

UTC TA7358P LINEAR INTEGRATED CIRCUIT

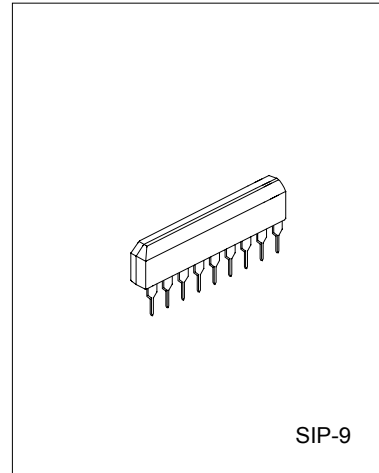
FM FRONT-END

DESCRIPTION

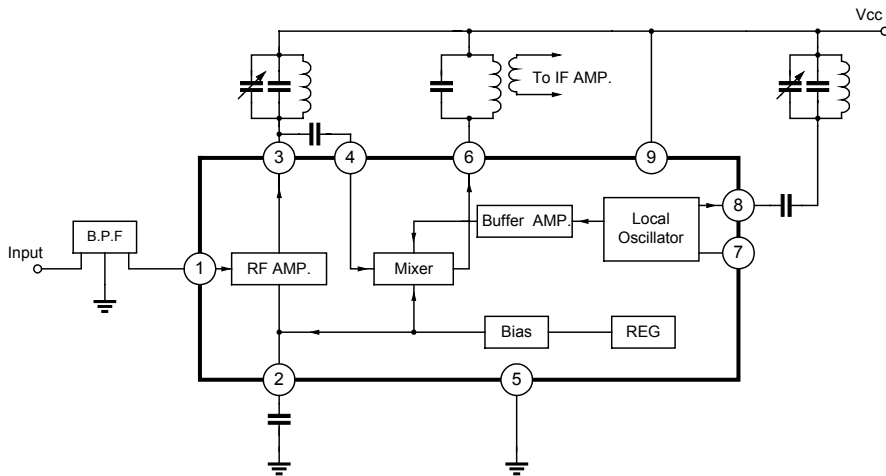
The UTC TA7358P is designed for a FM front-end application, which is suitable to a portable radio or a radio cassette. Comparing with conventional types, supply voltage dependence, overload characteristics and spurious radiation characteristics are improved.

FEATURES

- *Excellent supply voltage dependence of local oscillator: oscillator stop $V_{cc}=0.9V$ (typ)
- *Improved inter-modulation characteristics by double balanced type mixer circuit
- *Low spurious radiation
- *Wide operating voltage range(1.6V to 6V)



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}C$)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V_{cc}	8	V
Power Dissipation	P_D	500	MW
Operating Temperature	T_{opr}	-25 ~ 75	$^{\circ}C$
Storage Temperature	T_{stg}	-55 ~ 150	$^{\circ}C$

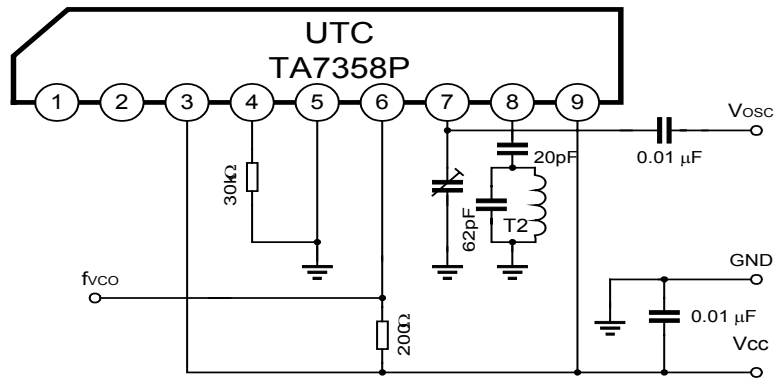
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ELECTRONIC CHARACTERISTICS ($T_a=25^\circ\text{C}$, $V_{cc}=5\text{V}$, $f=83\text{MHz}$, $f_m=1\text{kHz}$, $\Delta f=22.5\text{kHz}$, unless otherwise specified)

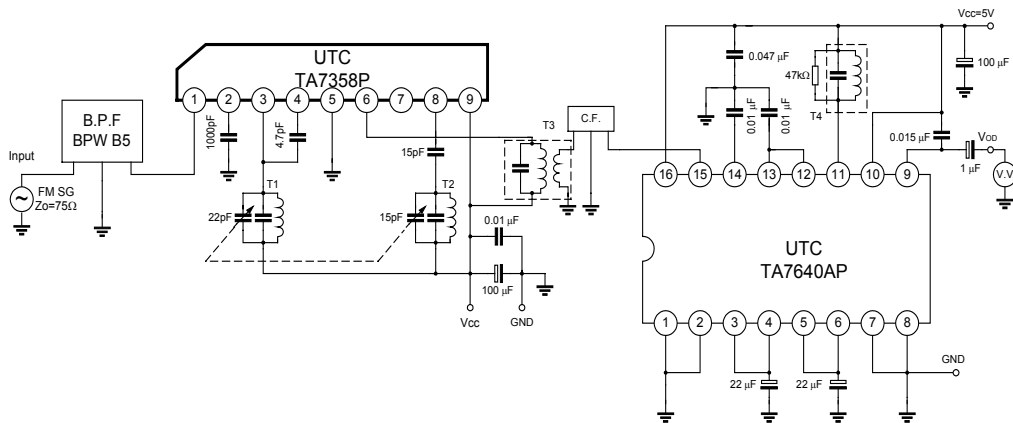
PARAMETER		SYMBOL	TEST CIRCUIT	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent Current		I_Q		$V_{IN}=0$		5.2	8	mA
-3dB Limiting Sensitivity		$V_{IN(lim)}$	2	-3dB		3	7	$\text{dB}\mu$
Quiescent Sensitivity		$Q_s(\text{dB}\mu)$	2			11		$\text{dB}\mu$
Conversion Gain		G_c				31		dB
Local OSC Voltage		V_{osc}	1	$f_{osc}=60\text{MHz}$	90	165	220	mV_{rms}
Pin 1	Parallel Input Resistance	R_{ip1}	3			57		Ω
Impedance	Parallel Output Resistance	C_{ip1}						pF
Pin 3	Parallel Input Resistance	R_{ip3}	3	$f=83\text{MHz}$		25		Ω
Impedance	Parallel Output Resistance	C_{ip3}				2		pF
Pin 4	Parallel Input Resistance	R_{ip4}	3			2.7		Ω
Impedance	Parallel Output Resistance	C_{ip4}				3.3		pF
Pin 6	Parallel Input Resistance	R_{ip6}	3	$f=10.7\text{MHz}$		100		Ω
Impedance	Parallel Output Resistance	C_{ip6}				4.8		pF
Local OSC Stop Voltage		V_{STOP}	1			0.9	1.3	V

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TEST CIRCUIT 1



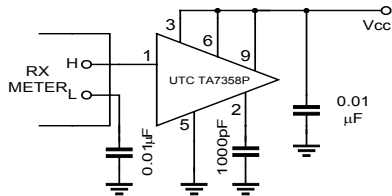
TEST CIRCUIT 2



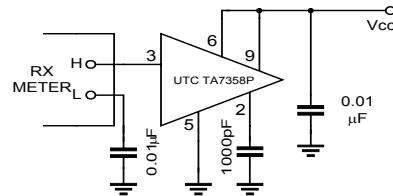
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TEST CIRCUIT 3

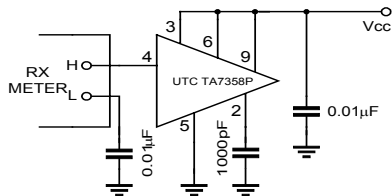
(a) R_{ip1}



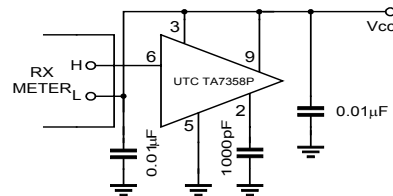
(b) R_{OP3}, C_{OP3}



(c) R_{ip4}, C_{ip4}



(d) R_{OP6}, C_{OP6}



TEST CIRCUIT COIL DATA

COIL	f _o	Q _o	TURNS	CAPACITANCE	
T1 RF COIL	100MHz	100	0.7mmΦ, 2.25T Center Tap	15pF	
T2 OSC COIL	100MHz	100	0.7mmΦ, 2.5T	15pF	
T3 IFT	10.7MHz	115	(1) ~ (3) 2T (4) ~ (6) 1T Φ0.12mm	75pF	
T4 QUAD COIL	10.7MHz	150	(4) ~ (6) 14T Φ0.12mm	47pF	

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