

UTC TA7358P LINEAR INTEGRATED CIRCUIT

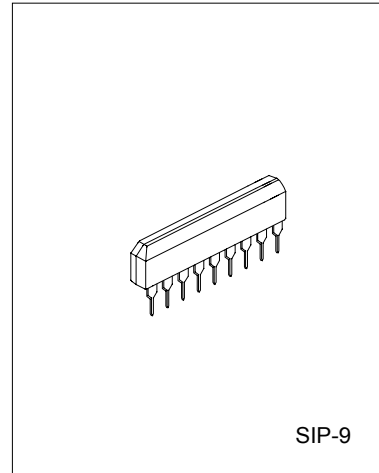
FM FRONT-END

DESCRIPTION

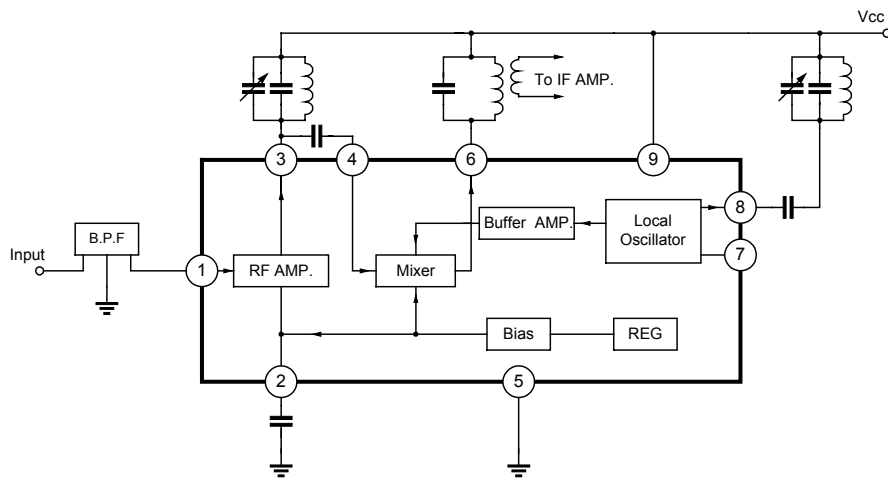
The UTC TA7358P is designed for a FM front-end application, which is suitable to a portable radio or a radio cassette. Comparing with conventional types, supply voltage dependence, overload characteristics and spurious radiation characteristics are improved.

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($T_a=25^\circ\text{C}$)

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

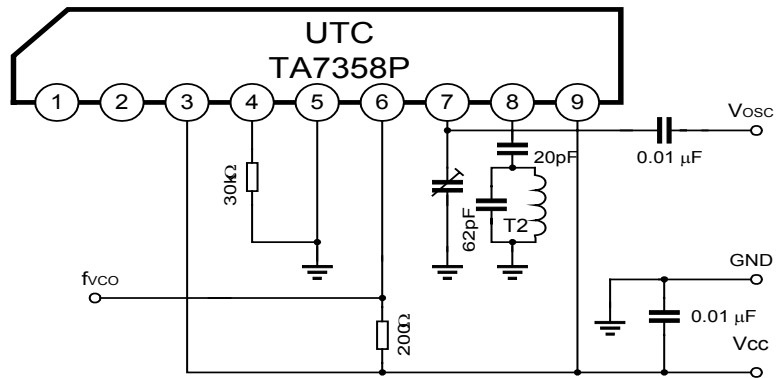
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ELECTRONIC CHARACTERISTICS (Ta=25°C, Vcc=5V, f=83MHz, fm=1kHz, Δf=22.5kHz, unless otherwise specified)

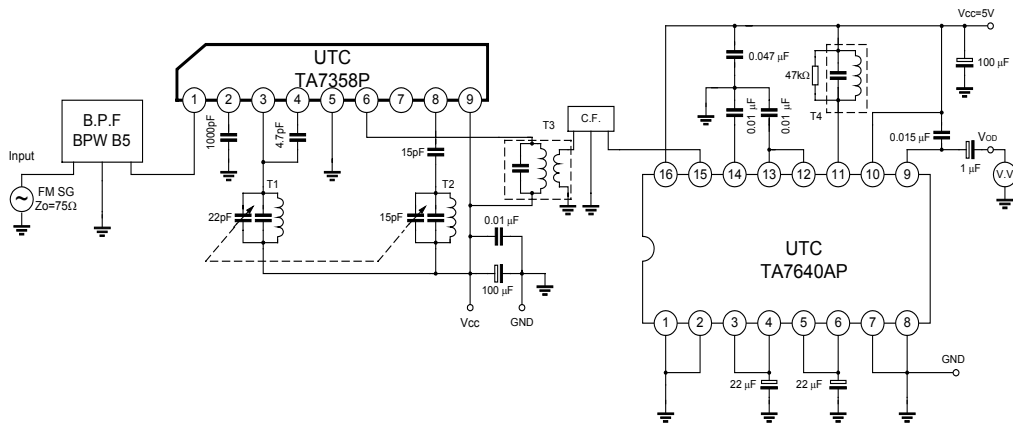
PARAMETER		SYMBOL	TEST CIRCUIT	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent Current		I _Q		V _{IN} =0		5.2	8	mA
-3dB Limiting Sensitivity		V _{IN(lim)}	2	-3dB		3	7	dB _μ
Quiescent Sensitivity		Q _s (dB _μ)	2			11		dB _μ
Conversion Gain		G _c				31		dB
Local OSC Voltage		V _{osc}	1	f _{osc} =60MHz	90	165	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=83MHz		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=10.7MHz		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



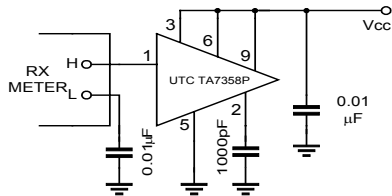
TEST CIRCUIT 2



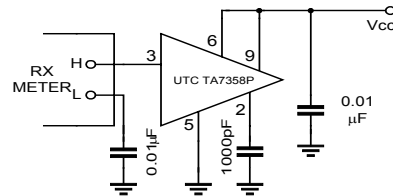
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TEST CIRCUIT 3

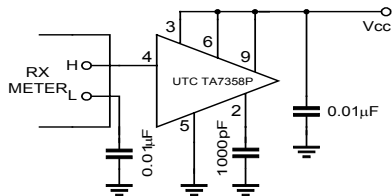
(a) R_{p1}



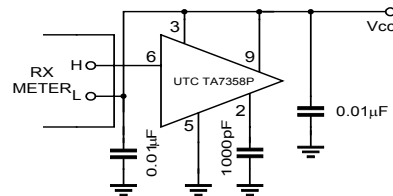
(b) R_{OP3}, C_{OP3}



(c) R_{p4}, 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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