

LINEAR MONOLITHIC INTEGRATED CIRCUITS

IC's For Radio, Audio

Type No.	Function	Maximum Ratings ($T_a=25^\circ\text{C}$)	Electrical Characteristics ($T_a=25^\circ\text{C}$)						
			Item	Symbol	Condition	min.	typ.	max.	Unit
AN7110	1.2W Audio Power Amplifier	$V_{CC}(V_{9-2})=18\text{V}$ $I_{CC}=2\text{A}$ $P_D=1.5\text{W}$ $(T_a=30^\circ\text{C})$ $(\theta_{j-c}=80^\circ\text{C/W})$ $T_{opr}=-20\sim+75^\circ\text{C}$ $T_{stg}=-40\sim+150^\circ\text{C}$	($V_{CC}=9\text{V}$, $R_L=8\Omega$, $f=1\text{kHz}$)						
			Quiescent Current	I_{CQ}	$V_i=0$	10	20	50	mA
			Closed Loop Voltage Gain	G_{VC}	$V_i=5\text{mV}$	43	46	49	dB
			Output Power	P_o	THD=10%	0.8	1.2		W
					$V_{CC}=6\text{V}$, THD=10%, $R_L=8\Omega$		0.55		W
					$V_{CC}=6\text{V}$, THD=10%, $R_L=4\Omega$		0.9		W
			Total Harmonic Distortion	THD	$V_i=5\text{mV}$		0.5	1.5	%
			Output Noise Voltage	V_{no}	$R_g=10\text{k}\Omega$		0.5	1.2	mV
			Input Impedance	Z_i			25		$\text{k}\Omega$
			AN7111	1.2W Audio Power Amplifier	$V_{CC}(V_{9-2})=18\text{V}$ $I_{CC}=2\text{A}$ $P_D=1.5\text{W}$ $(T_a=30^\circ\text{C})$ $T_{opr}=-30\sim+75^\circ\text{C}$ $T_{stg}=-40\sim+150^\circ\text{C}$	($V_{CC}=9\text{V}$, $R_L=8\Omega$, $f=1\text{kHz}$)			
Quiescent Current	I_{CQ}	$V_i=0$				7	17	35	mA
Closed Loop Voltage Gain	G_{VC}	$V_i=3\text{mV}$				51.5	53.5	55.5	dB
Output Power	P_o	THD=10%				0.8	1.2		W
		$V_{CC}=6\text{V}$, $R_L=4\Omega$, THD=10%					0.9		W
Total Harmonic Distortion	THD	$V_i=3\text{mV}$					0.3	1	%
Output Noise Voltage	V_{no}	$R_g=10\text{k}\Omega$					1.5	3	mV
Input Impedance	Z_i						30		$\text{k}\Omega$
AN7114	1W Audio Power Amplifier	$V_{CC}(V_{7-10})=11\text{V}$ $I_{CC(\text{Peak})}=1.5\text{A}$ $P_D=1.2\text{W}$ $P_D=2.25\text{W}^*$ $T_{opr}=-20\sim+70^\circ\text{C}$ $T_{stg}=-40\sim+150^\circ\text{C}$ *With heat sink	($V_{CC}=6\text{V}$, $R_L=4\Omega$, $f=1\text{kHz}$)						
			Quiescent Current	I_{CQ}	$V_i=0$		15	25	mA
			Open Loop Voltage Gain	G_{VO}	$V_i=0.2\text{mV}$		70		dB
			Closed Loop Voltage Gain	G_{VC}	$V_i=5\text{mV}$	42	45	48	dB
						0.63	0.89	1.25	V
			Output Power	P_o	THD=10%	0.65	1		W
					$V_{CC}=6\text{V}$, $R_L=8\Omega$, THD=10%		0.6		W
					$V_{CC}=7.5\text{V}$, THD=10%, $R_L=4\Omega$	0.95	1.5		W
					$V_{CC}=7.5\text{V}$, THD=10%, $R_L=8\Omega$		0.9		W
			Total Harmonic Distortion	THD	$V_i=5\text{mV}$		0.5	1.5	%
Output Noise Voltage	V_{no}	$R_g=10\text{k}\Omega$			3	mV			
Input Impedance	Z_i		12	20		$\text{k}\Omega$			
AN7115	2.1W Audio Power Amplifier	$V_{CC}(V_{7-10})=13\text{V}$ $I_{CC(\text{Peak})}=1.5\text{A}$ $P_D=1.2\text{W}$ $P_D=2.25\text{W}^*$ $T_{opr}=-20\sim+70^\circ\text{C}$ $T_{stg}=-40\sim+150^\circ\text{C}$ *With heat sink	($V_{CC}=9\text{V}$, $R_L=4\Omega$, $f=1\text{kHz}$)						
			Quiescent Current	I_{CQ}	$V_i=0$		15	25	mA
			Open Loop Voltage Gain	G_{VO}	$V_i=0.2\text{mV}$		70		dB
			Closed Loop Voltage Gain	G_{VC}	$V_i=5\text{mV}$	42	45	48	dB
						0.63	0.89	1.25	V
			Output Power	P_o	THD=10%	1.3	2.1		W
					$V_{CC}=9\text{V}$, $R_L=8\Omega$, THD=10%		1.4		W
			Total Harmonic Distortion	THD	$V_i=5\text{mV}$		0.5	1.5	%
			Output Noise Voltage	V_{no}	$R_g=10\text{k}\Omega$			3	mV
			Input Impedance	Z_i		12	20		$\text{k}\Omega$

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Circuit Diagram	Application Circuit
<p>AN7110 (Package I-7,9-Lead Plastic SIL)</p>	
<p>AN7111 (Package I-7,9-Lead Plastic SIL)</p>	
<p>AN7114 (Package I-17,14-Lead Plastic DIL with Fin)</p>	
<p>AN7115 (Package I-17,14-Lead Plastic DIL with Fin)</p>	