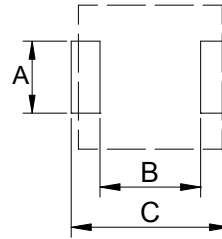
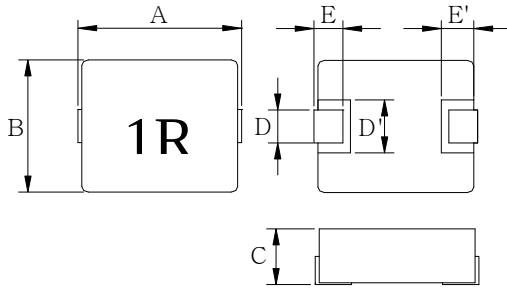


# SMHC5020-R56MHF



## Features:

- 14.2 x 13.3mm foot print, Low profile 5mm height SMD molded inductor.
- High saturation current characteristics by distributed gapped metal dust core.
- Ideally for portable device, notebook, server computer and high density DC to DC converter applications
- T & R Quantity: 500 piece per reel.
- RoHS Compliance and Halogen Free
- Operating Temperature Range -55°C to +125°C



Suggested Pad Layout:  
(in mm):

| Series | SMHC5020 |
|--------|----------|
| A      | 5.0      |
| B      | 8.0      |
| C      | 14.5     |

Note: Dimensions in mm

| Mechanical Dimensions (Unit: mm) |       |        |      |        |        |        |        |
|----------------------------------|-------|--------|------|--------|--------|--------|--------|
| ITG Part Number                  | A     | B      | C    | D      | D'     | E      | E'     |
|                                  | MAX   | ± 0.50 | MAX  | ± 0.50 | ± 0.30 | ± 0.50 | ± 0.30 |
| SMHC5020-R56MHF                  | 14.20 | 12.80  | 5.00 | 3.80   | 5.70   | 2.50   | 3.60   |

| Electrical Specifications: |                        |                                 |                                 |                         |                         |
|----------------------------|------------------------|---------------------------------|---------------------------------|-------------------------|-------------------------|
| ITG Part Number            | L ± 20%<br>@0A<br>(μH) | R <sub>DC</sub><br>Typ.<br>(mΩ) | R <sub>DC</sub><br>Max.<br>(mΩ) | I <sub>rms</sub><br>(A) | I <sub>sat</sub><br>(A) |
| SMHC5020-R56MHF            | 0.56                   | 1.30                            | 1.50                            | 36.00                   | 55.00                   |

## Notes:

1. DC current (I<sub>rms</sub>) that will cause an approximate temperature rise ΔT of 40°C
2. DC current (I<sub>sat</sub>) that will cause L<sub>o</sub> to drop approximately 30%
3. All inductance and I<sub>sat</sub> is measured at 100KHz 0.25V, 25°C ambient
4. Operating Temperature Range -55°C to +125°C
5. The part temperature (ambient + temp rise) should not exceed 125°C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

## Inductance vs. Current vs. Temperature Rise

