(1) $$\frac{E_l}{E_S}=\frac{\frac{1}{LC}}{S^2+S(\frac{1}{R_lC}+\frac{R_S}{L})+(\frac{R_l+R_S}{R_l})\frac{1}{LC}}$$

(2) $$\omega_0=\frac{1}{\sqrt{LC}}\quad \tau_1=R_LC\quad \tau_2=\frac{L}{R_S}$$

(3) $$\frac{E_l}{E_S}=\frac{\omega_0^2}{S^2+S(\frac{1}{\tau_1}+\frac{1}{\tau_2})+(\frac{R_l+R_S}{R_l})\omega_0^2}$$

(4) $$\frac{E_l}{E_S}=\frac{\omega_0^2}{S^2+S(\frac{\omega_0}{Q_1}+\frac{\omega_0}{Q_2})+(\frac{R_l+R_S}{R_l})\omega_0^2}$$

(5) $$\frac{1}{Q}=\frac{1}{Q_1}+\frac{1}{Q_2}$$

(6) $$\frac{E_l}{E_S}=\frac{\omega_0^2}{S^2+S\frac{\omega_0}{Q}+(\frac{R_l+R_S}{R_l})\omega_0^2}$$

(7) $$Q=\frac{R_l\sqrt{\frac{C}{L}}}{1.0+R_S\times R_l\times\frac{C}{L}}$$

(8) $$Q\approx R_l\sqrt{\frac{C}{L}}$$

(9) $$\omega_c=\omega_0\sqrt{(1-1/2Q^2)+\sqrt{1+(1-1/2Q^2)^2}}$$

(10)

Q **VS** ω_c	
Q	ω_c
0. 5	$0.643\omega_0$
0. 6	$0.840\omega_0$
0.707	$1.000\omega_0$
1.000	$1.272\omega_0$
2.000	1.498ω
4.000	$1.537\omega_0$
8.000	$1.549\omega_0$
100.000	$1.554\omega_0$
1000.000	$1.554\omega_0$