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% Capacitor Power Dissipation at Frequency
% Actual Power Loss = (2*pi*F*C*V^2)*(D.F.)
% Simple Pwr Dissipation Formula = IC^2*ESR
clc
Fc = X % Enter Frequency of Interest
Vc = 316.2 % Enter Peak RF voltage across capacitor
C = 820e-12 % Enter Value of Capacitance
% Enter ESR Value:
% 1. at Frequency of Operation
% 2. AND at operating RF Voltage
ESR = 0.021
Xc = 1/(6.2832*Fc*C)
IC = Vc/Xc
PCdiss = IC^2*ESR
%
% also Xc = sqrt(Z^2 - ESR^2)
```

Vc =

316.2000

C =

8.2000e-010

ESR =

0.0210

Xc =

51.7577

IC =

6.1092

PCdiss =

0.7838