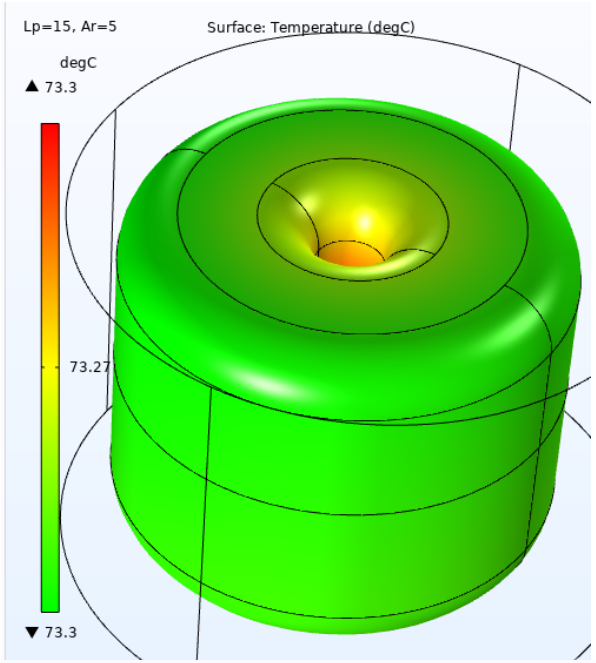
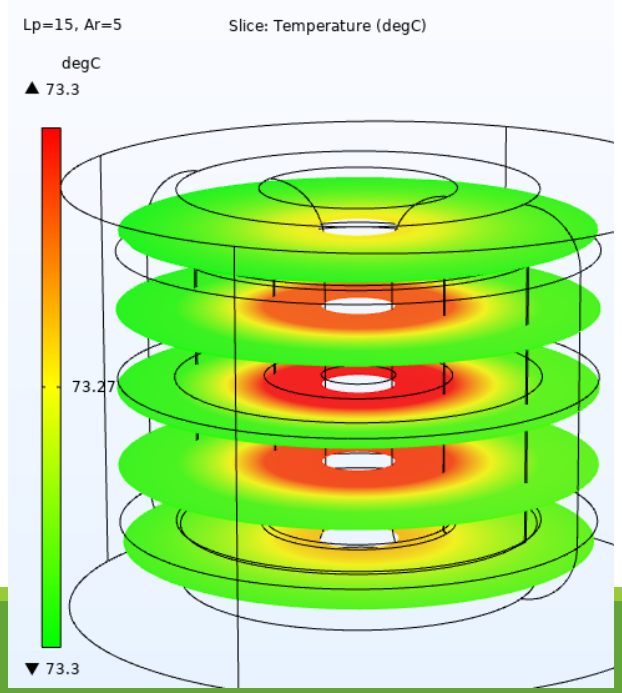
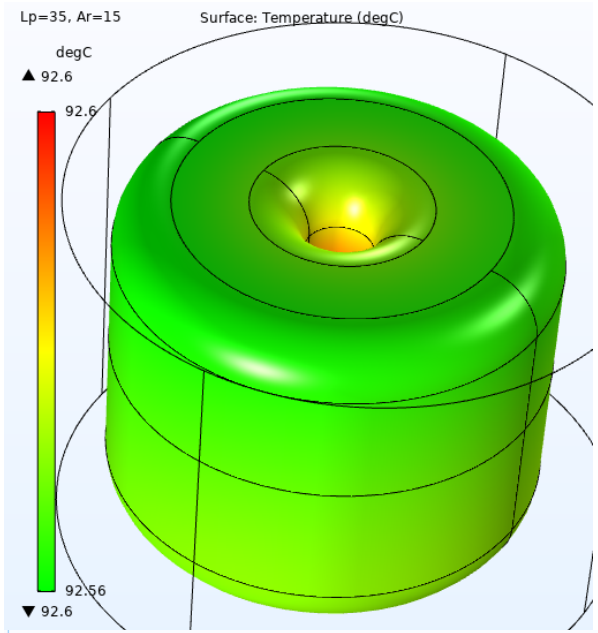
Thermal and Electromagnetics simulation – Part # HF4672-101M-50AM– Current rated 50A @ 1kHz

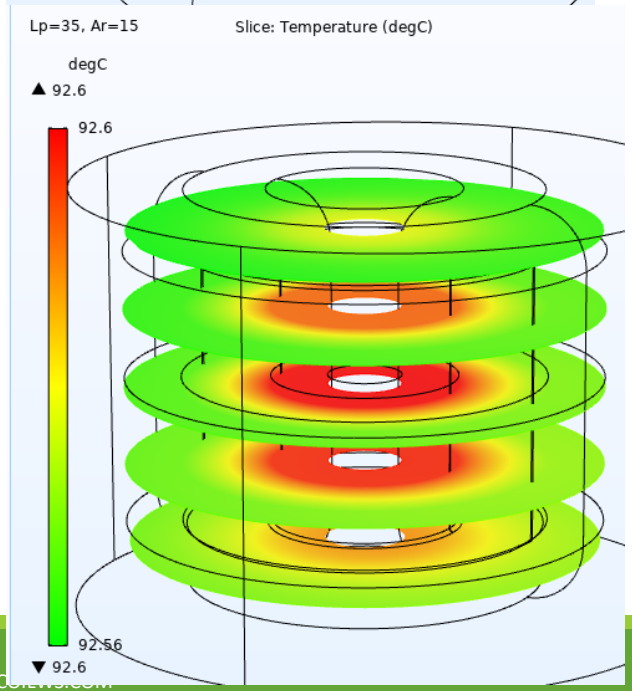
Current 30%
(15A)
No Airflow
Natural
convection



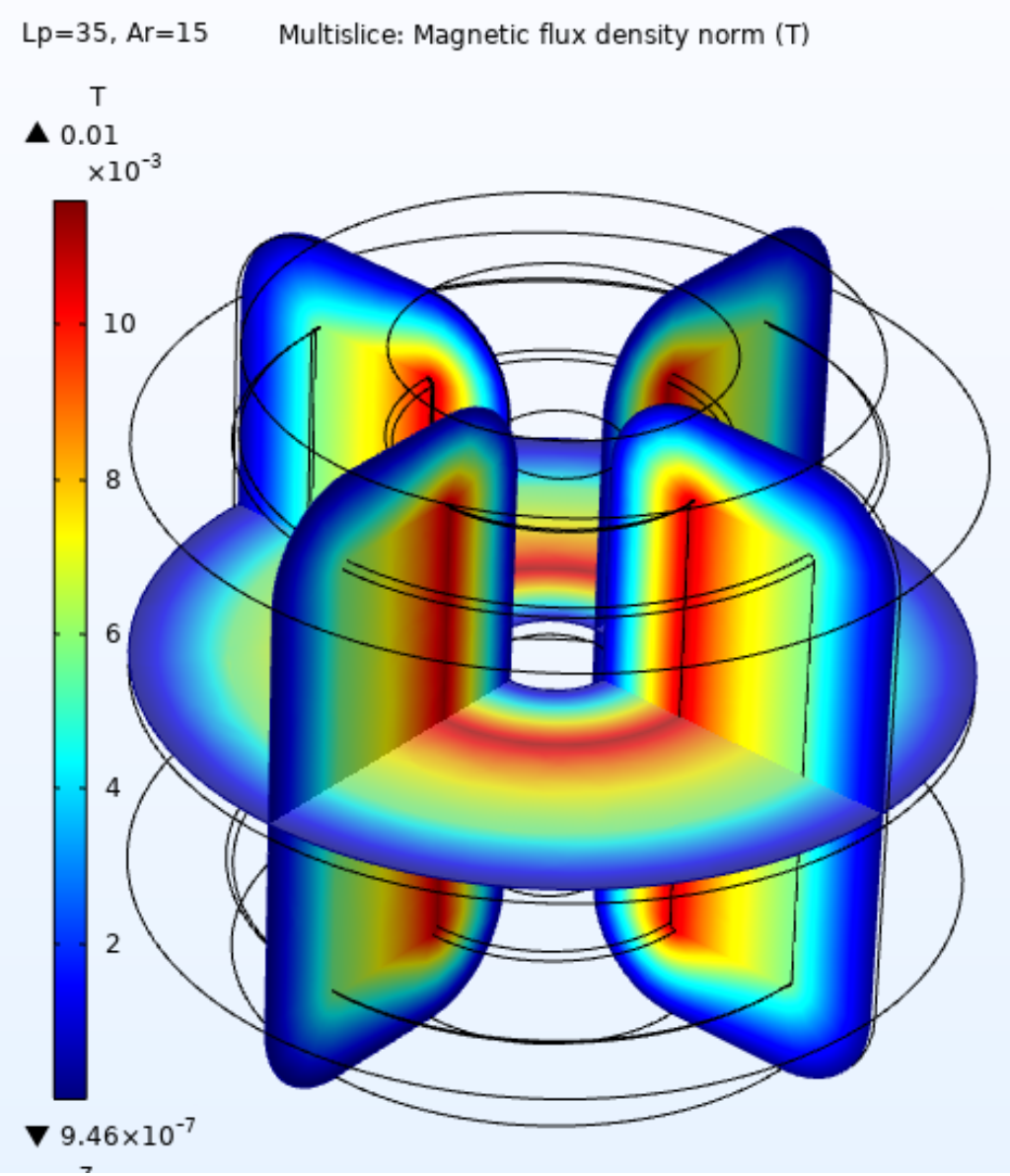


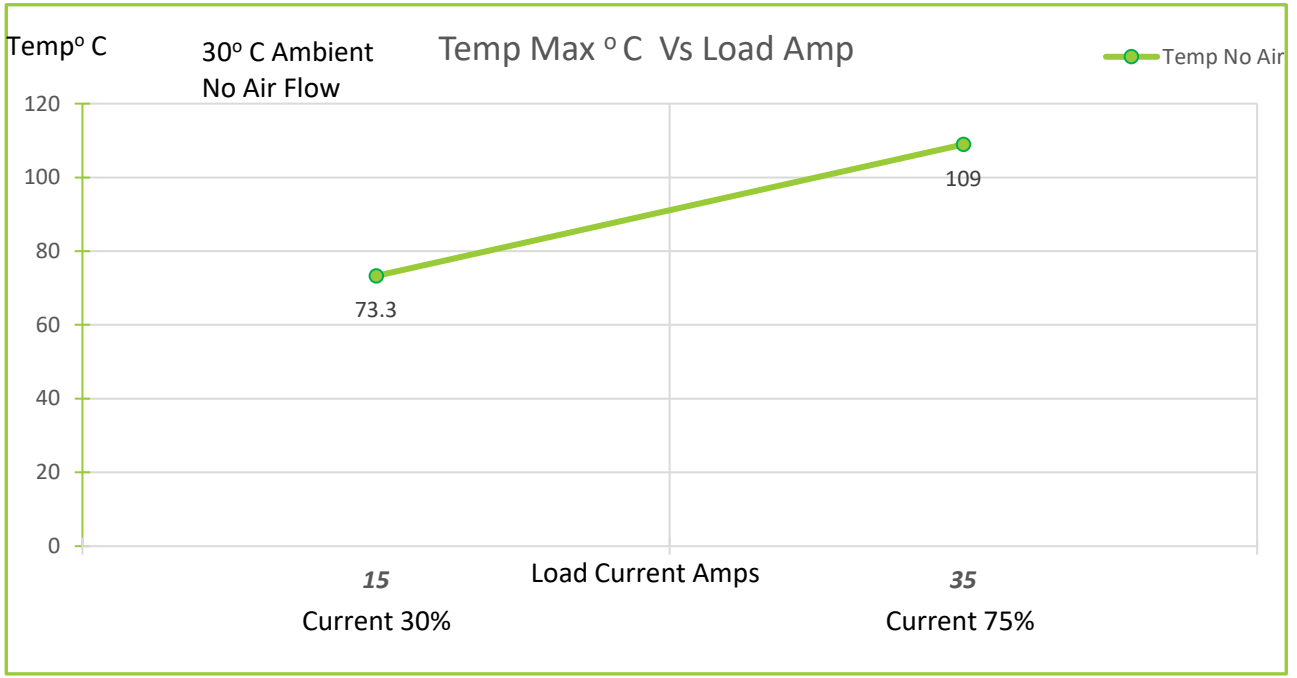
Current 70%
(35A)
15 W/ (m^2K) or
3 m/s air flow.

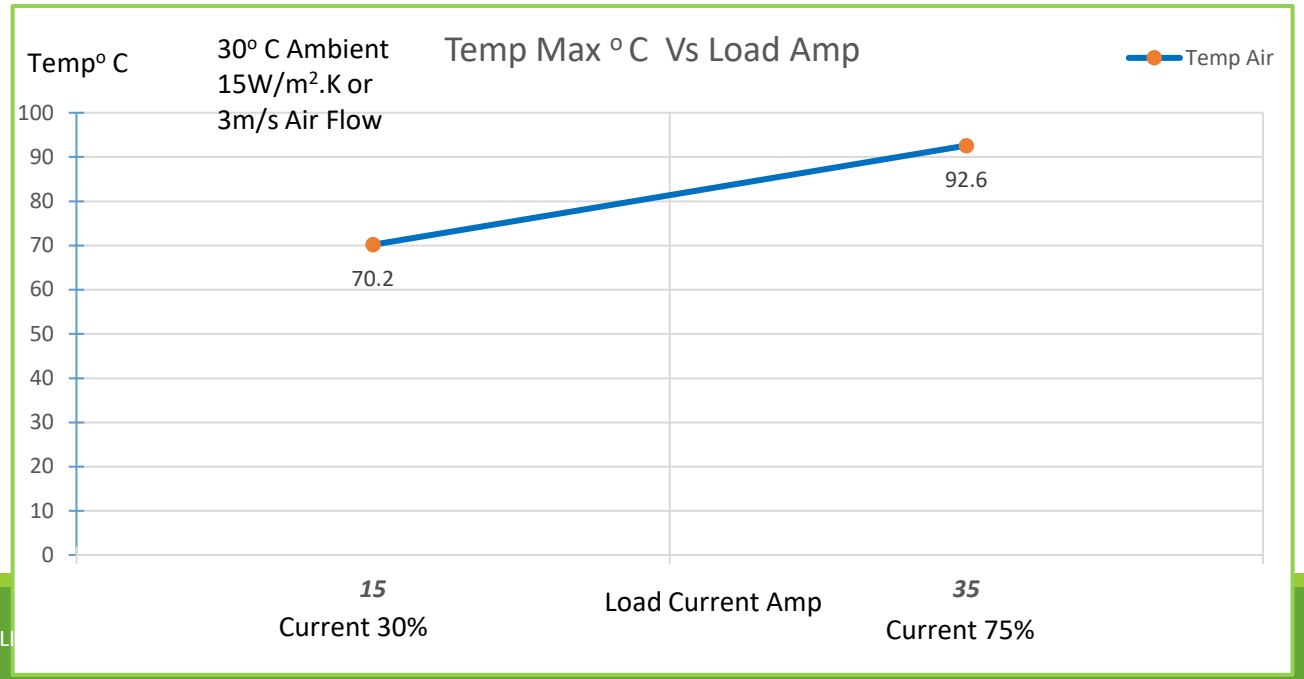




Thermal and Electromagnetics simulation – – Part # HF4672-101M-50AM– Current rated 50A @ 1kHz

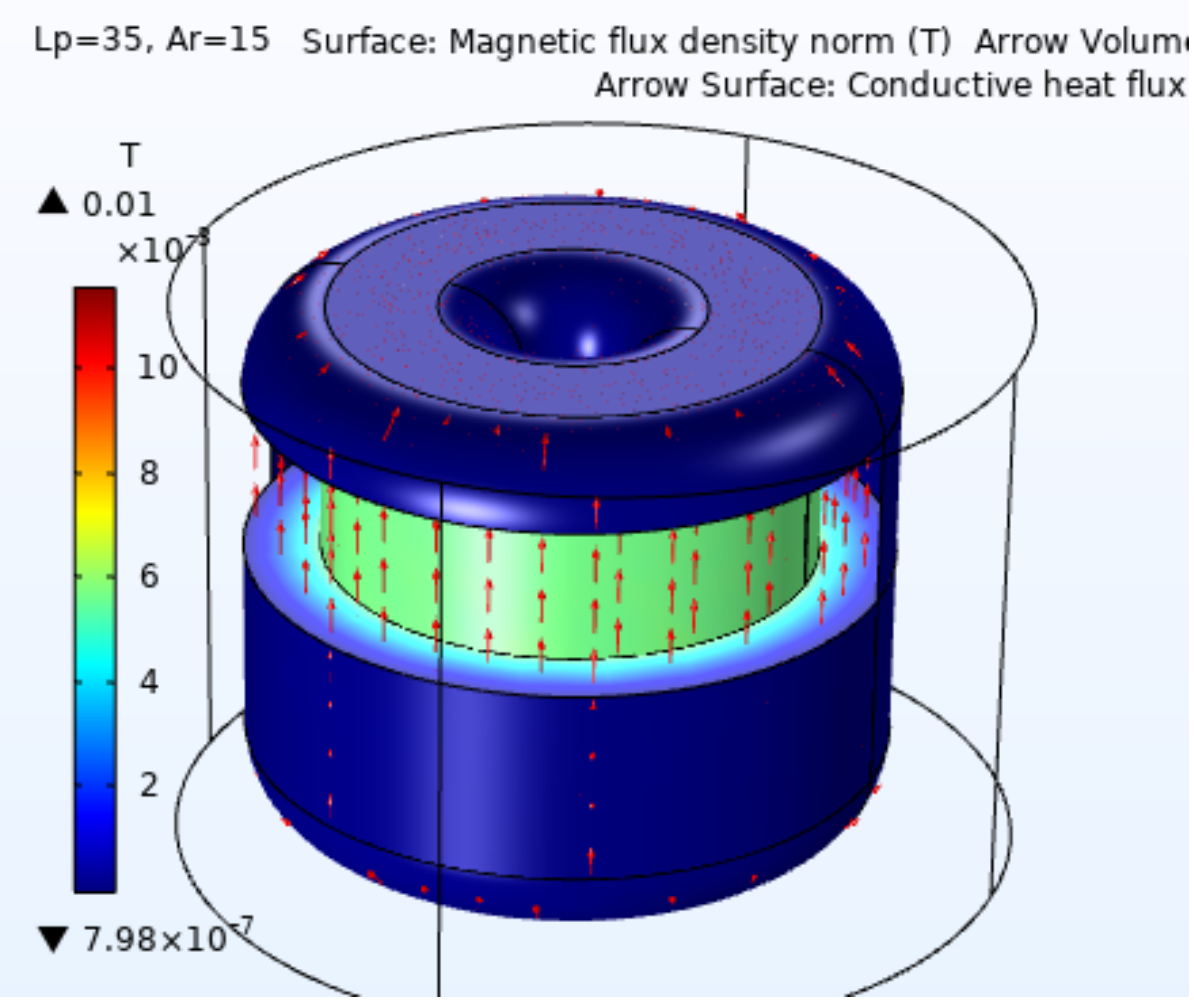




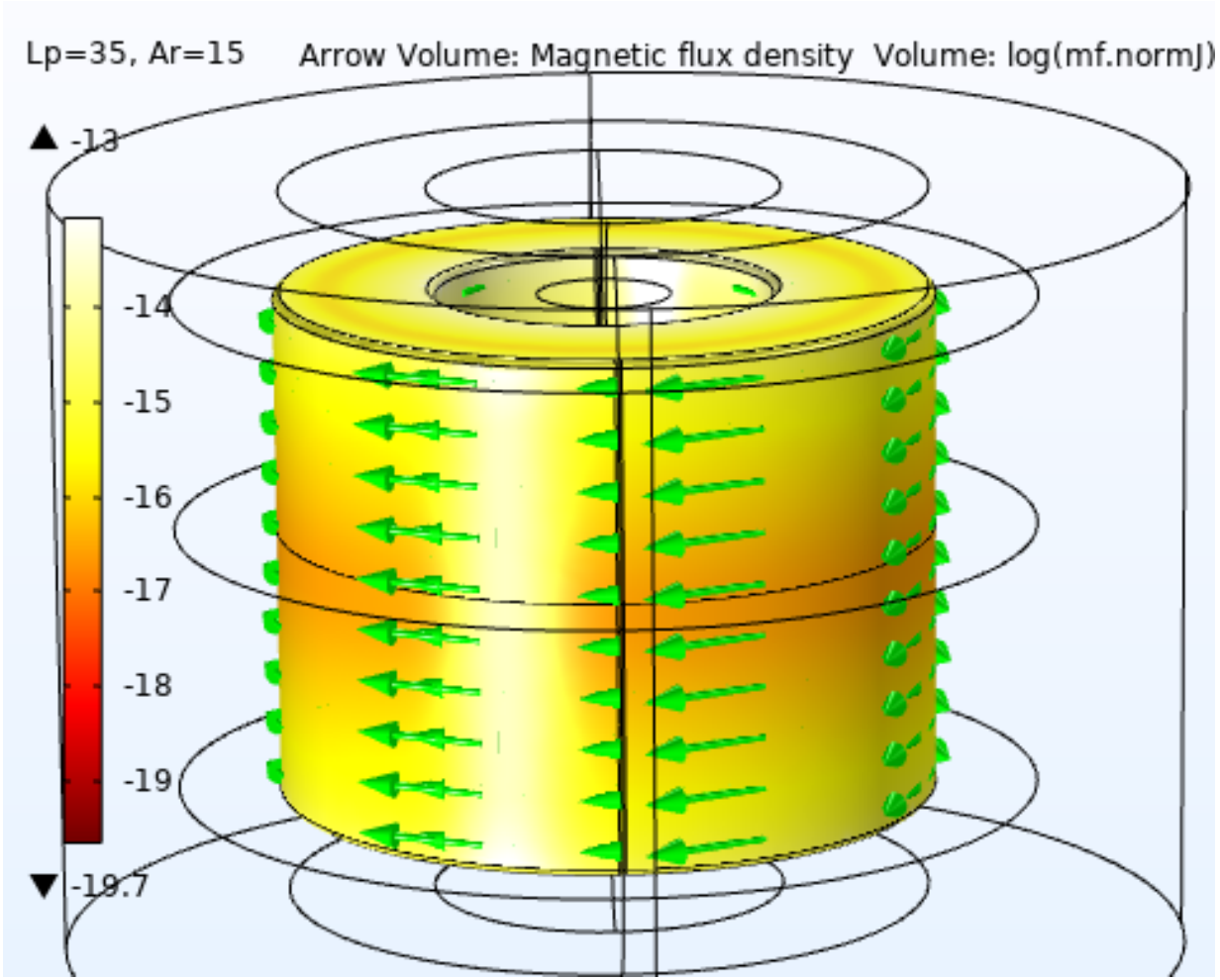


Thermal and Electromagnetics simulation – – Part HF4672-101M-50AM– Current rated 50A @ 1kHz

Magnetics Flux in Coil



Magnetic Flux in Core



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 Homogeneous winding layer.