2±20%    | 5.0           | 24.00                            | 15.00                             |
| MWSA1205S-3R3MT | 3.3±20%    | 7             | 22.00                            | 14.00                             |
| MWSA1205S-4R7MT | 4.7±20%    | 9             | 20.00                            | 13.00                             |
| MWSA1205S-6R8MT | 6.8±20%    | 18            | 16.00                            | 12.00                             |
| MWSA1205S-100MT | 10±20%     | 22            | 12.00                            | 9.00                              |
| MWSA1205S-150MT | 15±20%     | 30            | 10.00                            | 8.00                              |
| MWSA1205S-220MT | 22±20%     | 58            | 6.50                             | 4.50                              |
| MWSA1205S-330MT | 33±20%     | 84            | 6.00                             | 3.50                              |
| MWSA1205S-470MT | 47±20%     | 130           | 5.00                             | 3.00                              |

※1: All test data is referenced to 25°C ambient;

※2: Rated current: Isat or Irms, whichever is smaller;

※\*3: Isat: DC current at which the inductance drops approximate 30% from its value without current;

※\*4: Irms: DC current that causes the temperature rise ( $\Delta T = 40^{\circ}\text{C}$ ) from 20°C ambient.

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