

# UTC TA7358P LINEAR INTEGRATED CIRCUIT

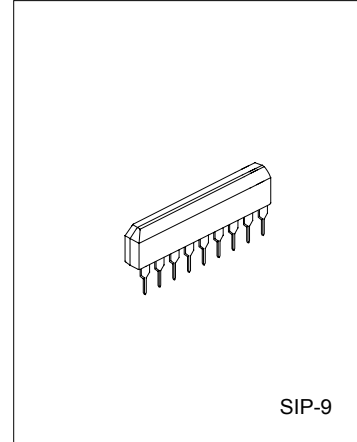
## FM FRONT-END

### DESCRIPTION

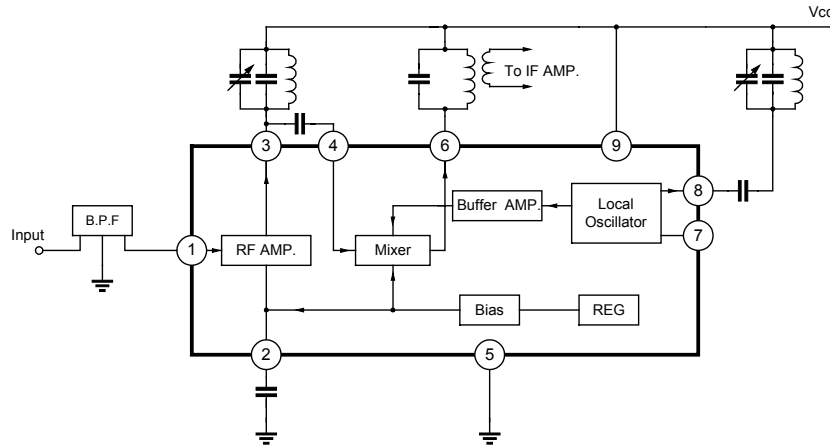
The UTC TA7358P is designed for a FM front-end application, which is suitable to a portable radio or a radio cassette. Comparing with conventional types, supply voltage dependence, overload characteristics and spurious radiation characteristics are improved.

### 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)

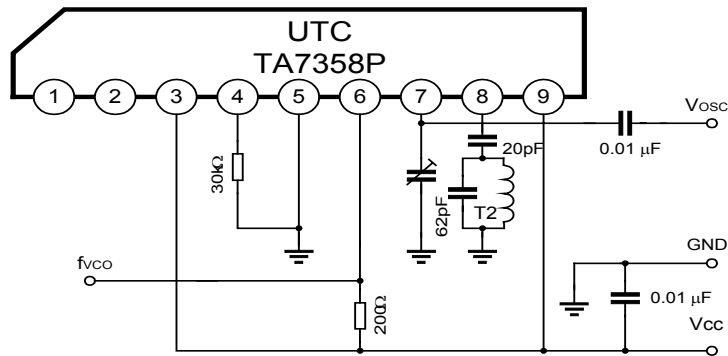
PARAMETER		SYMBOL	TEST CIRCUIT	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent Current		$I_Q$		$V_{IN}=0$		5.2	8	mA
-3dB Limiting Sensitivity		$V_{IN(lim)}$	2	-3dB		3	7	dB $\mu$
Quiescent Sensitivity		$Q_s(\text{dB}\mu)$	2			11		dB $\mu$
Conversion Gain		$G_c$				31		dB
Local OSC Voltage		$V_{osc}$	1	$f_{osc}=60\text{MHz}$	90	165	220	mVrms
Pin 1	Parallel Input Resistance	$R_{ip1}$	3			57		$\Omega$
Impedance	Parallel Output Resistance	$C_{ip1}$						pF
Pin 3	Parallel Input Resistance	$R_{ip3}$	3	$f=83\text{MHz}$		25		$\Omega$
Impedance	Parallel Output Resistance	$C_{ip3}$				2		pF
Pin 4	Parallel Input Resistance	$R_{ip4}$	3			2.7		$\Omega$
Impedance	Parallel Output Resistance	$C_{ip4}$				3.3		pF
Pin 6	Parallel Input Resistance	$R_{ip6}$	3	$f=10.7\text{MHz}$		100		$\Omega$
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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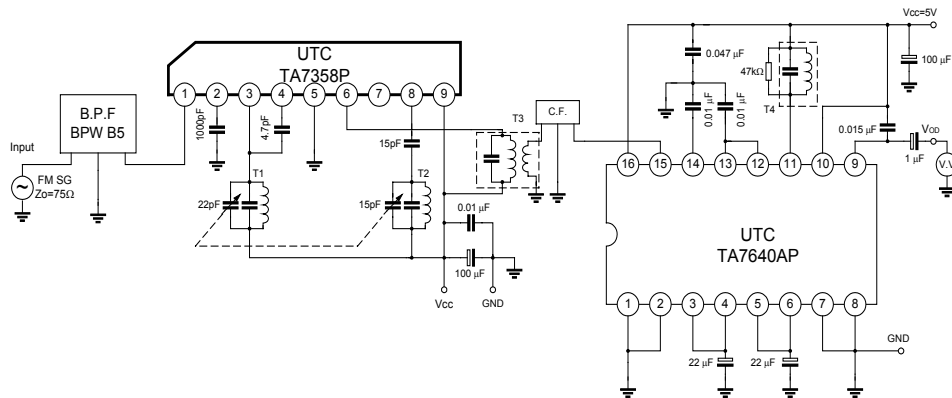
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# UTC TA7358P LINEAR INTEGRATED CIRCUIT

TEST CIRCUIT 1



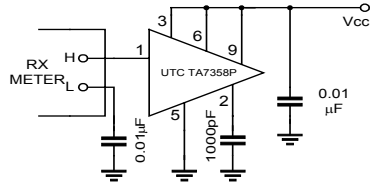
TEST CIRCUIT 2



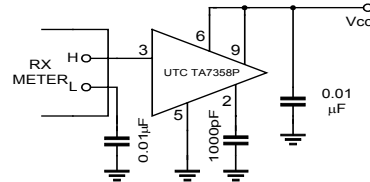
# UTC TA7358P LINEAR INTEGRATED CIRCUIT

## TEST CIRCUIT 3

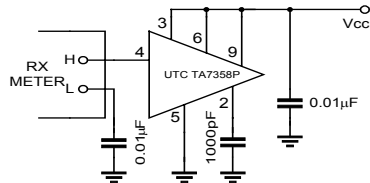
(a) R<sub>p1</sub>



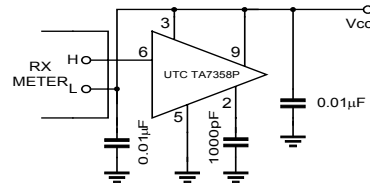
(b) R<sub>Op3</sub>, C<sub>Op3</sub>



(c) R<sub>p4</sub>, C<sub>p4</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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