



## TA7640AP

LINEAR INTEGRATED CIRCUIT

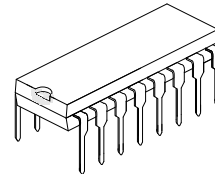
### AM/FM IF PROCESSOR

#### DESCRIPTION

The UTC **TA7640AP** is a monolithic integrated circuit designed for the radios cassette tape recorder.

#### FEATURES

- \* Low operating current
- \* Low external component
- \* Internal AM/FM switch
- \* Wide operating voltage:  $V_{CC}=3.8V$



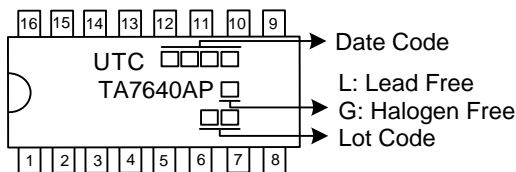
DIP-16

#### ORDERING INFORMATION

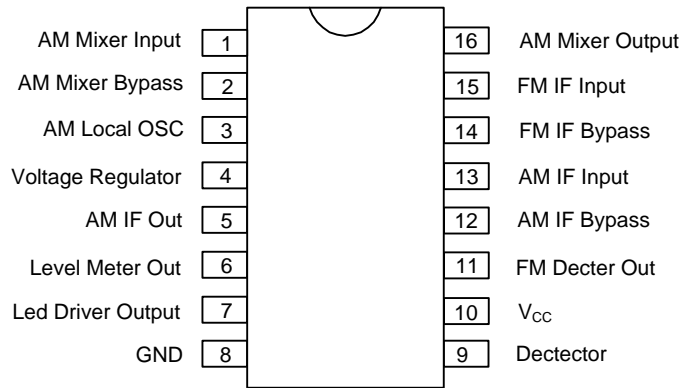
Ordering Number		Package	Packing
Lead Free	Halogen Free		
TA7640AP-D16-T	TA7640APL-D16-T	DIP-16	Tube

<p>TA7640APG-D16-T</p>	<p>(1) T: Tube (2) D16: DIP-16 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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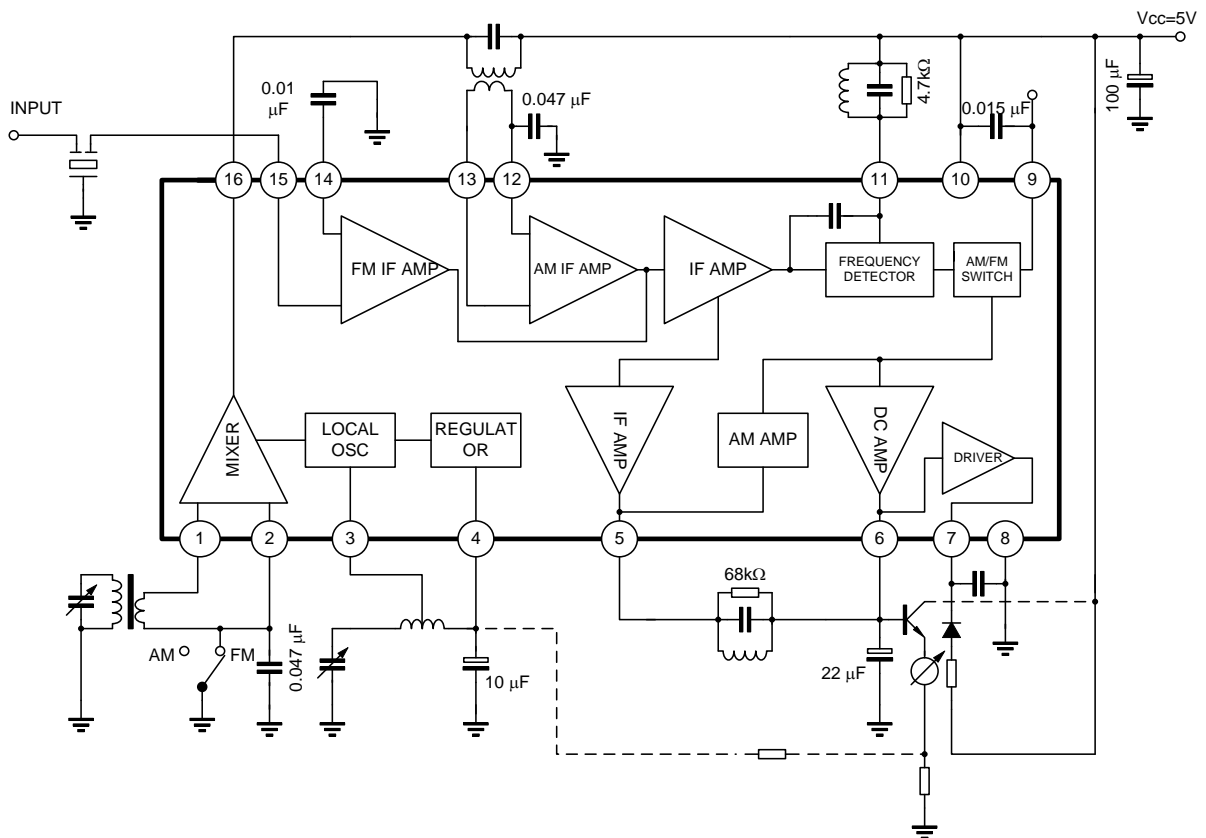
#### MARKING



## ■ PIN CONFIGURATION



## ■ BLOCK DIAGRAM



### ■ ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Voltage	V <sub>CC</sub>	8	V
Led Driving Current	I <sub>LAMP</sub>	10	mA
Power Dissipation	P <sub>D</sub>	750	mW
Operating Temperature	T <sub>OPR</sub>	-25 ~ +75	°C
Storage Temperature	T <sub>STG</sub>	-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.

### ■ DC ELECTRICAL CHARACTERISTICS (V<sub>CC</sub>=5V)

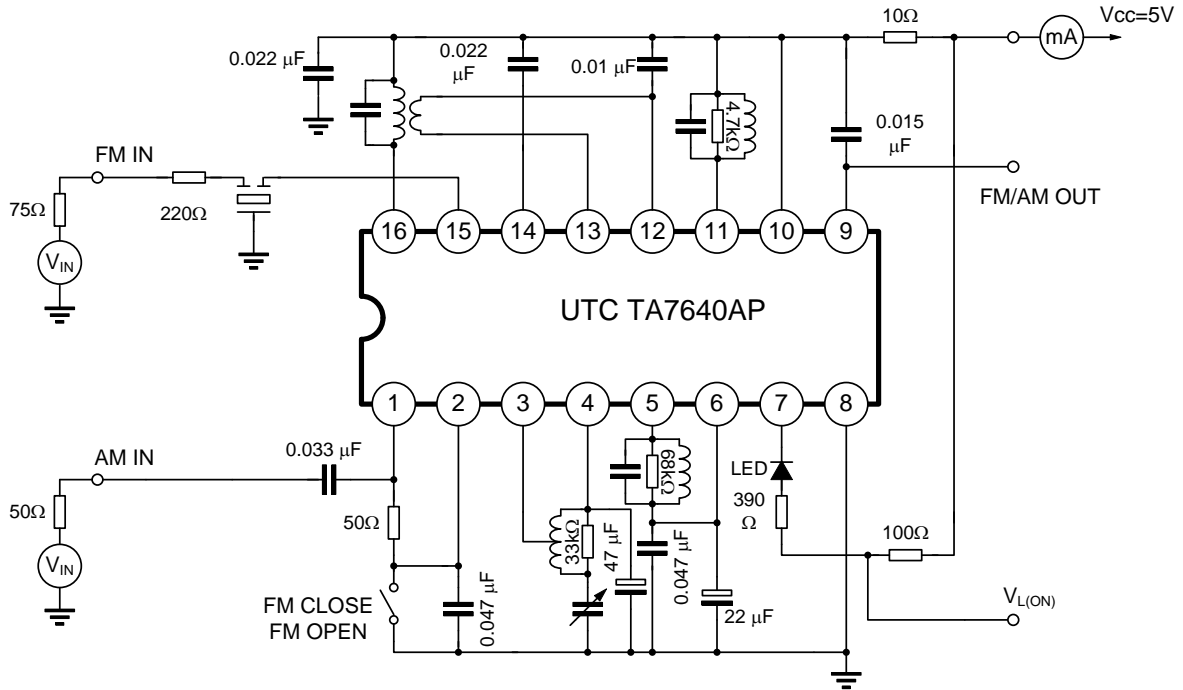
PARAMETER	SYMBOL	TYP		UNIT
		AM	FM	
Pin 1 AM Mixer Input	V1	1.5	0	V
Pin 2 AM Mixer Bypass	V2	1.5	0	V
Pin 3 AM Local OSC	V3	2.3	2.3	V
Pin 4 Voltage Regulator	V4	2.3	2.3	V
Pin 5 AM IF Out	V5	1	0.9	V
Pin 6 Level Meter Out	V6	1	0.9	V
Pin 7 Led Driver Output	V7			V
Pin 8 GND	V8	0	0	V
Pin 9 Detector	V9	1.4	1.5	V
Pin 10 Vcc	V10	5	5	V
Pin 11 FM Decter Out	V11	5	5	V
Pin 12 AM IF Bypass	V12	1.5	1.5	V
Pin 13 AM IF Input	V13	1.5	1.5	V
Pin 14 FM IF Bypass	V14	1.5	1.5	V
Pin 15 FM IF Input	V15	1.5	1.5	V
Pin 16 AM Mixer Output	V16	5	5	V

### ■ AC ELECTRICAL CHARACTERISTICS

(T<sub>A</sub>=25°C, V<sub>CC</sub>=5V, FM; f=10.7MHz, Δf=22.5KHz, FM=400Hz AM; f=1MHz, Mod=30%, FM=400Hz)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Current	I <sub>CC(1)</sub>	FM V <sub>IN</sub> =0		10	15	mA
	I <sub>CC(2)</sub>	AM V <sub>IN</sub> =0		7	10	
<b>FM</b>						
Input Limiting Voltage	V <sub>IN(LIMIT)</sub>	-3dB		40	46	dBμ
Detector Output	V <sub>OD(FM)</sub>	V <sub>IN</sub> =66dBμ	57	85	114	mVrms
Signal Noise Ratio	S/N	V <sub>IN</sub> =80dBμ		65		dB
Total Harmonic Distortion	THD	V <sub>IN</sub> =80dBμ		0.05		%
AM Rejection	AMR	V <sub>IN</sub> =80dBμ		38		dBμ
Level Meter Driving Voltage	V <sub>M</sub>	V <sub>IN</sub> =100dBμ	1.6	1.75	1.9	V
Led Driving Sensitivity	V <sub>L</sub>	I <sub>L</sub> =1mA		46	52	dB
<b>AM</b>						
Gain	G <sub>V</sub>	V <sub>IN</sub> =26dBμ	20	30	60	mVrms
Detector Output Voltage	V <sub>OD(AM)</sub>	V <sub>IN</sub> =60dBμ	65	95	125	mVrms
Signal To Noise Ratio	S/N	V <sub>IN</sub> =60dBμ		47		dB
Total Harmonic Distortion	THD	V <sub>IN</sub> =60dBμ		1		%
Signal Meter Output	V <sub>M</sub>	V <sub>IN</sub> =100dBμ	1.6	1.75	1.9	V
Level Meter Driving Voltage	V <sub>L</sub>	I <sub>L</sub> =1mA		32		dBμ
Oscillation Stop Voltage	V <sub>OSC</sub>	RDUMP=∞		1.5		V
Pin 5 Output Impedance	R09	f=1KHZ		3		KΩ

### ■ TEST CIRCUIT



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