



**ABSOLUTE MAXIMUM RATINGS**( $T_a=25^{\circ}\text{C}$ )

Characteristic	Symbol	Value	Unit
Supply Voltage(pin10)	V <sub>10</sub>	20	V
Supply Current(pin10)	I <sub>10</sub>	1	A
Supply Current(pin5)	I <sub>5</sub>	100	mA
Input Signal voltage	V <sub>i</sub>	3	V
Operating Temperature	T <sub>opr</sub>	-20 to +75	$^{\circ}\text{C}$
Storage Temperature	T <sub>stg</sub>	-40 to 150	$^{\circ}\text{C}$
Power dissipation	P <sub>D1</sub>	0.8 free air, $T_a=75^{\circ}\text{C}$	W
Power dissipation	P <sub>D2</sub>	1.4	W

**ELECTRICAL CHARACTERISTICS**

**1. IF STAGE** ( $T_a=25^{\circ}\text{C}$ ,  $V_{CC}=12\text{V}$ ,  $V_{14}>1.3\text{V}$ ,  $R_B=100\Omega$ ,  $f_m=4.5\text{MHz}$ ,  $f_o=400\text{Hz}$ ,  $f=\pm 25\text{kHz}$ ,  $R_g=50\mu\Omega$ , unless otherwise specified)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Pin 5 Voltage	V <sub>5A</sub>		7.5	8.0	8.5	V
Pin 5 Voltage	V <sub>5B</sub>	$V_{CC}=18\text{V}$ , $R_B=330\Omega$	7.5	8.0	8.5	V
Pin 10 Current	I <sub>10A</sub>	$V_i=0$	14	19	24	mA
Pin10 Current	I <sub>10B</sub>	$V_{CC}=18\text{V}$ , $R_B=330\Omega$ , $V_i=0$	16	28	35	mA
IF limiting voltage	V <sub>LIM</sub>	$V_{OAF}(V_i=10\text{mVrms})$ , -3dB		200	400	$\mu\text{Vrms}$
Detector Output Voltage	V <sub>OAF</sub>	$V_i=10\text{mVrms}$	300	360		mVrms
Detector Distortion	THD <sub>1</sub>	$V_i=10\text{mVrms}$		0.7		%
Deviation of Pull-in Range vs AM Rejection	AMR	AM mod=30%, $f_m=400\text{Hz}$ , $V_i=10\text{mVrms}$	-40	-50		dB
Maximum Attenuation	V <sub>ATT</sub>	$V_{14}=0$	-60	-80		dB

**2. SOUND POWER STAGE** ( $T_a=25^{\circ}\text{C}$ ,  $V_{CC}=12\text{V}$ ,  $R_L=8\Omega$ ,  $f=400\text{Hz}$ ,  $R_g=600\Omega$ , unless otherwise specified)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Sound stage voltage gain	G <sub>VAF</sub>	$V_i=20\text{mVrms}$	33	37	41	dB
Sound Output Power	P <sub>OA</sub>	THD=10%	0.9	1.2		W
Sound Output Power	P <sub>OB</sub>	$V_{CC}=18\%$ , $R_B=330\Omega$ , THD=10%	2.0	2.4		W
Sound output distortion	THD <sub>2A</sub>	$P_o=0.5\text{W}$		0.6	2.0	%
Sound output distortion	THD <sub>2B</sub>	$V_{CC}=18\%$ , $R_B=330\Omega$ , $P_o=0.5\text{W}$	16	0.5	2.0	%
Overall Sound Output distortion (IF + Sound Power Stage)	THD <sub>3</sub>	$P_o=0.5\text{W}$ , $V_i=10\text{mVrms}$		1.5	4.0	%

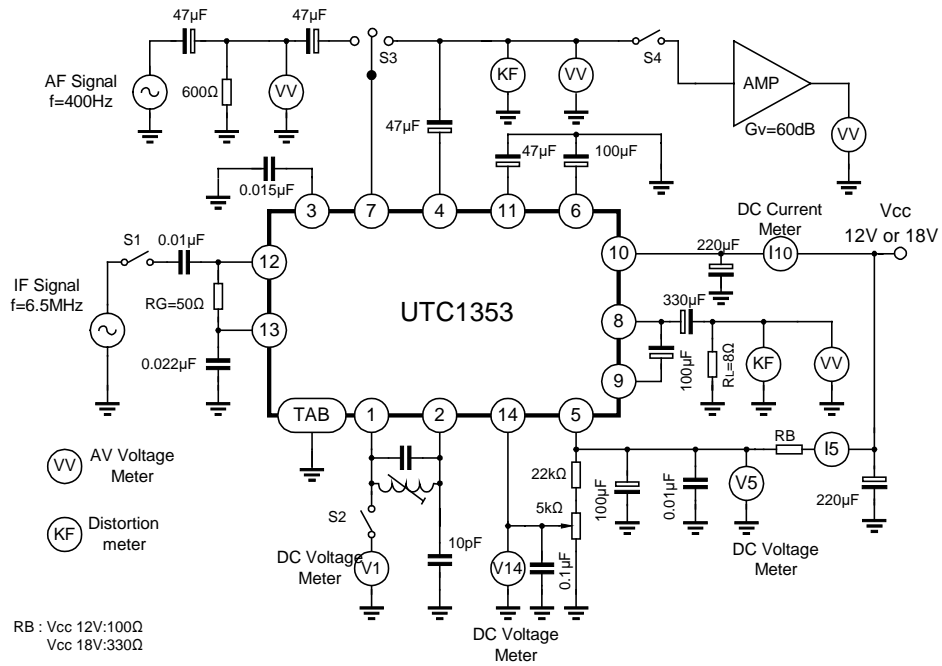
**3. TYPICAL DATA**

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Pin 10 Current	I <sub>10A</sub>	THD <sub>2A</sub> =10%		205		mA
Pin10 Current	I <sub>10B</sub>	THD <sub>2B</sub> =10%		275		mA
Sound Output Power	P <sub>OA</sub>	THD=3%		1.1		W
Sound Output Power	P <sub>OB</sub>	$V_{CC}=18\%$ , $R_B=330\Omega$ , THD=3%		2.0		W
Sound Stage Band width	F <sub>s</sub>	-3dB	50		50k	Hz

# UTC1353

# LINEAR INTEGRATED CIRCUIT

## TEST CIRCUIT



TYPICAL PERFORMANCE CHARACTERISTICS

