



Sheet 3

1	Direct substitution	8	$Q_p = 14.2857$
2	$X_{c _{res.}} = 104 \Omega$ $Z_{TP} = 342.1 \Omega$ $I_{L _{res.}} = 16.773 -78.69^\circ \text{ mA}$ $I_{C _{res.}} = 16.447 90^\circ \text{ mA}$ $I_{L -8\%} = 15.925 -48.69^\circ \text{ mA}$ $I_{C -8\%} = 13.263 118.78^\circ \text{ mA}$ $L = 0.79577 \text{ mH}$ $C = 0.076517 \mu\text{F}$ $Q_p = 3.289$ $B.W. = 6.08 \text{ kHz}$	9	$L = 10 \text{ mH}$ $C = 10 \text{ nF}$ $R_L = 50 \Omega$ $P_{-10\%} = 183.3 \text{ mW}$
3	$X_{L _{res.}} = 1.580348 \text{ k}\Omega$ $X_{c _{res.}} = 1.581929 \text{ k}\Omega$ $f_p = 15.72 \text{ kHz}$ $C = 6.4 \text{ nF}$	10	$I_{C _{20k}} = 17.22346 136.3^\circ \text{ mA}$ $0 \leq f \leq 2.3032 \text{ kHz} \ \& \ f \geq 23.8386 \text{ kHz}$ $R_{added} = 4.9654 \text{ k}\Omega$
4	$f_p = 3.5588 \text{ kHz}$ $V_{c _{res.}} = 138.1966 0^\circ \text{ V}$ $P_{res.} = 0.690983 \text{ W}$ $B.W. = 575.828 \text{ Hz}$	11	$1.846 \leq f \leq 2.186 \text{ kHz}$ $I_{L _{upper \text{ cutoff}}} = 41.33 -131.649^\circ \text{ mA}$ $I_{C _{upper \text{ cutoff}}} = 48.3 45^\circ \text{ mA}$
5	$R_L = 15.708 \Omega$ $R_s = 100.53 \text{ k}\Omega$ $C = 1.2665 \text{ nF}$		
6	$X_{L _{res.}} = 999.996 \Omega$ $Q_{res.} = 499.998$ $f_p = 19.23 \text{ kHz}$ $V_{c _{res.}} = 1.923 0^\circ \text{ V}$		
7	$f_p = 38.6 \text{ Hz}$ (Both $r_1 \ \& \ r_2 > 10 \Omega$) or (Both $r_1 \ \& \ r_2 < 10 \Omega$)		