

# UTC TA7358P LINEAR INTEGRATED CIRCUIT

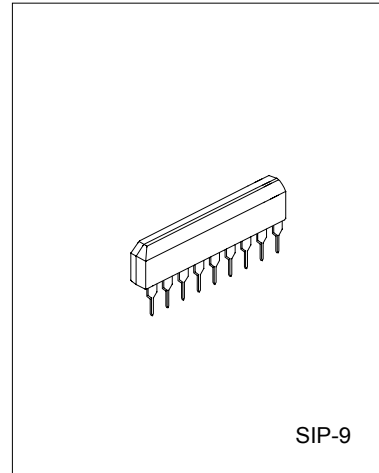
## FM FRONT-END

### DESCRIPTION

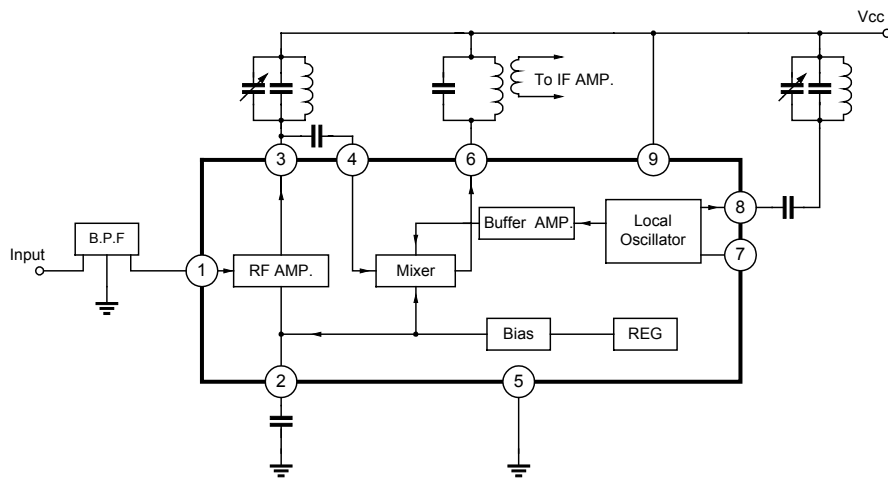
The UTC TA7358P is designed for a FM front-end application, which is suitable to a portable radio or a radio cassette. Comparing with conventional types, supply voltage dependence, overload characteristics and spurious radiation characteristics are improved.

### 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	$^\circ C$

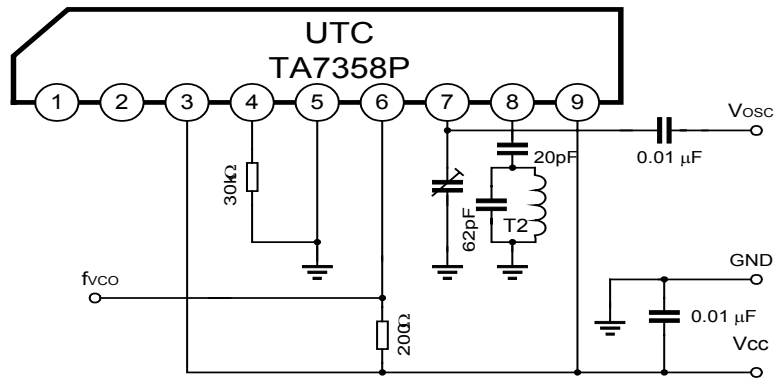
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ELECTRONIC CHARACTERISTICS (Ta=25°C, Vcc=5V, f=83MHz, fm=1kHz, Δf=22.5kHz, unless otherwise specified)

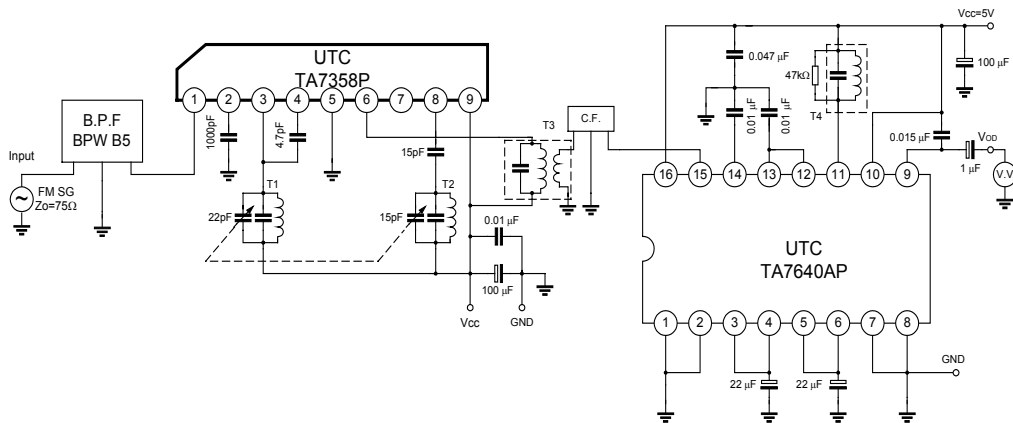
PARAMETER		SYMBOL	TEST CIRCUIT	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent Current		I <sub>Q</sub>		V <sub>IN</sub> =0		5.2	8	mA
-3dB Limiting Sensitivity		V <sub>IN(lim)</sub>	2	-3dB		3	7	dB <sub>μ</sub>
Quiescent Sensitivity		Q <sub>s</sub> (dB <sub>μ</sub> )	2			11		dB <sub>μ</sub>
Conversion Gain		G <sub>c</sub>				31		dB
Local OSC Voltage		V <sub>osc</sub>	1	f <sub>osc</sub> =60MHz	90	165	220	mV <sub>rms</sub>
Pin 1	Parallel Input Resistance	R <sub>ip1</sub>	3			57		Ω
Impedance	Parallel Output Resistance	C <sub>ip1</sub>						pF
Pin 3	Parallel Input Resistance	R <sub>ip3</sub>	3	f=83MHz		25		Ω
Impedance	Parallel Output Resistance	C <sub>ip3</sub>				2		pF
Pin 4	Parallel Input Resistance	R <sub>ip4</sub>	3			2.7		Ω
Impedance	Parallel Output Resistance	C <sub>ip4</sub>				3.3		pF
Pin 6	Parallel Input Resistance	R <sub>ip6</sub>	3	f=10.7MHz		100		Ω
Impedance	Parallel Output Resistance	C <sub>ip6</sub>				4.8		pF
Local OSC Stop Voltage		V <sub>STOP</sub>	1			0.9	1.3	V

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TEST CIRCUIT 1



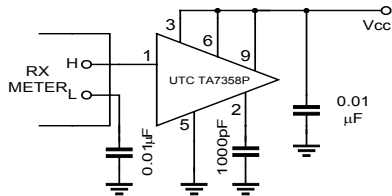
TEST CIRCUIT 2



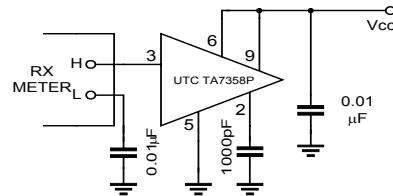
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## TEST CIRCUIT 3

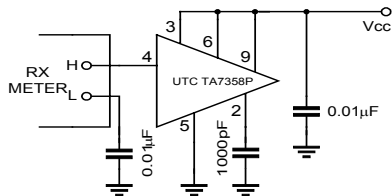
(a) R<sub>ip1</sub>



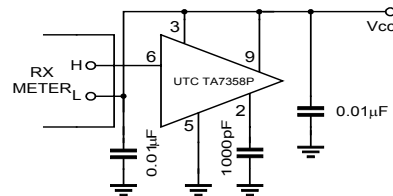
(b) R<sub>OP3</sub>, C<sub>OP3</sub>



(c) R<sub>ip4</sub>, C<sub>ip4</sub>



(d) R<sub>OP6</sub>, C<sub>OP6</sub>



## TEST CIRCUIT COIL DATA

COIL	f <sub>o</sub>	Q <sub>o</sub>	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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