

FM IF/AM TUNER SYSTEM

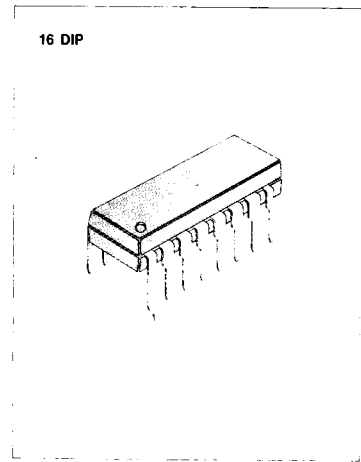
The KA22471 is a monolithic integrated circuit developed for the radio cassette tape recorder.

FUNCTIONS

- AM SECTION: Converter, IF amplifier, Detector, Tuning indicator.
- FM SECTION: IF amplifier, Quadrature detector, Tuning indicator.

FEATURES

- Low quiescent circuit current.
AM: 7mA (Typ) FM: 10mA (Typ)
- A minimum number of external parts required.
- Built-in AM/FM function switch.
- Tuning indicator: direct LED driving capability: $I_{LAMP} = 10\text{mA (MAX)}$
- One terminal AM/FM detector output.
- Advanced performance at high input signal.
- Operating supply voltage range: $V_{CC} = 3\text{V} \sim 8\text{V}$.



ORDERING INFORMATION

Device	Package	Operating Temperature
KA22471	16 DIP	-20°C ~ +70°C

BLOCK DIAGRAM

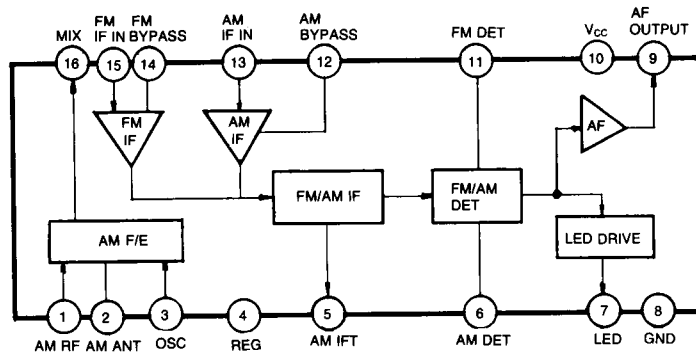


Fig. 1

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

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	8	V
Power Dissipation	P_D	600	mW
Operating Temperature	T_{OPR}	-20 ~ +70	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 ~ +125	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

($T_a = 25^\circ\text{C}$, $V_{CC} = 5\text{V}$, unless otherwise specified)

FM Section ($f = 10.7\text{MHz}$, $f_m = 400\text{Hz}$, $\Delta f = \pm 22.5\text{KHz}$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	I_{CCO}	$V_i = 0$		10	15	mA
-3dB Limiting Sensitivity	$V_{i(LIM)}$	$V_o (V_i = 80\text{dB}\mu) - 3\text{dB down}$		40	46	$\text{dB}\mu$
Detector Output Voltage	$V_{O(DET)}$	$V_i = 66\text{dB}\mu$, $R_{DUMP} = 4.7\text{K}\Omega$	57	85	114	mV
Total Harmonic Distortion	THD	$V_i = 80\text{dB}\mu$		0.05		%
AM Rejection Ratio	AMR	$V_i = 80\text{dB}\mu$, AM: $f_m = 1\text{KHz}$, 30% Mod		38		dB
Signal to Noise Ratio	S/N	$V_i = 80\text{dB}\mu$		65		dB
Signal Meter Output	V_M	$V_i = 100\text{dB}\mu$	1.55	1.7	1.85	V
Tuning Indication Voltage	V_L	$I_{LAMP} = 1\text{mA}$		46	52	$\text{dB}\mu$

AM Section ($f = 1\text{MHz}$, 30% Mod, $f_m = 400\text{Hz}$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	I_{CCO}	$V_i = 0$		7	10	mA
Voltage Gain	G_V	$V_i = 26\text{dB}\mu$	20	30	60	mV_i
Detector Output Voltage	$V_{O(DET)}$	$V_i = 60\text{dB}\mu$	65	95	125	mV
Total Harmonic Distortion	THD	$V_i = 60\text{dB}\mu$		1.0		%
Signal to Noise Ratio	S/N	$V_i = 60\text{dB}\mu$		47		dB
Signal Meter Output	V_M	$V_i = 100\text{dB}\mu$	1.55	1.7	1.85	V
Tuning Indication Voltage	V_L	$I_{LAMP} = 1\text{mA}$		32		$\text{dB}\mu$
Oscillator Stop Voltage	V_{STOP}	$R_{DUMP} = \infty$		1.5		V

APPLICATION CIRCUIT

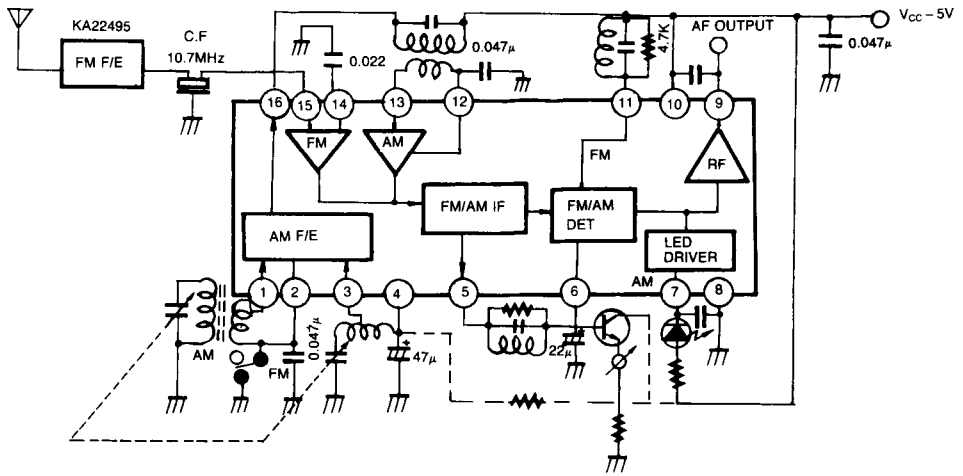


Fig. 3



LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.