

Thermal and Electromagnetics simulation – Part# SN270-221M-5AV– Current rated 5A @ 1kHz

Current 30% (1.5A)
No Airflow
Natural convection

Lp=1.5 A, Ar=5

Surface: Temperature (degC)

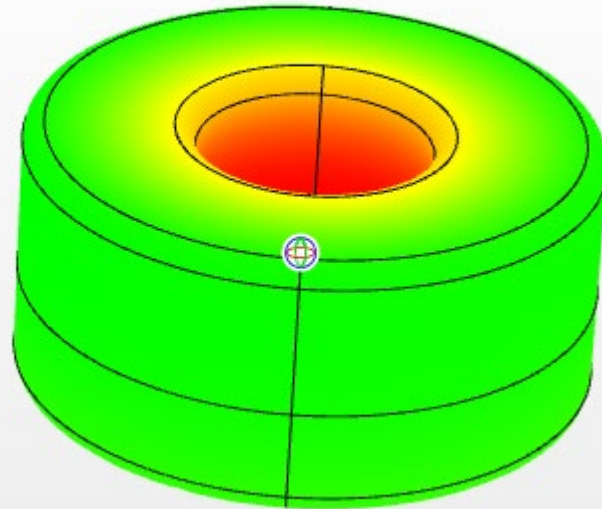
degC

▲ 68.9



68.9

▼ 68.9



Lp=1.5 A, Ar=5

Slice: Temperature (degC)

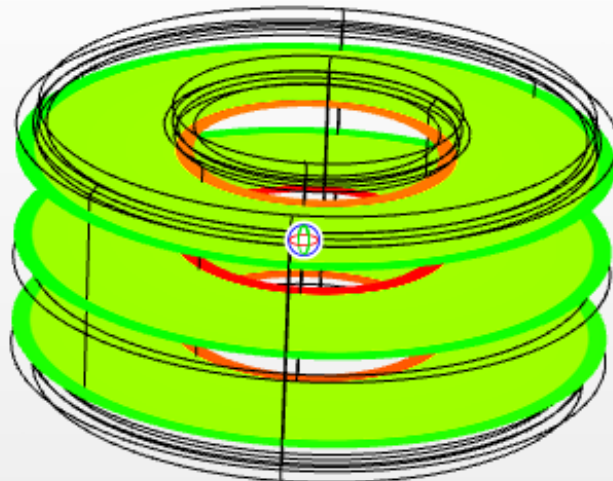
degC

▲ 68.9



68.9

▼ 68.9



Lp=3.5 A, Ar=15

Surface: Temperature (degC)

degC

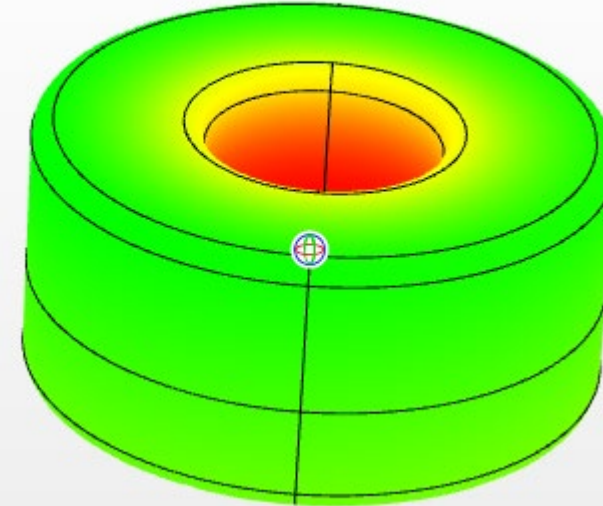
▲ 79.4



79.4

79.4

▼ 79.4



Lp=3.5 A, Ar=15

Slice: Temperature (degC)

degC

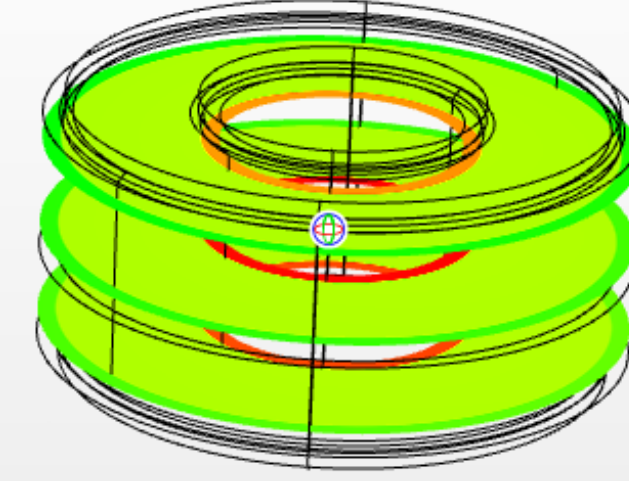
▲ 79.4



79.4

79.4

▼ 79.4

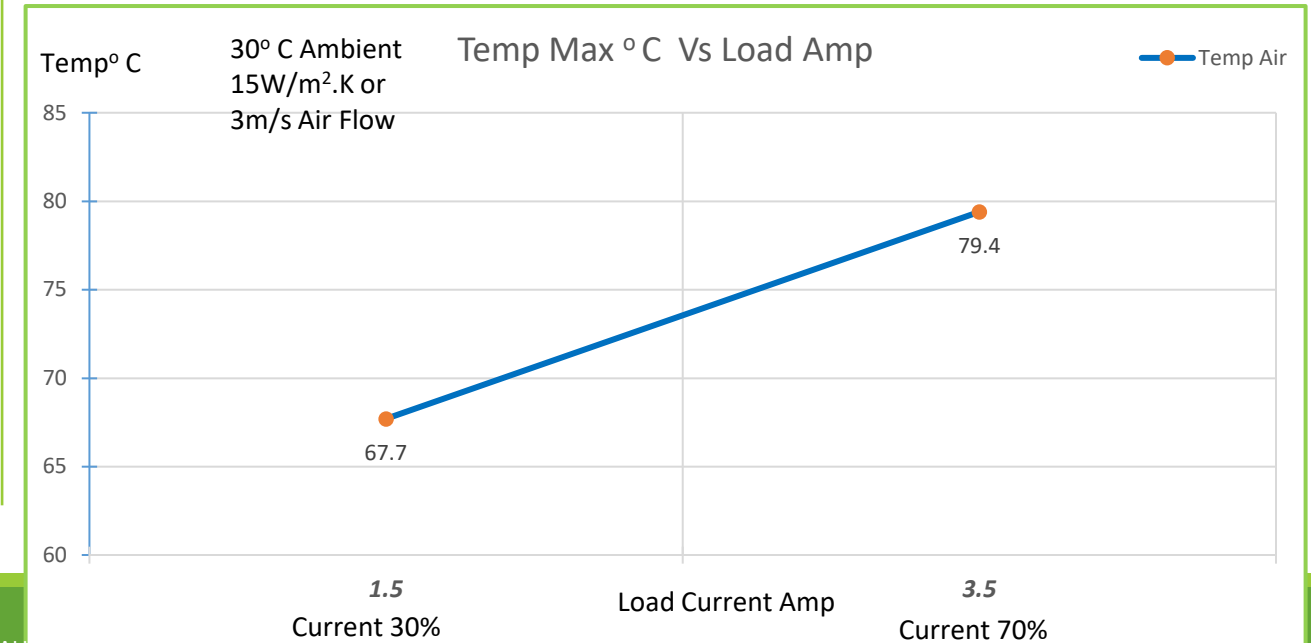
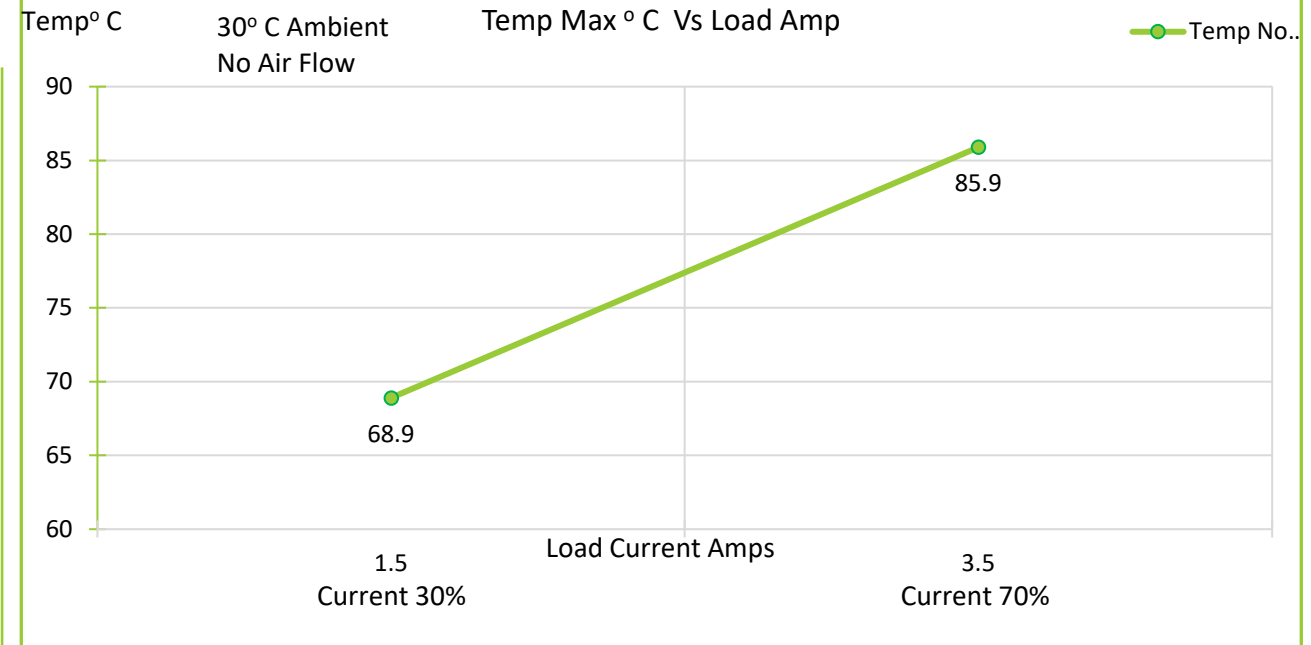
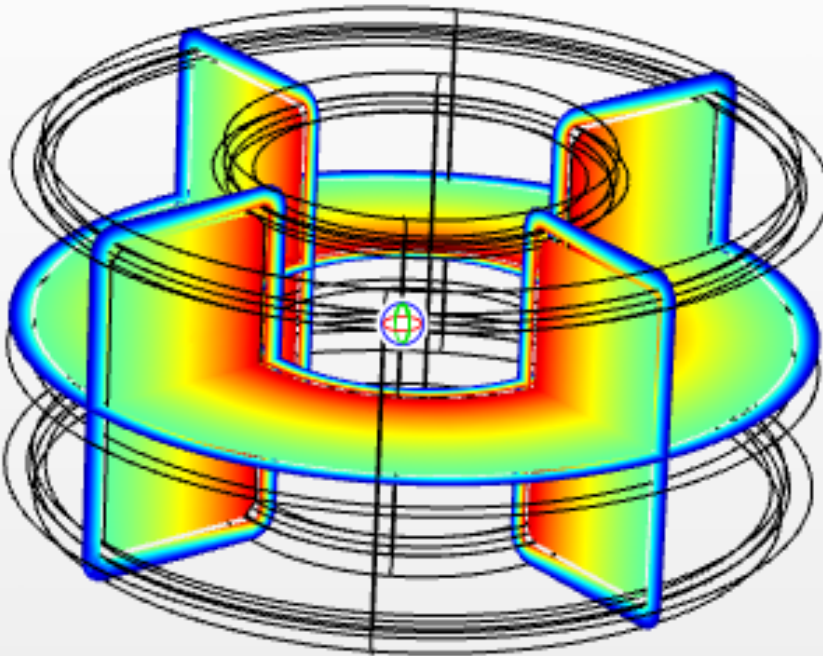
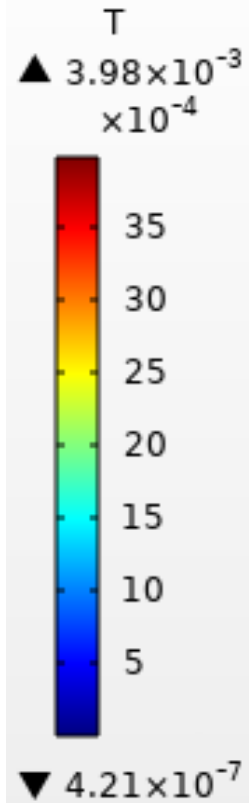


Current 70% (3.5A)
15 W/ (m²K) or 3 m/s
air flow.

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Lp=3.5 A, Ar=15

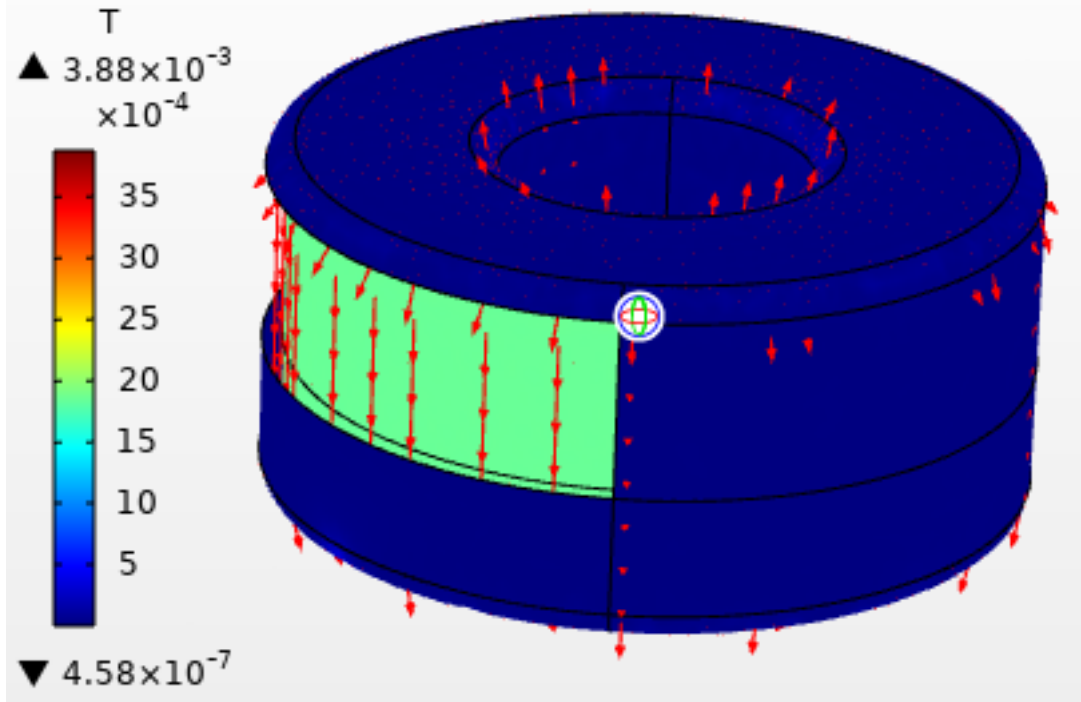
Multislice: Magnetic flux density norm (T)



Magnetics Flux in Coil

Lp=3.5 A, Ar=15

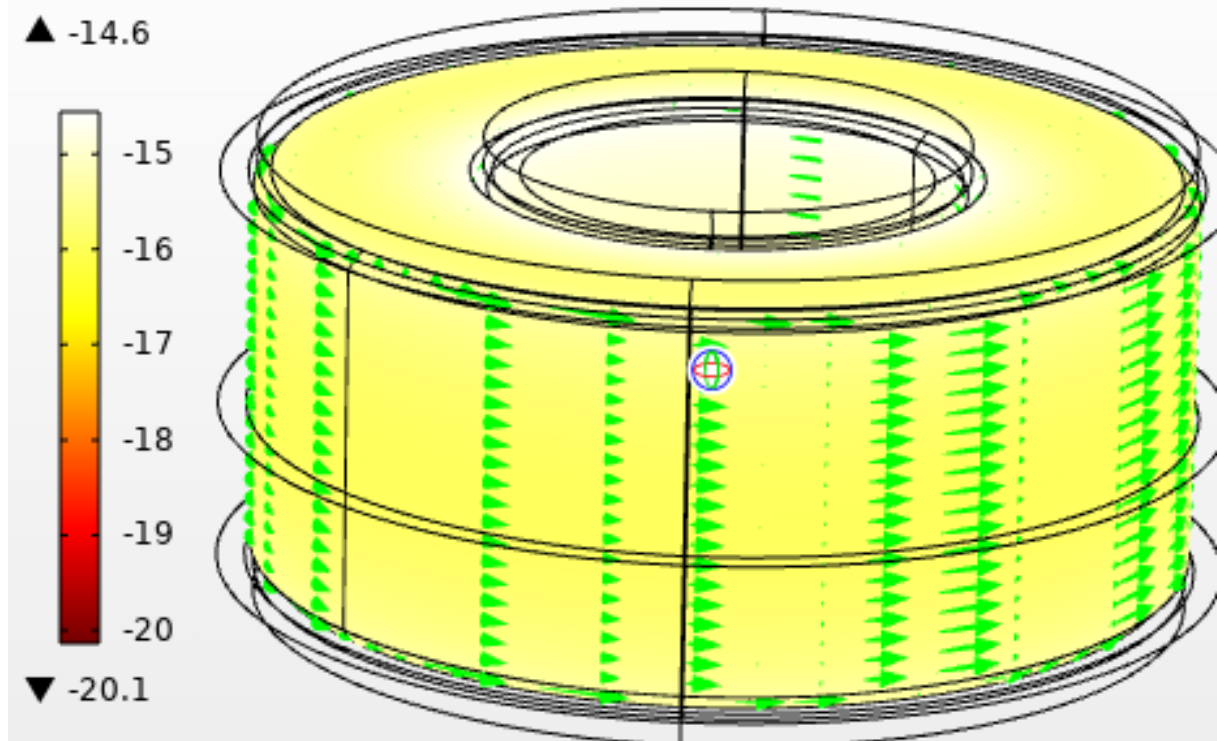
Surface: Magnetic flux density norm (T)
Arrow Volume: Current density
Arrow Surface: Conductive heat flux



Magnetic Flux in Core

Lp=3.5 A, Ar=15

Arrow Volume: Magnetic flux density
Volume: $\log(\text{mf.norm})$



Abbreviations

Ld	: Current rated Amps
Ar	: Airflow
W/m ² .K	: Watts / Sq meter .Kelvin – Heat Convection rate
m/s	: Meter/ Second - Airflow
degC	: Temperature in Deg C
T	: Tesla – Magnetic Flux density
Temp	: Temperature
Temp max:	Temperature Maximum
Amb	: Ambient Temperature
Amps	: Ampere Load current.
Slice	: Sectional view

Note : For the modeling purpose the winding is considered as homogenous multilayer winding .

Disclaimer :

- Simulation MODEL is an effective tool for evaluating product performance by simulation; however, it does not simulate product performance in all test environments and is not intended to be a replacement for testing of the actual device by means of a test board or otherwise.
- Simulation results are for reference purposes only; CUSTOMER shall perform thorough testing using the actual device.