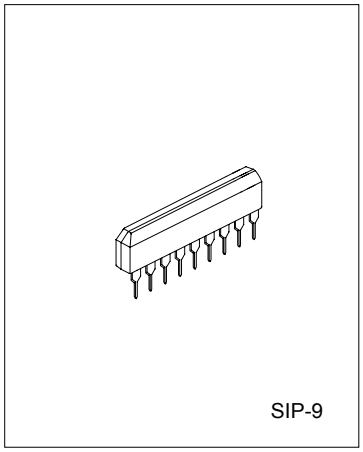
UTC TA7358P LINEAR INTEGRATED CIRCUIT

FM FRONT-END



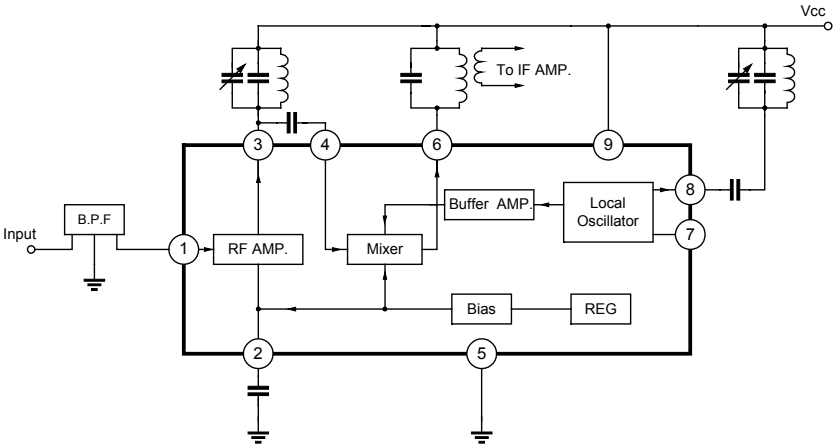
DESCRIPTION

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 Vcc=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



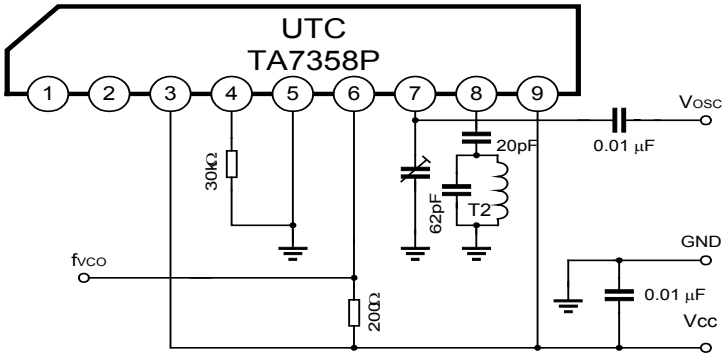
ABSOLUTE MAXIMUN RATINGS(Ta=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V_{CC}	8	V
Power Dissipation	P_D	500	MW
Operating Temperature	Topr	-25 ~ 75	°C
Storage Temperature	Tstg	-55 ~ 150	°C

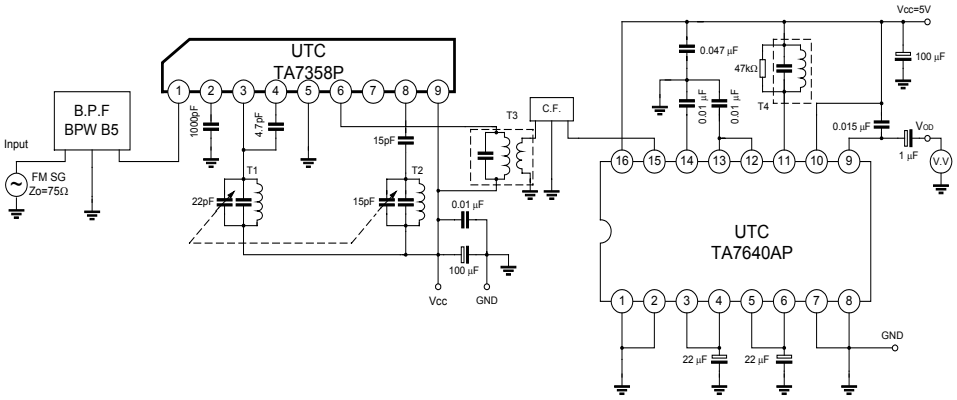
ELECTRONIC CHARACTERISTICS(Ta=25°C, Vcc=5V, f=83MHz, fm=1kHz, Δf=22.5kHz, unless otherwise specified)

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	dBμ
Quiescent Sensitivity		Qs(dBμ)	2			11		dBμ
Conversion Gain		Gc				31		dB
Local OSC Voltage		Vosc	1	fosc=60MHz	90	165	220	mVrms
Pin 1	Parallel Input Resistance	Rip1	3			57		Ω
Impedance	Parallel Output Resistance	Cip1						pF
Pin 3	Parallel Input Resistance	Rip3	3	f=83MHz		25		Ω
Impedance	Parallel Output Resistance	Cip3				2		pF
Pin 4	Parallel Input Resistance	Rip4	3			2.7		Ω
Impedance	Parallel Output Resistance	Cip4				3.3		pF
Pin 6	Parallel Input Resistance	Rip6	3	f=10.7MHz		100		Ω
Impedance	Parallel Output Resistance	Cip6				4.8		pF
Local OSC Stop Voltage		V_{STOP}	1			0.9	1.3	V

TEST CIRCUIT 1

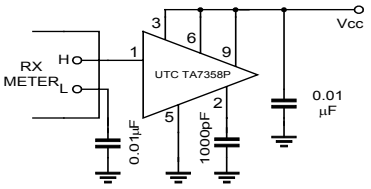


TEST CIRCUIT 2

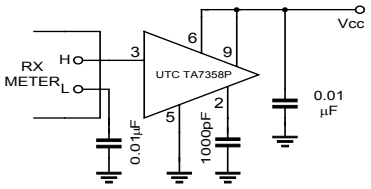


TEST CIRCUIT 3

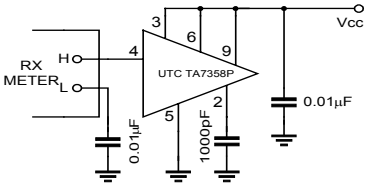
(a) R_{ip1}



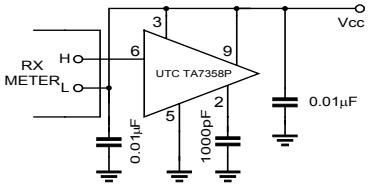
(b) R_{OP3},C_{OP3}



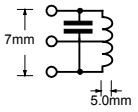
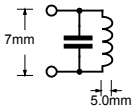
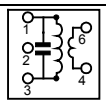
(c) R_{ip4},C_{ip4}



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



TEST CIRCUIT COIL DATA

COIL	fo	Qo	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