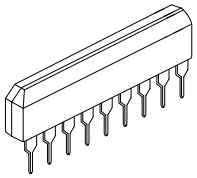
FM FRONT-END



SIP-9

Lead-free: A6058L
Halogen-free: A6058G

■ DESCRIPTION

The UTC **A6058** 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

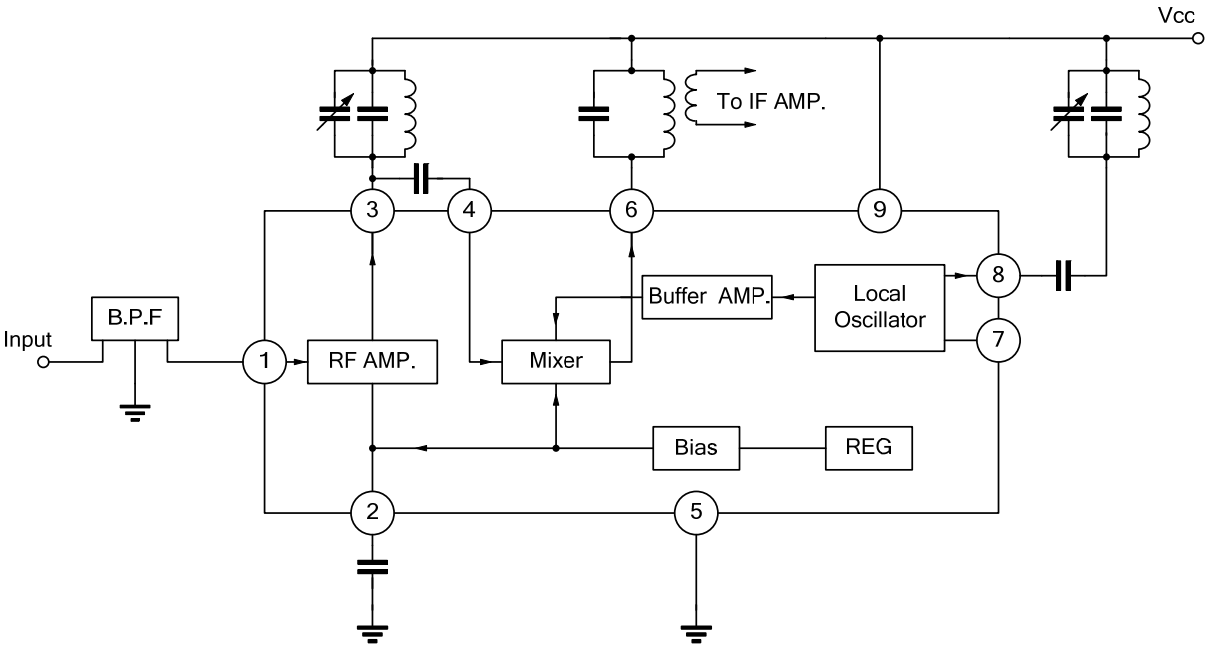
* Excellent supply voltage dependence of local oscillator: oscillator stop V_{CC}=0.9V(typ)
* Improved inter-modulation characteristics by double balanced type mixer circuit
* Low spurious radiation
* Wide operating voltage range(1.6V ~ 6V)

■ ORDERING INFORMATION

Ordering Number			Package	Packing
Normal	Lead Free Plating	Halogen Free		
A6058-G09-T	A6058L-G09-T	A6058G-G09-T	SIP-9	Tube

A6058L-G09-T (1)Packing Type (2)Package Type (3)Lead Plating	(1) T: Tube (2) G09: SIP-9 (3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING (Ta=25°C unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	8	V
Power Dissipation	P_D	500	mW
Operating Temperature	T_{OPR}	-25 ~ +75	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

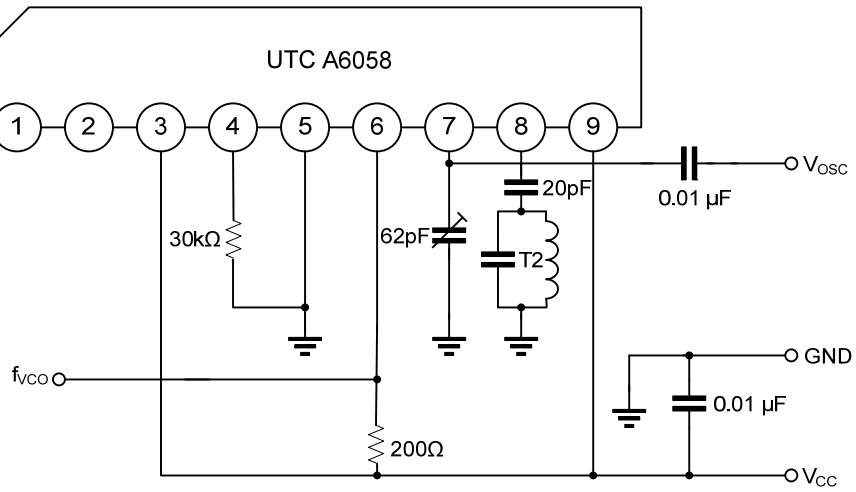
■ ELECTRICAL CHARACTERISTICS

(Ta=25°C, V_{CC}=5V, f=83MHz, fm=1kHz, Δf=22.5kHz, unless otherwise specified)

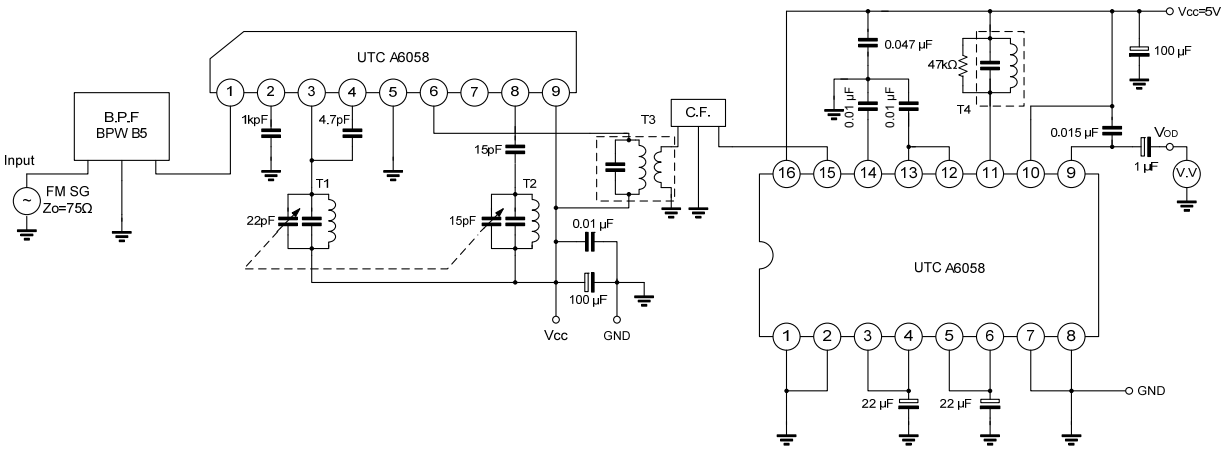
PARAMETER			SYMBOL	TEST CIRCUIT	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent Current			IQ		V_{IN}=0		5.2	8	mA
-3dB Limiting Sensitivity			$V_{IN(LIMIT)}$	2	-3dB		3	7	dBμ
Quiescent Sensitivity			Qs	2			11		dBμ
Conversion Gain			Gc				31		dB
Local OSC Voltage			V_{OSC}	1	f_{OSC}=60MHz	90	165	220	mV_{RMS}
Pin 1	Parallel Resistance	Input	R_{IP1}	3			57		Ω
Impedance		Output	C_{OP1}						pF
Pin 3	Parallel Resistance	Input	R_{IP3}	3	f=83MHz		25		Ω
Impedance		Output	C_{OP3}				2		pF
Pin 4	Parallel Resistance	Input	R_{IP4}	3			2.7		Ω
Impedance		Output	C_{OP4}				3.3		pF
Pin 6	Parallel Resistance	Input	R_{IP6}	3	f=10.7MHz		100		Ω
Impedance		Output	C_{OP6}				4.8		pF
Local OSC Stop Voltage			V_{STOP}	1			0.9	1.3	V

■ TEST CIRCUITS

Test Circuit 1



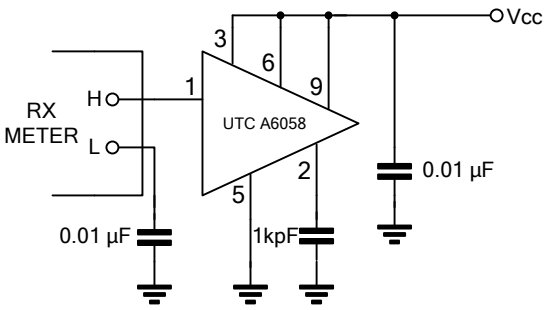
Test Circuit 2



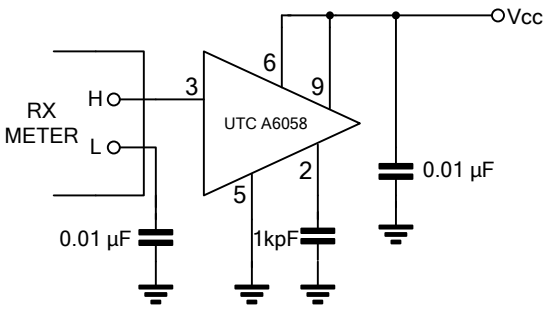
■ TEST CIRCUITS(Cont.)

Test Circuit 3

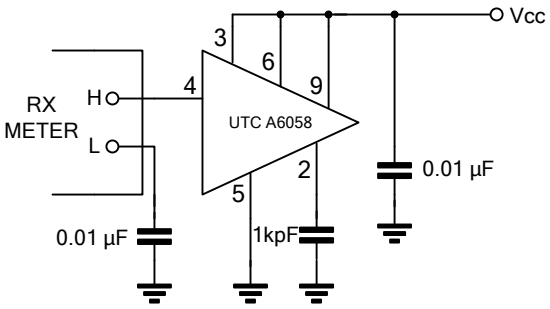
(a) R_{IP1}



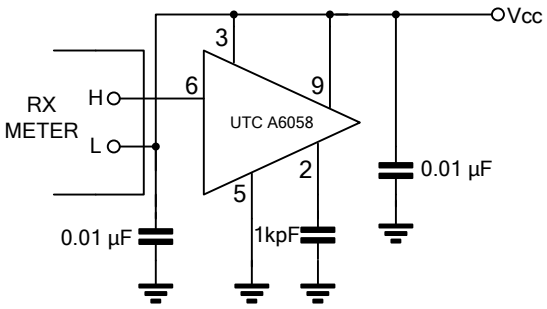
(b) R_{OP3},C_{OP3}



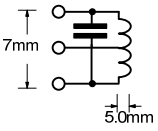
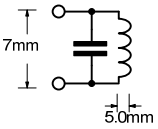
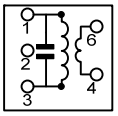
(c) R_{IP4},C_{IP4}



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



■ TEST CIRCUIT COIL DATA

COIL	f_O	Q_O	TURNS	CAPACITANCE	
T1 RF COIL	100MHz	100	0.7mmØ,2.25T Center Tap	15pF	
T2 OSC COIL	100MHz	100	0.7mmØ,2.5T	15pF	
T3 IFT	10.7MHz	115	(1) ~ (3) 2T (4) ~ (6) 1T Ø0.12mm	75pF	
T4 QUAD COIL	10.7MHz	150	(4) ~ (6) 14T Ø0.12mm	47pF