

# SMD POWER INDUCTORS

## DSH0905,1306,2208 Series

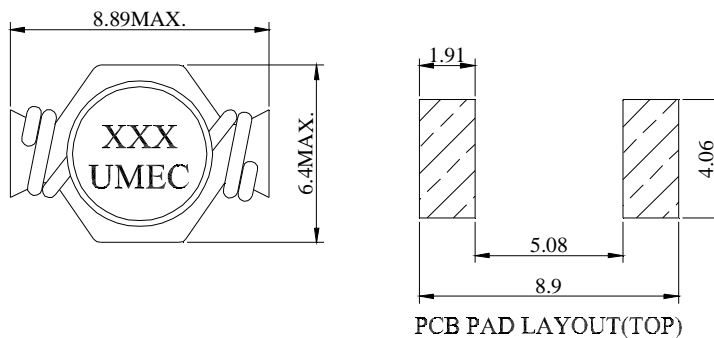
- These inductors are less than 5mm high and have very low resistance with a rugged self-leaded construction.
- Rating current up to 6 Arms and offers the high DC current, low inductance values required for high power DC-DC applications.
- Operating temperature range: -40°C to +85°C

### ELECTRICAL SPECIFICATIONS @25°C

| UMEC MODEL NUMBER | MARK | Lref (uH) | L±20% <sup>1</sup> (μH) | DCR(Ω) Max. | SRF typ. (MHz) | Isat <sup>2</sup> (A) | Irms <sup>3</sup> (A) |
|-------------------|------|-----------|-------------------------|-------------|----------------|-----------------------|-----------------------|
| DSH0905-R56       | R56  | 0.56      | 0.56                    | 0.01        | 200            | 7.7                   | 6.0                   |
| DSH0905-1R2       | 1R2  | 1.2       | 1.15                    | 0.017       | 140            | 3.3                   | 4.4                   |
| DSH0905-2R2       | 2R2  | 2.2       | 2.06                    | 0.035       | 100            | 3.5                   | 3.1                   |
| DSH0905-4R7       | 4R7  | 4.7       | 4.7                     | 0.054       | 50             | 2.6                   | 2.2                   |
| DSH0905-100       | 100  | 10        | 9.55                    | 0.111       | 40             | 1.9                   | 1.5                   |
| DSH0905-150       | 150  | 15        | 15.3                    | 0.17        | 30             | 1.5                   | 1.2                   |
| DSH0905-220       | 220  | 22        | 22.6                    | 0.25        | 25             | 1.2                   | 1.0                   |
| DSH0905-330       | 330  | 33        | 33.2                    | 0.37        | 20             | 0.99                  | 0.82                  |
| DSH0905-470       | 470  | 47        | 48.1                    | 0.47        | 15             | 0.87                  | 0.72                  |

1. Inductance tested at 100KHz, 0.25V, L<sub>s</sub>
2. Isat is peak current for approximately 30% roll-off
3. ΔT=40°C rise typ. at I<sub>rms</sub>. (85°C ambient)
4. For RoHS compliant products: a.)The Ordering Code: TG-Model No. ex. TG-DSH0905-R56  
b.)Solder : Sn/Ag/Cu c.)Date Code suffix to "G" (xxxxG)

### DIMENSION & DRAWING



DATA SHEET 08-30 MAR./06  
1 OF 3



UNIVERSAL MICROELECTRONICS CO.,LTD.  
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3,27TH RD.,TAICHUNG INDUSTRIAL PARK,  
TAICHUNG,TAIWAN,R.O.C

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## DSH0905,1306,2208 Series

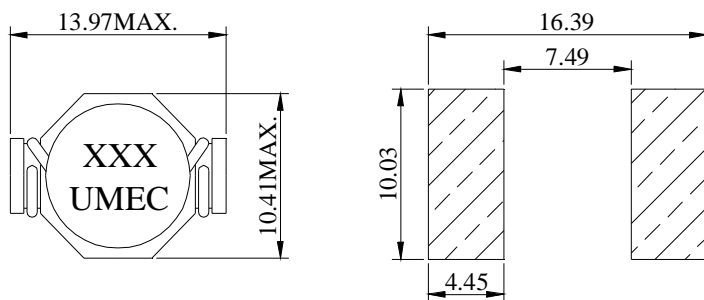
- These Series has been specially designed for high current, low voltage DC-DC converter applications.
- This simple, rugged design provides current ratings normally available only in much larger packages — up to 16 Arms for a 0.33uH part! With its tinned self-leaded construction, achieves very low DCR values and excellent solderability. In addition to the standard parts shown, custom values are also available.
- Operating temperature range: -40°C to +85°C

### ELECTRICAL SPECIFICATIONS @25°C

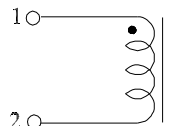
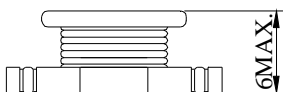
| UMEC MODEL NUMBER | MARK | $L \pm 20\%^1$<br>( $\mu\text{H}$ ) | DCR( $\Omega$ )<br>Max. | SRF typ <sup>2</sup><br>(MHz) | Isat <sup>3</sup><br>(A) | Irms <sup>4</sup><br>(A) |
|-------------------|------|-------------------------------------|-------------------------|-------------------------------|--------------------------|--------------------------|
| DSH1306-R33       | R33  | 0.33                                | 0.002                   | 300                           | 20.0                     | 16.0                     |
| DSH1306-R68       | R68  | 0.68                                | 0.005                   | 200                           | 13.0                     | 12.0                     |
| DSH1306-1R0       | 1R0  | 1.0                                 | 0.006                   | 100                           | 11.0                     | 10.0                     |
| DSH1306-1R5       | 1R5  | 1.5                                 | 0.008                   | 90                            | 9.0                      | 9.0                      |
| DSH1306-2R2       | 2R2  | 2.2                                 | 0.011                   | 90                            | 7.8                      | 7.4                      |
| DSH1306-2R7       | 2R7  | 2.7                                 | 0.012                   | 65                            | 7.0                      | 6.6                      |
| DSH1306-3R3       | 3R3  | 3.3                                 | 0.014                   | 65                            | 6.4                      | 5.9                      |
| DSH1306-4R7       | 4R7  | 4.7                                 | 0.018                   | 45                            | 5.4                      | 4.8                      |

1. Inductance tested at 100KHz, 0.1V,  $L_s$
2. SRF measured using HP8753D network analyzer.
3. Inductance drop=10% typ. at Isat.
4.  $\Delta T=40^\circ\text{C}$  typ. at I rms.
5. For RoHS compliant products: a.)The Ordering Code: TG-Model No. ex. TG-DSH1306-R33  
b.)Solder : Sn/Ag/Cu c.)Date Code suffix to "G" (xxxxG)

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PCB PAD LAYOUT(TOP)



DATA SHEET 08-30 MAR./06  
2 OF 3



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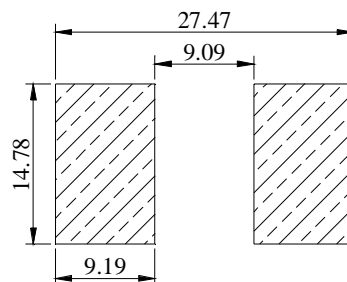
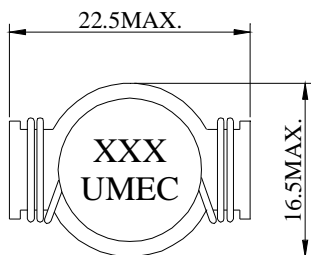
- These Series was designed for high current, low voltage DC-DC converter applications, especially the latest generation of 3.3V microprocessors. Current rating up to 15Arms and saturation currents up to 30A are available.
- Only 8.0mm high and have exceptionally low DC resistance thanks to the use of heavier gauge wire. These series has been optimized for reliable surface mounting with a large flat top and self-ledged design. In addition to the standard parts shown, custom values are available.
- Operating temperature range: -40°C to +85°C

### ELECTRICAL SPECIFICATIONS @25°C

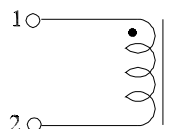
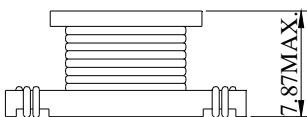
| UMEC MODEL NUMBER | MARK | $L \pm 20\%^1$<br>( $\mu\text{H}$ ) | DCR(m $\Omega$ )<br>Max. | SRF typ <sup>2</sup><br>(MHz) | Isat <sup>3</sup><br>(A) | Irms <sup>4</sup><br>(A) |
|-------------------|------|-------------------------------------|--------------------------|-------------------------------|--------------------------|--------------------------|
| DSH2208-R78       | R78  | 0.78                                | 2.6                      | 156                           | 30                       | 15                       |
| DSH2208-1R5       | 1R5  | 1.5                                 | 4.0                      | 100                           | 25                       | 15                       |
| DSH2208-2R2       | 2R2  | 2.2                                 | 6.1                      | 75                            | 20                       | 12                       |
| DSH2208-3R3       | 3R3  | 3.3                                 | 8.6                      | 60                            | 17                       | 10                       |
| DSH2208-3R9       | 3R9  | 3.9                                 | 10                       | 55                            | 15                       | 9.0                      |
| DSH2208-4R7       | 4R7  | 4.7                                 | 14                       | 40                            | 13                       | 8.4                      |
| DSH2208-6R0       | 6R0  | 6.0                                 | 17                       | 35                            | 12                       | 7.5                      |
| DSH2208-7R8       | 7R8  | 7.8                                 | 18                       | 35                            | 11                       | 7.5                      |
| DSH2208-100       | 100  | 10                                  | 26                       | 28                            | 10                       | 6.0                      |

1. Inductance tested at 100KHz, 0.1V,  $L_s$
2. SRF measured using HP8753D network analyzer.
3. Inductance drop=10% typ. at Isat.
4.  $\Delta T=40^\circ\text{C}$  typ. at Irms.
5. For RoHS compliant products: a.)The Ordering Code: TG-Model No. ex. TG-DSH2208-R78  
b.)Solder : Sn/Ag/Cu c.)Date Code suffix to "G" (xxxxG)

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\*Specifications are subject to change without prior notice.

DATA SHEET 08-30 MAR./06  
3 OF 3



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