

## MHSC Series



MHSC series is designed for low profile type with low DCR and ultra large current, especially for height limited boards. Its molded magnetic shielded type is suitable for high-density mounting and ultra low buzz noise. Soldering conditions can be easily confirmed when mounting onto the board. This series also provides customers with embossed carrier type packaging for automatic mounting machine.

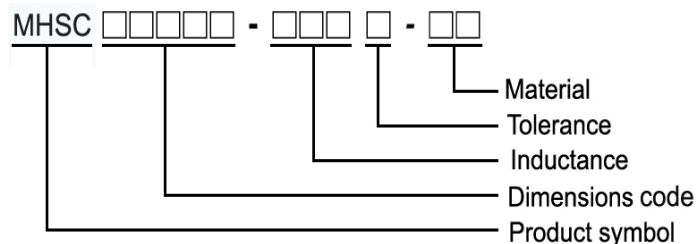
### Features

- RoHS compliant
- Ultra low profile on board
- Shielded construction
- Ultra low buzz noise, due to un-assembly structure

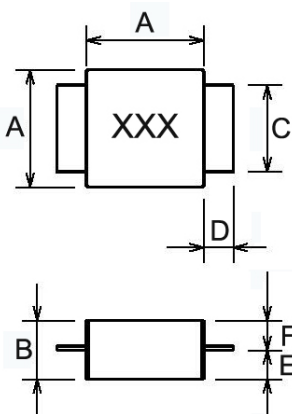
### Applications

- High density DC/DC converter in height limited board
- POL converters
- High current VRM/VDR for notebook / Server / desktop CPUs
- High current DC/DC converter in distributed power system
- High speed charger

### Product Identification



### Shapes and Dimensions

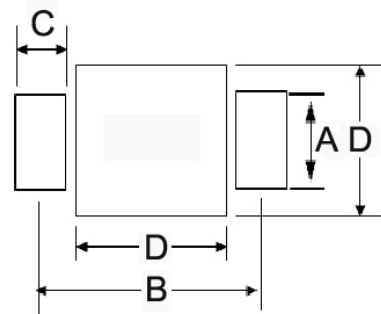


Dimensions in mm

TYPE	A	B	C	D	E	F
04020	4.2±0.2	2.0 <sup>+0.2</sup> <sub>-0.3</sub>	1.5±0.2	1.2±0.3	1.2	1.0
06022	6.6±0.2	2.2 <sup>+0.2</sup> <sub>-0.3</sub>	3.0±0.2	1.5±0.3	1.4	1.0
06036	6.6±0.2	3.6 <sup>+0.2</sup> <sub>-0.3</sub>	3.0±0.2	1.5±0.3	2.3	1.5
08036	8.0±0.2	3.6 <sup>+0.2</sup> <sub>-0.3</sub>	6.0±0.2	2.0±0.3	2.3	1.3±0.2

### Recommended Pattern

#### PCB LAYOUT



Dimensions in mm

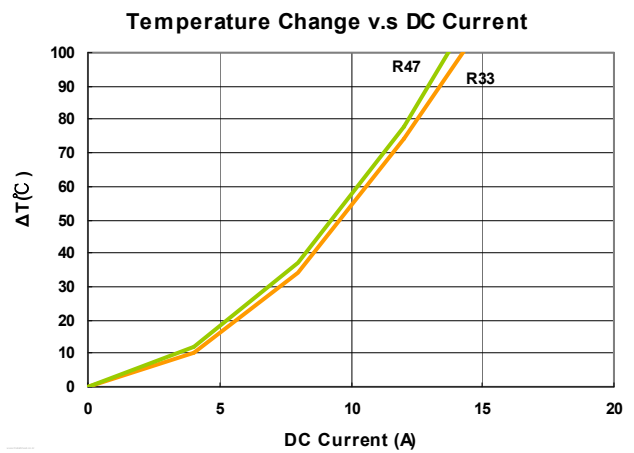
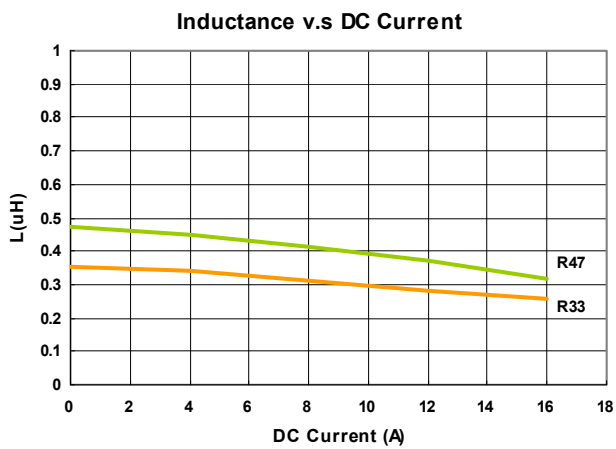
TYPE	A	B	C	D
04020	2.0	6.5	1.8	4.5
06022	3.5	9.5	2.2	6.9
06036	3.5	9.5	2.2	6.9
08036	6.0	11.9	3.0	8.4

## Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency (KHz)	Irms	Isat	RDC
	( $\mu$ H)	( $\pm\%$ )		(A)Typ	(A)Typ	( $m\Omega$ )Max.
MHSC04020-R33M-R8	0.33	20	100KHz,0.5V	8.5	16	10
MHSC04020-R47M-R8	0.47	20	100KHz,0.5V	8	14	11

- **Irms** DC current (A) that will cause an approximate  $\Delta T$  of  $40^\circ\text{C}$ .
- **Isat** DC current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from  $-55^\circ\text{C}$  to  $125^\circ\text{C}$ . (Including self - temperature rise)

**Test Instruments** : WK3260B Impedance / Material Analyzer



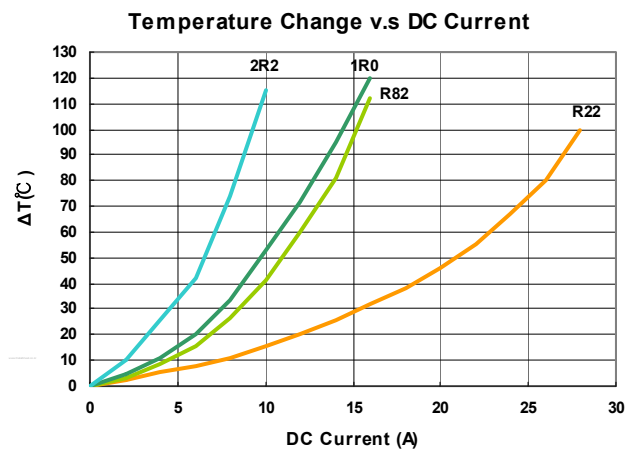
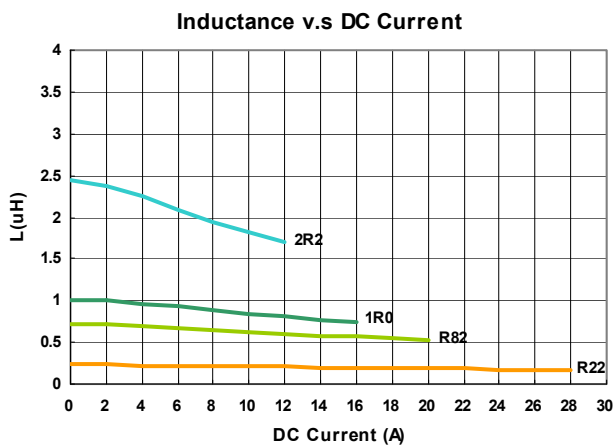
# Molding Power Choke – MHSC Series

## Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency (KHz)	Irms	Isat	RDC
	( $\mu$ H)	( $\pm\%$ )		(A)Typ	(A)Typ	( $m\Omega$ )Max.
MHSC06022-R22M-R8	0.22	20	100KHz,0.5V	18	28	6
MHSC06022-R82M-R8	0.82	20	100KHz,0.5V	9.5	18	13.8
MHSC06022-1R0M-R8	1.0	20	100KHz,0.5V	9	16	15.4
MHSC06022-2R2M-R8	2.2	20	100KHz,0.5V	6	10.5	29.8

- **Irms** DC current (A) that will cause an approximate  $\Delta T$  of  $40^\circ\text{C}$ .
- **Isat** DC current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from  $-55^\circ\text{C}$  to  $125^\circ\text{C}$ . (Including self - temperature rise)

**Test Instruments** : WK3260B Impedance / Material Analyzer

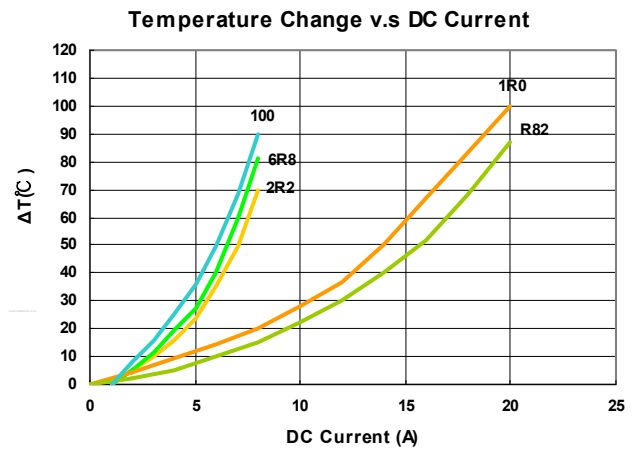
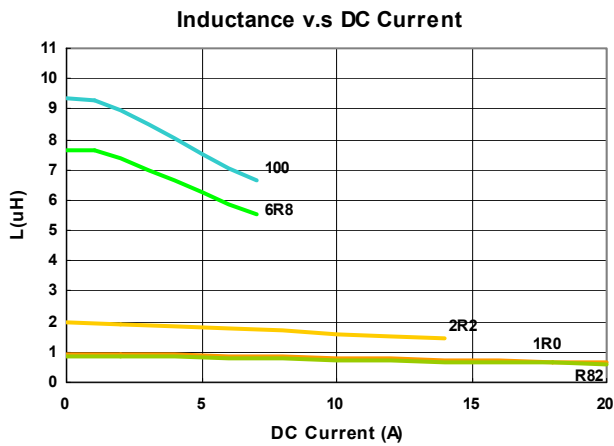


## Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency	I <sub>rms</sub>	I <sub>sat</sub>	RDC
	( $\mu$ H)	( $\pm\%$ )	(KHz)	(A)Typ	(A)Typ	(m $\Omega$ )Max.
MHSC06036-R82M-R8	0.82	20	100KHz,0.5V	14	20	6.8
MHSC06036-1R0M-R8	1.0	20	100KHz,0.5V	12	19	8.2
MHSC06036-2R2M-R8	2.2	20	100KHz,0.5V	9.5	14	14.5
MHSC06036-6R8M-R8	6.8	20	100KHz,0.5V	5.5	7	44.5
MHSC06036-100M-R8	10	20	100KHz,0.5V	4.5	6.5	66

- I<sub>rms</sub> DC current (A) that will cause an approximate  $\Delta T$  of 40°C.
- I<sub>sat</sub> DC current (A) that will cause L to drop approximately 30%
- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
- Rdc : CHEN HWA502
- Operating temperature range from -55°C to 125°C. (Including self - temperature rise)

**Test Instruments :** WK3260B Impedance / Material Analyzer

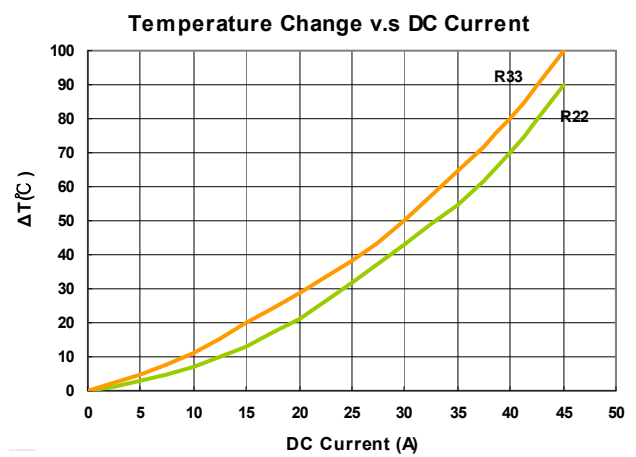
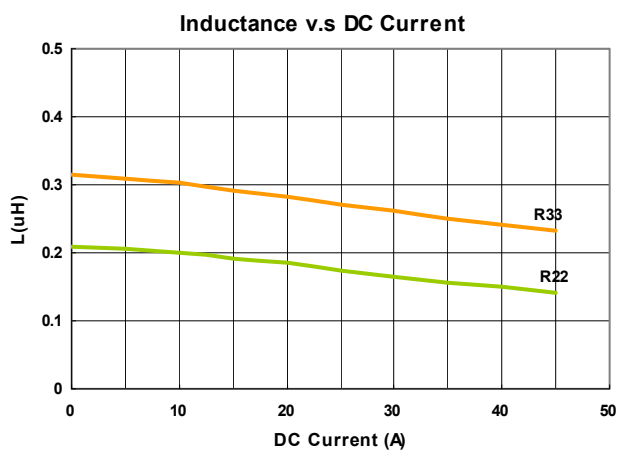


## Electrical Characteristics

Part Number	Inductance	Tolerance	Test Frequency (KHz)	Irms	Isat	RDC
	( $\mu$ H)	( $\pm\%$ )		(A)Typ	(A)Typ	(m $\Omega$ )Max.
MHSC08036-R22M-R8	0.22	20	100KHz,0.5V	23	40	1.6(1.2typ)
MHSC08036-R33M-R8	0.33	20	100KHz,0.5V	20	38	2.5(2.0typ)

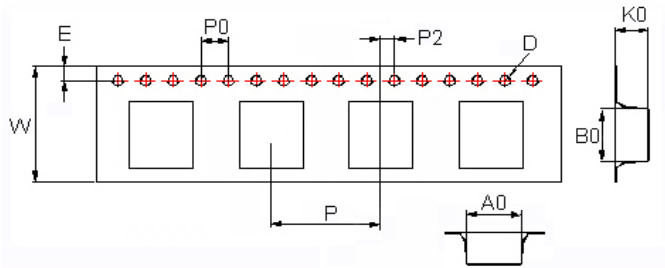
- **Irms** DC current (A) that will cause an approximate  $\Delta T$  of 40°C.
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- Tolerance : M=  $\pm 20\%$
- L : WK 3260B
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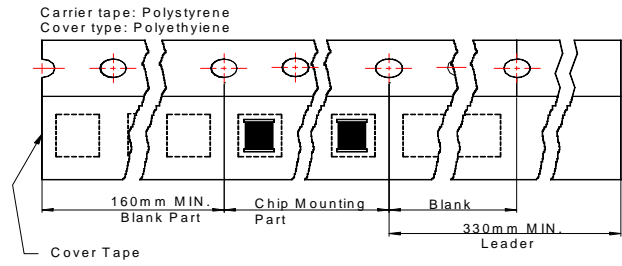


## Packaging Specifications

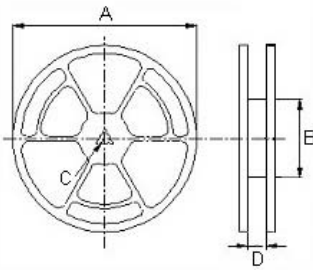
### Tape Dimensions



### Tape Material



### Reel Dimensions



### Dimensions in mm

TYPE	Tape Dimensions									Reel Dimensions				Quantity
	A0	B0	K0	D	E	W	P	P0	P2	A	B	C	D	PCS / REEL
04020	4.6	7.2	2.4	1.55	1.75	16	12	4	2	330	100	13	16.0	1000
06022	6.9	10.2	2.6	1.55	1.75	16	12	4	2	330	100	13	16.0	1000
06036	6.9	10.2	4.0	1.55	1.75	16	12	4	2	330	100	13	16.0	1000
08036	8.4	12.6	4.0	1.55	1.75	24	16	4	2	330	100	13	24.4	500