

**MINIATURE SQUARE SHIELDED  
SMD POWER INDUCTORS  
SERIES MSQ1040**

#### FEATURES

- 100 % ferrite shielded
- Very high current handling capacity
- Excellent solderability
- High heat resistance
- Low price

#### ELECTRICAL SPECIFICATIONS

- Inductance range      1.50  $\mu$ H to 330  $\mu$ H
- Test conditions      0.25  $V_{rms}$  @ 100 kHz (1.5~7 $\mu$ H)
- Test conditions      0.25  $V_{rms}$  @ 1 kHz (10~330 $\mu$ H)
- Rated current range    0.7 to 10.0  $A_{DC}$
- Tolerance                 $\pm 20\%$  (M) and  $\pm 30\%$  (Y)
- Test equipment        Quadtech 1910 L analyzer
- Rated current          Refer to notes below

#### PHYSICAL SPECIFICATIONS

- Operating temp.        -25°C to +105°C
- Construction            surface mount
- shielding                100% ferrite
- Packaging                T & R 1000 pieces per reel
- Tape & reel spec.      24 mm embossed carrier
- 330 mm reel

#### DIMENSIONS IN MILLIMETERS

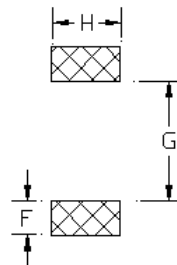
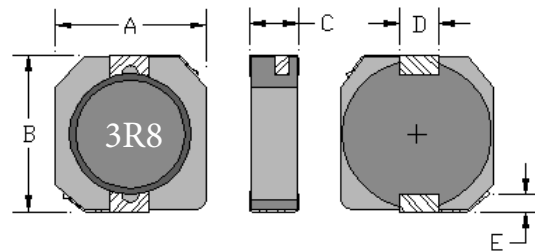
- Width A                  10.3 max
- Length B                10.5 max
- Height C                 4.0 max
- Terminal width D      3.0 ref
- Terminal length E     1.5 ref

#### SUGGESTED LAND PATTERN

- F = 1.6 mm ref.
- G = 7.3 mm ref.
- H = 3.2 mm ref.

#### SPECIFICATIONS

| Part Number | L<br>( $\mu$ H) | Tol<br>%<br>$\pm$ | DCR<br>max<br>( $m\Omega$ ) | Rated<br>Current<br>$I_{sat}^{(1)}$ (A) |
|-------------|-----------------|-------------------|-----------------------------|-----------------------------------------|
| MSQ1040-1R5 | 1.50            | Y                 | 8.1                         | 10.0                                    |
| MSQ1040-2R5 | 2.50            | Y                 | 10.5                        | 7.50                                    |
| MSQ1040-3R8 | 3.80            | Y                 | 13.0                        | 6.00                                    |
| MSQ1040-5R2 | 5.20            | Y                 | 22.0                        | 5.50                                    |
| MSQ1040-7R0 | 7.00            | Y                 | 27.0                        | 4.80                                    |
| MSQ1040-100 | 10.0            | M,Y               | 35.0                        | 4.40                                    |
| MSQ1040-150 | 15.0            | M,Y               | 50.0                        | 3.60                                    |
| MSQ1040-220 | 22.0            | M,Y               | 73.0                        | 2.90                                    |
| MSQ1040-330 | 33.0            | M,Y               | 93.0                        | 2.30                                    |
| MSQ1040-470 | 47.0            | M,Y               | 128.0                       | 2.10                                    |
| MSQ1040-680 | 68.0            | M,Y               | 213.0                       | 1.50                                    |
| MSQ1040-101 | 100.0           | M,Y               | 304.0                       | 1.35                                    |
| MSQ1040-151 | 150.0           | M,Y               | 506.0                       | 1.15                                    |
| MSQ1040-221 | 220.0           | M,Y               | 756.0                       | 0.92                                    |
| MSQ1040-331 | 330.0           | M,Y               | 1090                        | 0.70                                    |



Notes:

(1) Saturation current is based on L drop 30% typical.

(2) All test data based on 25°C ambient. Part temperature (ambient + temp rise) must not exceed 105°C under worst case operating conditions. Circuit design, components, PCB trace size, airflow and other cooling provisions all effect the part temperature.