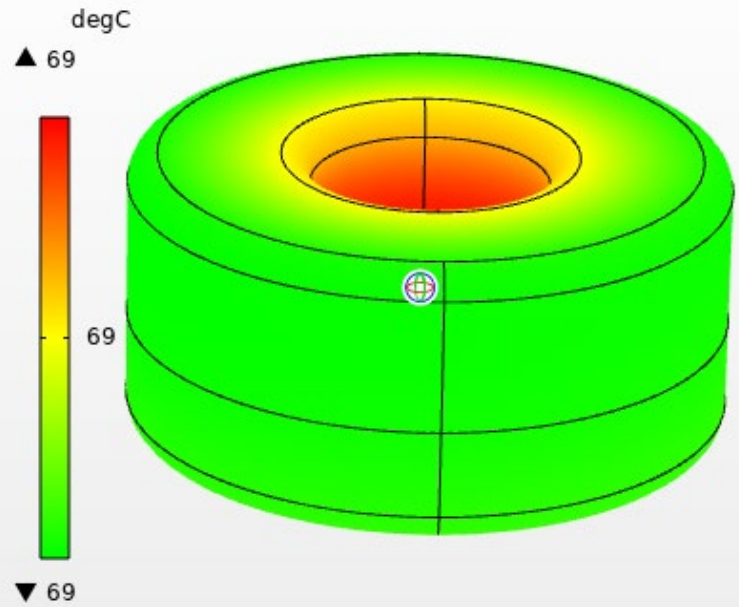


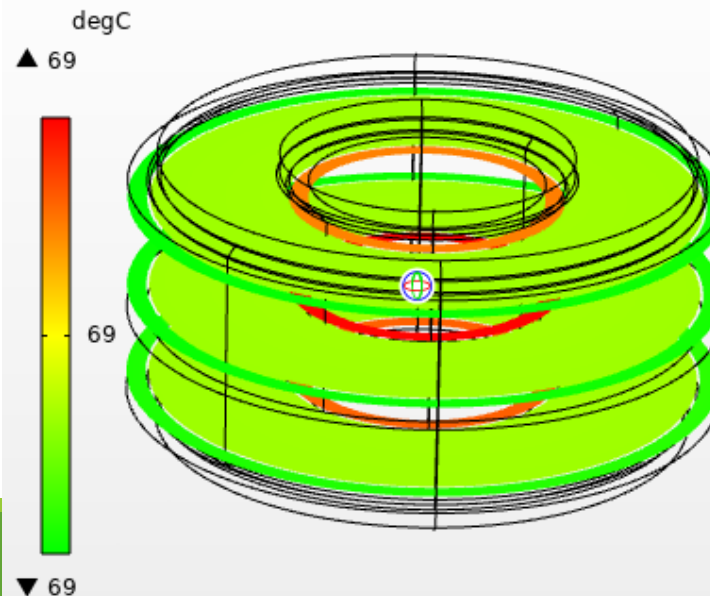
# Thermal and Electromagnetics simulation – Part# SN270-470M-12AH– Current rated 12A @ 1kHz

Current 30% (3.6A)  
No Airflow  
Natural convection

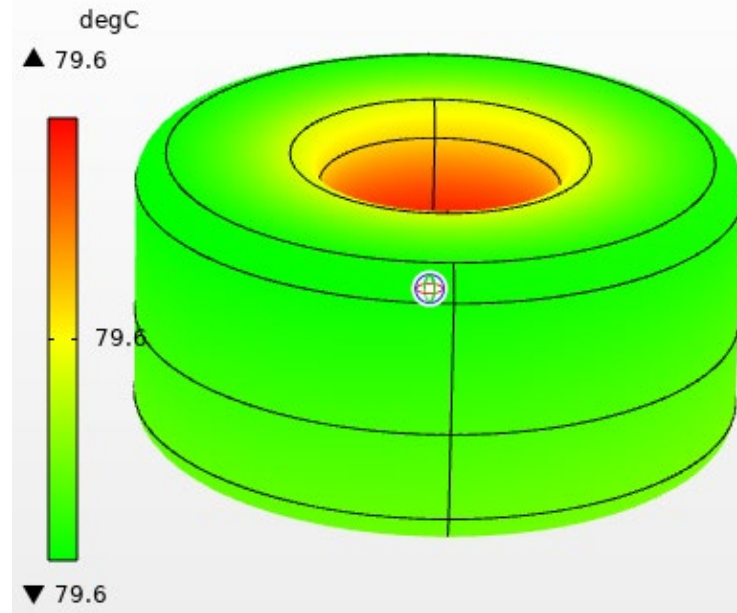
Lp=3.6 A, Ar=5 Surface: Temperature (degC)



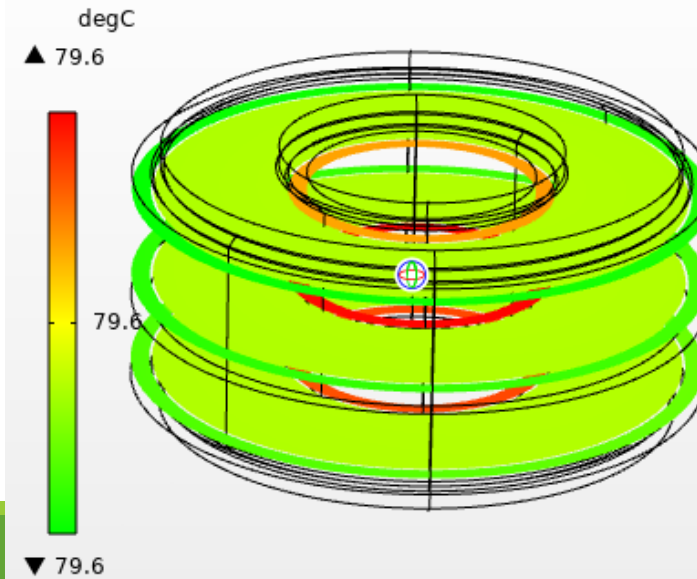
Lp=3.6 A, Ar=5 Slice: Temperature (degC)



Lp=8.4 A, Ar=15 Surface: Temperature (degC)



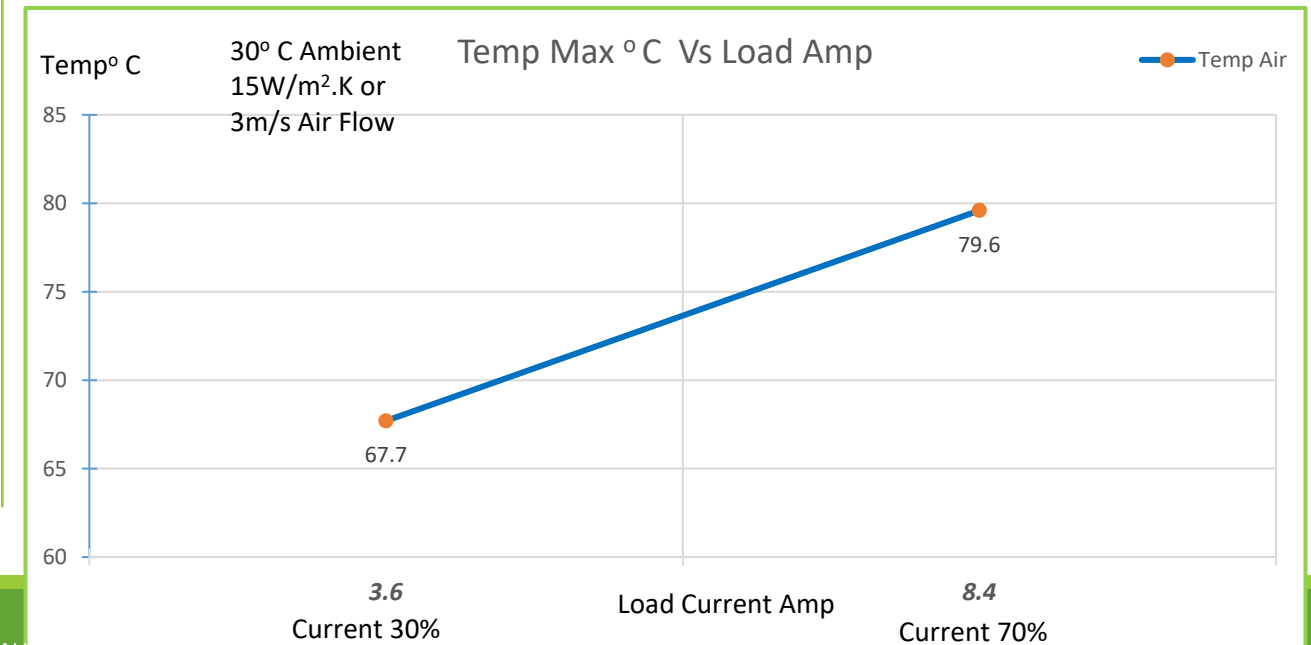
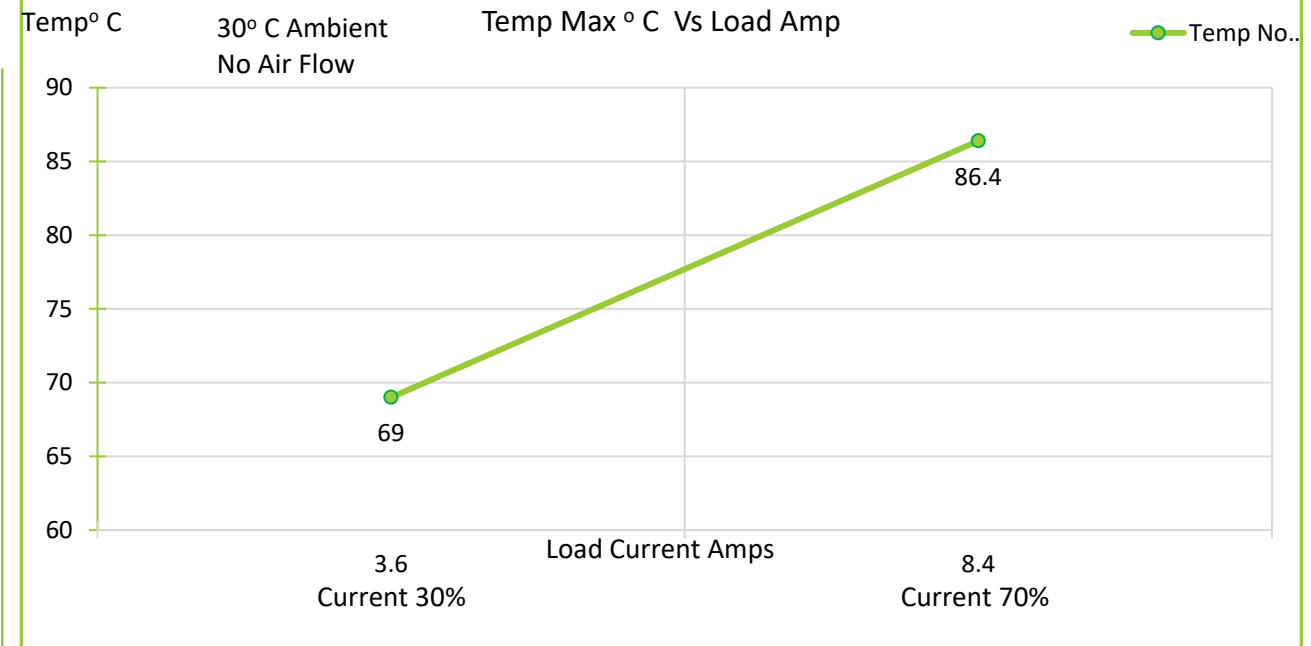
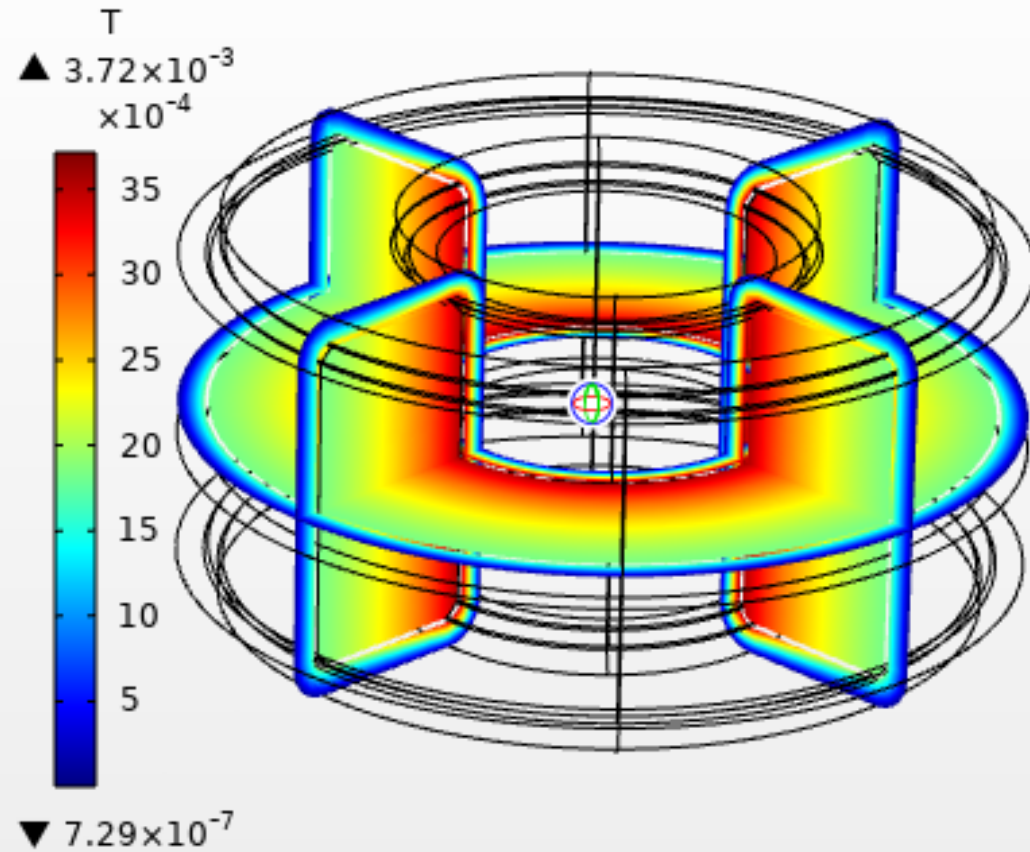
Lp=8.4 A, Ar=15 Slice: Temperature (degC)



Current 70% (8.4A)  
15 W/ (m²K) or 3 m/s  
air flow.

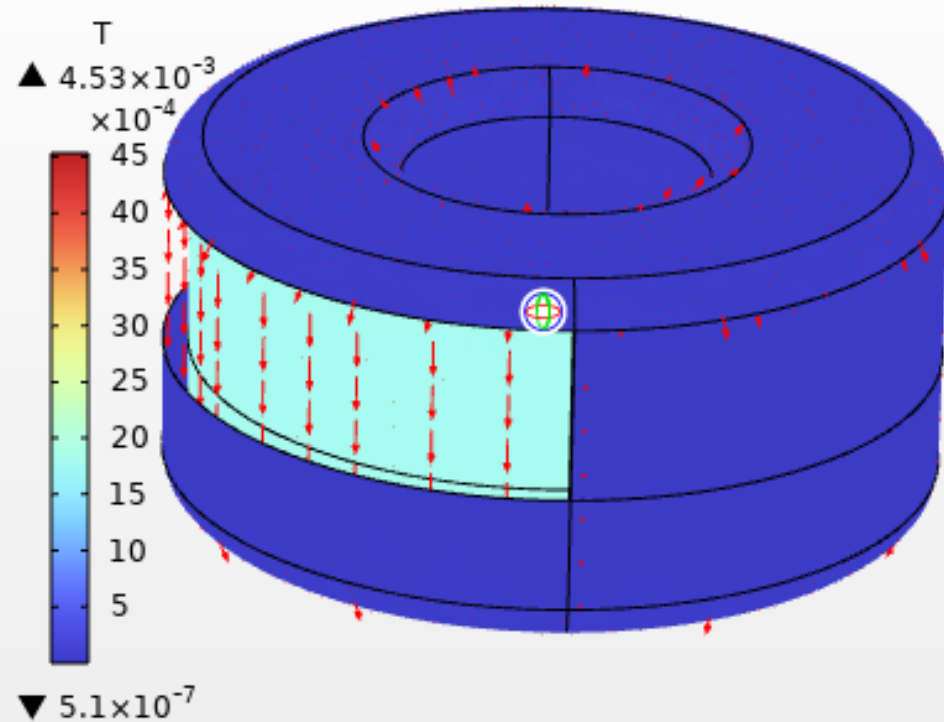
# Thermal and Electromagnetics simulation – Part# SN270-470M-12AH– Current rated 12A @ 1kHz

Lp=8.4 A, Ar=15 Multislice: Magnetic flux density norm (T)



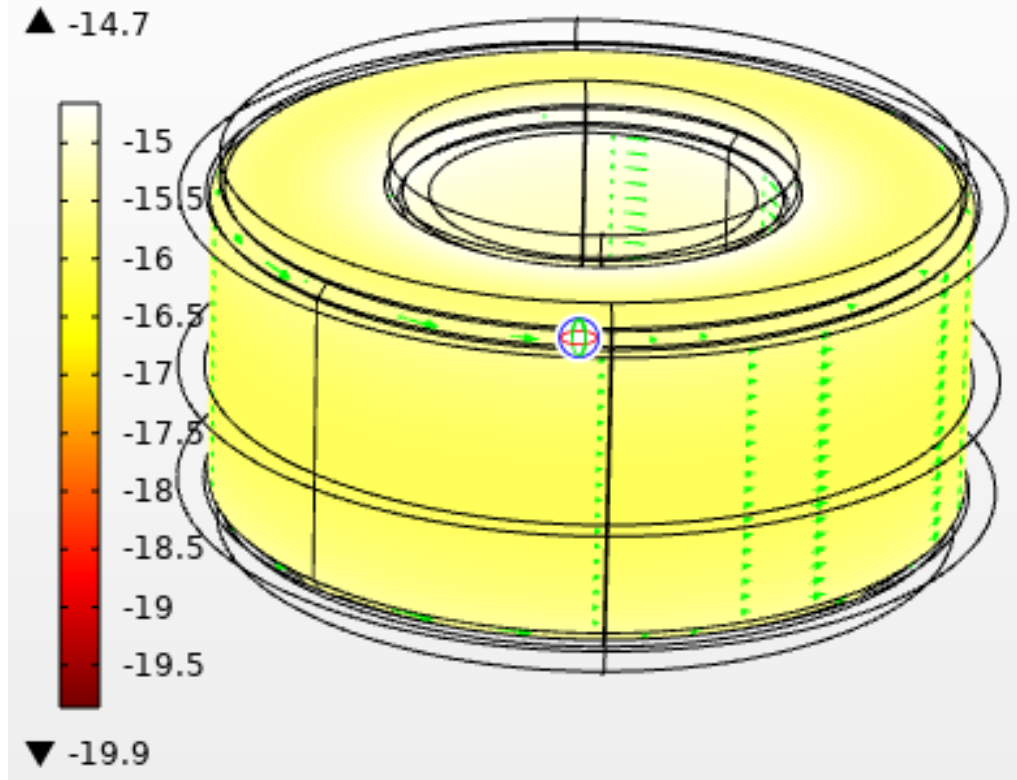
## Magnetics Flux in Coil

Lp=8.4 A, Ar=15 Surface: Magnetic flux density norm (T)  
Arrow Volume: Current density  
Arrow Surface: Conductive heat flux



## Magnetic Flux in Core

Lp=8.4 A, Ar=15 Arrow Volume: Magnetic flux density  
Volume: log(mf.normj)



# Abbreviations

Ld	: Current rated Amps
Ar	: Airflow
W/m <sup>2</sup> .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.