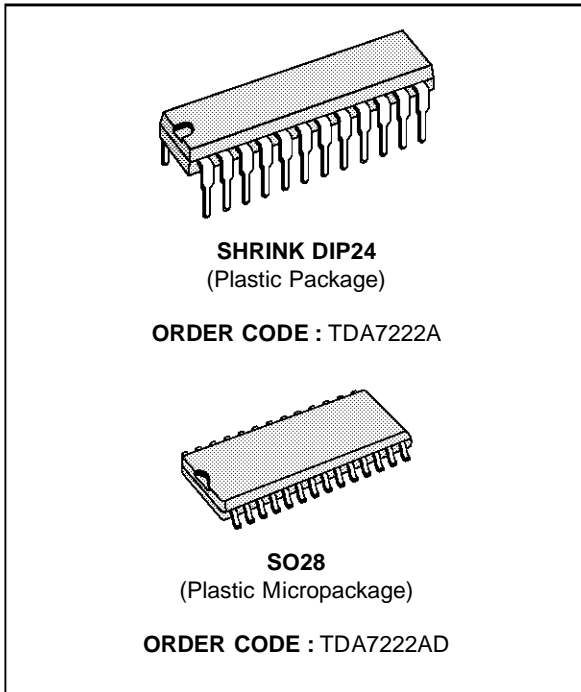


3V AM/FM ONE-CHIP RADIO

ADVANCE DATA

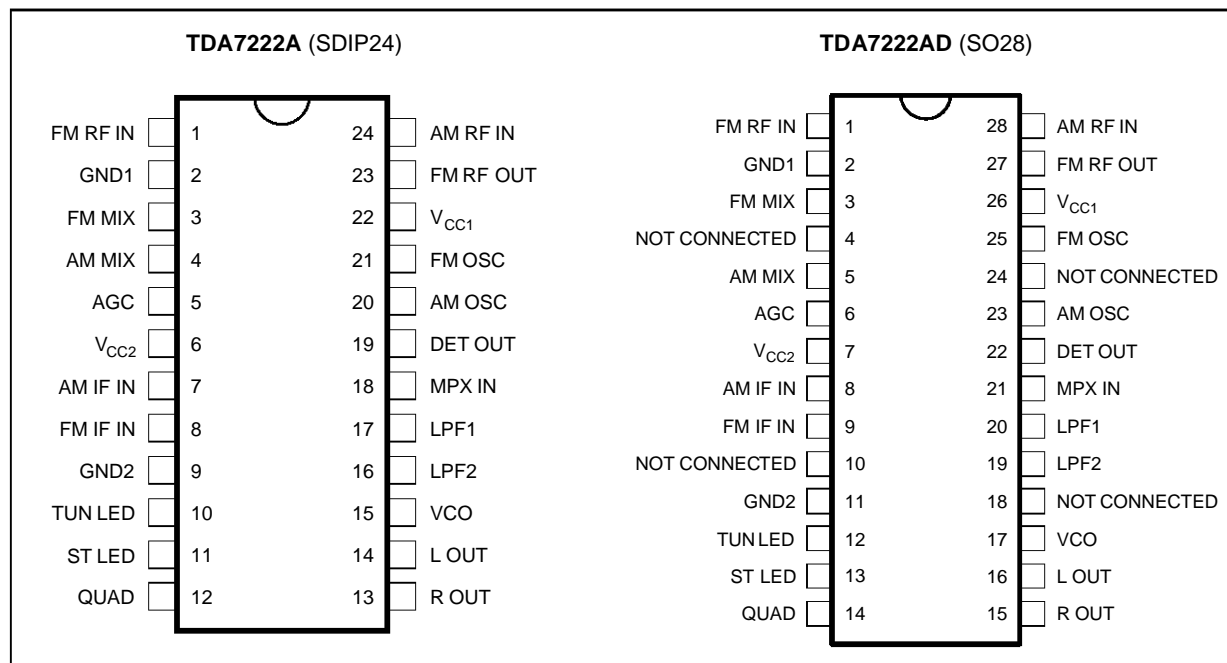
- BUILT-IN FM F/E, AM/FM IF AND FM MPX
- AM DETECTOR COIL AND IF COUPLING CAPACITOR ARE NOT NEEDED
- COMPACT PACKAGE : 24-Pin Shrink
- OPERATING SUPPLY VOLTAGE RANGE
 $V_{CC(opr)} = 1.8 \text{ to } 7.0V$ ($T_A = 25^\circ C$)
- LED DRIVE CIRCUIT FOR TUNING INDICATION



DESCRIPTION

TDA7222A and TDA7222AD are AM/FM chip tuner ICs, which are designed for portable radios and 3V headphone radios.

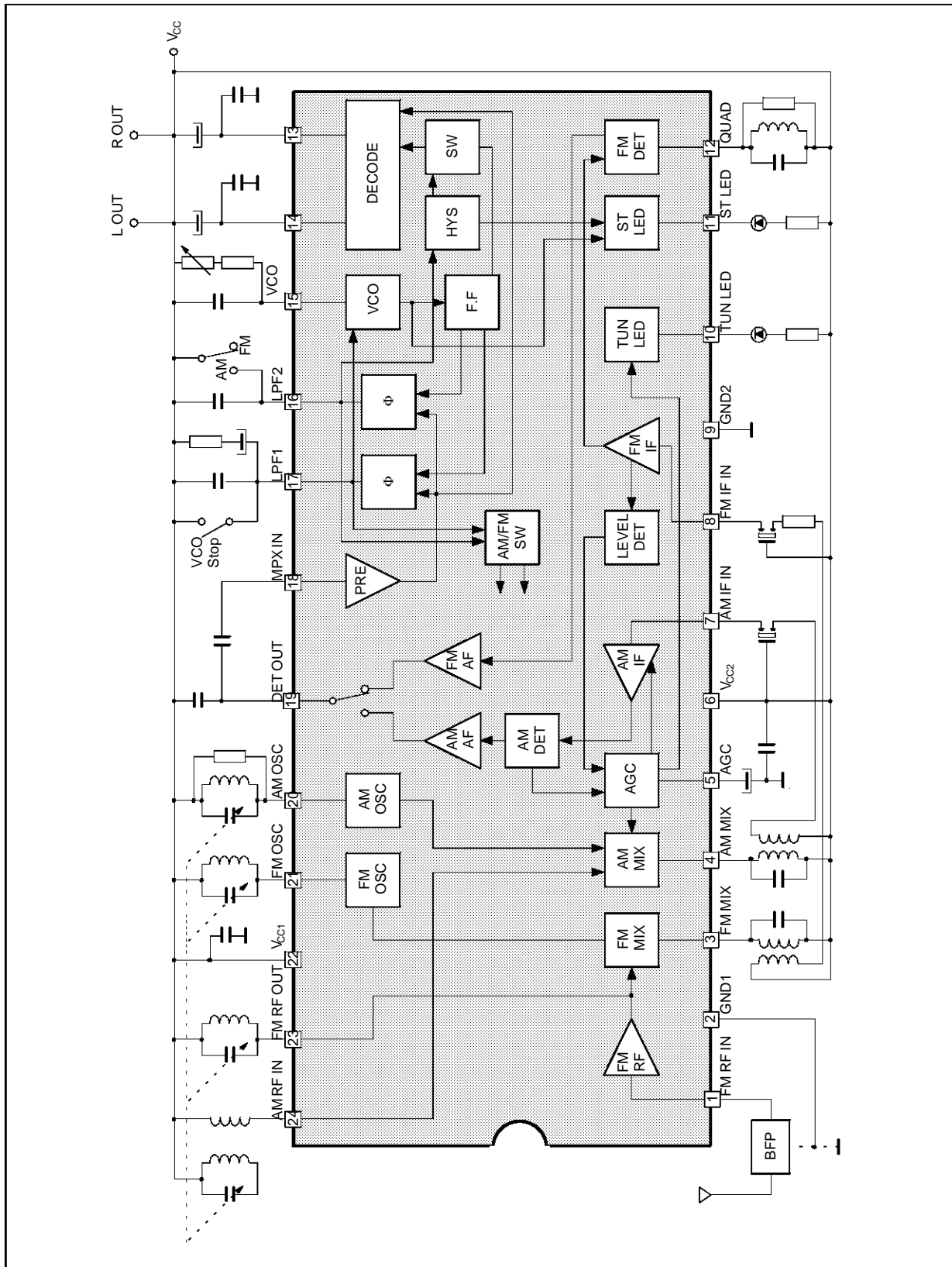
PIN CONNECTIONS



7222A-01.EPS / 7222AD01.EPS

TDA7222A - TDA7222AD

BLOCK DIAGRAM



7222A-02.EPS

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _S	Supply Voltage	9	V
I _{LED}	LED Current	10	mA
V _{LED}	LED Voltage	10	V
T _{oper}	Operating Temperature	-20, +70	°C
T _{stg}	Storage Temperature	-55, +150	°C

7222A-01.TBL

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Value	Unit
V _S	Supply Voltage	1.8 to 7	V
T _{oper}	Operating Temperature	0, +70	°C

7222A-02.TBL

ELECTRICAL CHARACTERISTICS (unless otherwise specified)

T_A = 25°C, V_{CC} = 3V F/E : f = 83MHz, f_m = 1kHz
 FM IF : f = 10.7MHz, Δf = ± 22.5kHz, f_m = 1kHz
 AM : f = 1MHz, MOD = 30%, f_m = 1kHz
 MPX : f_m = 1kHz

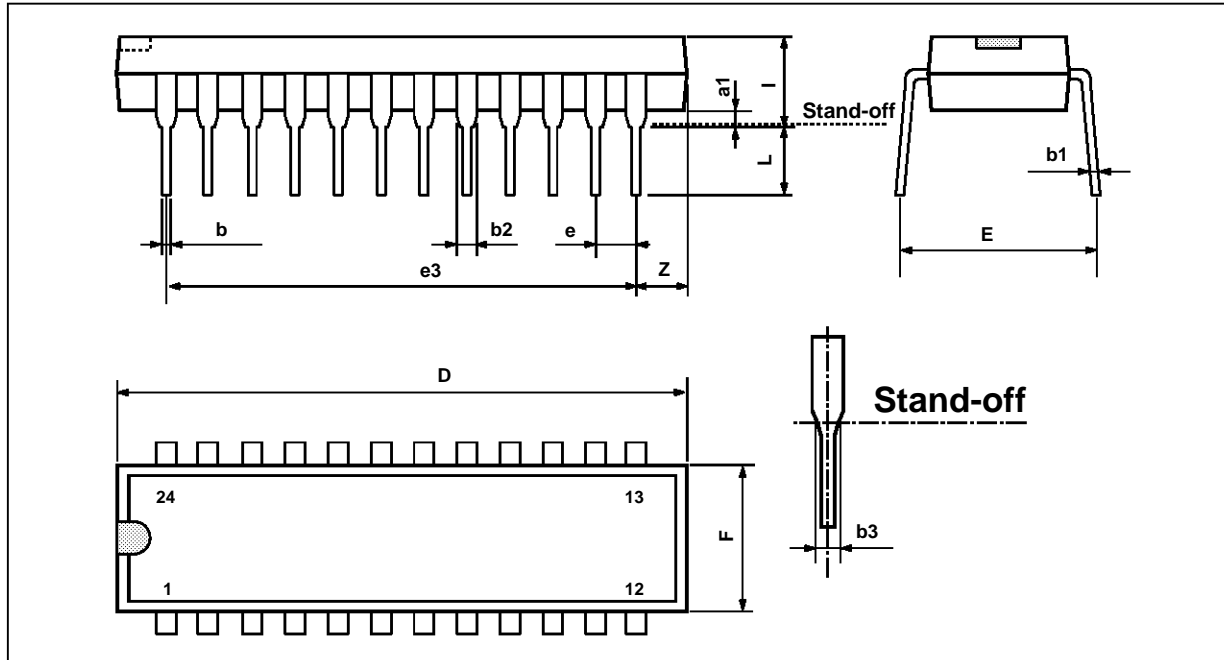
Symbol	Parameter		Test Conditions	Min.	Typ.	Max.	Unit	
I _{CC} (FM)	Supply Current		V _{IN} = 0, FM mode		13.2	20	mA	
I _{CC} (AM)			V _{IN} = 0, AM mode		8.4	13.5	mA	
V _{IN} (lim)	F/E	Input Limiting Voltage	- 3dB limiting		10.0		dBμ	
V _{OSC}		Local OSC Voltage	f _{OSC} = 72.3MHz		105		mV _{RMS}	
V _{IN} (lim) IF	FM IF	Input Limiting Voltage	- 3dB limiting	40	46	53	dBμ	
V _{OD}		Recovered Output Voltage	V _{IN} = 80dBμ	55	80	110	mV _{RMS}	
S/N		Signal to Noise Ratio	V _{IN} = 80dBμ		70		dB	
THD		Total Harmonic Distortion	V _{IN} = 80dBμ		0.4		%	
AMR		AM Rejection Ratio	V _{IN} = 80dBμ		32		dB	
V _L		Lamp ON Sensitivity	I _L = 1mA	45	51	56	dBμ	
G _V	AM	Gain	V _{IN} = 26dBμ	40	70	110	mV _{RMS}	
V _{OD}		Recovered Output Voltage	V _{IN} = 60dBμ	55	80	110	mV _{RMS}	
S/N		Signal to Noise Ratio	V _{IN} = 60dBμ		42		dB	
THD		Total Harmonic Distortion	V _{IN} = 60dBμ		1.0		%	
V _L		Lamp ON Sensitivity	I _L = 1mA	20	25	30	dBμ	
R ₁₉	Pin 19 Output Resistance		FM mode AM mode		0.75 12.75		kΩ kΩ	
R _{IN}		Input Resistance			24		kΩ	
R _{OUT}		Output Resistance			5		kΩ	
V _{IN} (Max.) Stereo	MPX	Max. Composite Signal Input Voltage	L + R = 90%, P = 10% f _m = 1kHz, THD = 3%		350		mV _{RMS}	
Sep		Separation	f _m = 100Hz f _m = 1kHz f _m = 10kHz	L + R = 135mV _{RMS} P = 15mV _{RMS}	25	32 32 32		dB dB dB
THD Monaural		Total Harmonic Distortion (monaural)	V _{IN} = 150mV _{RMS}		0.2		%	
THD Stereo		Total Harmonic Distortion (stereo)	L + R = 135mV _{RMS} P = 15mV _{RMS}		0.2		%	
G _V (MPX)		Voltage Gain	V _{IN} = 150mV _{RMS}		-5	-3	-1	dB
C.B.		Channel Balance	V _{IN} = 150mV _{RMS}		-2	0	2	dB

7222A-03.TBL

TDA7222A - TDA7222AD

PACKAGE MECHANICAL DATA (TDA7222A)

24 PINS - PLASTIC SHRINK DIP

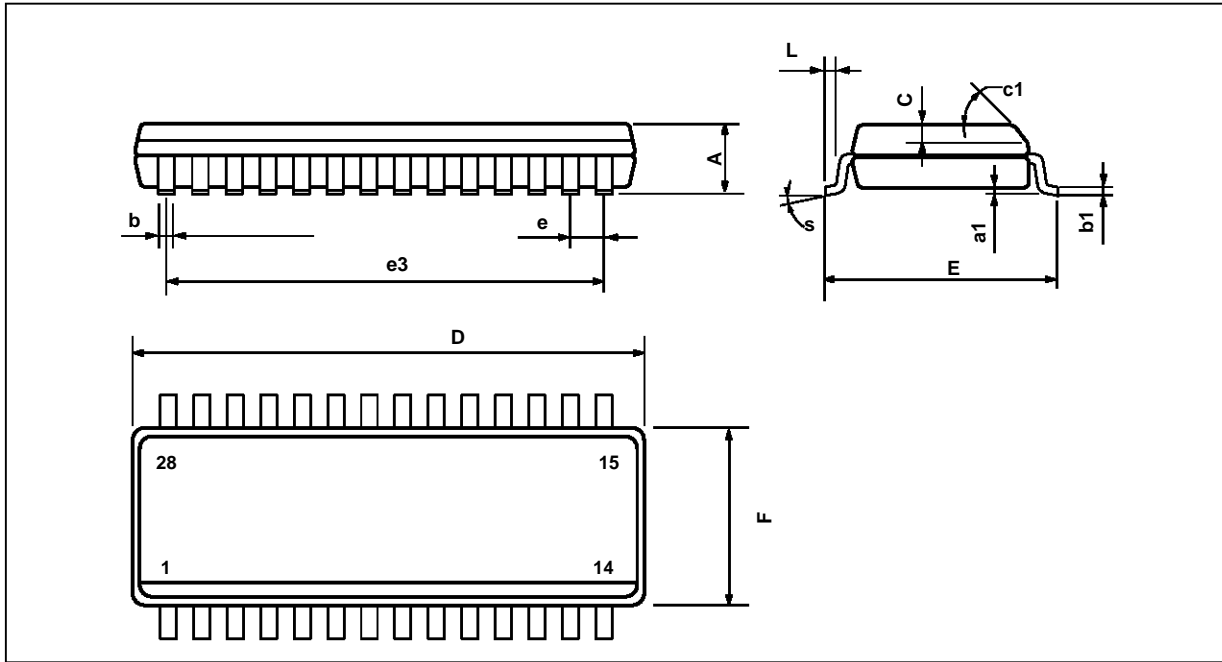


PMSDIP24.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		3.3			0.130	
a1	0.51			0.020		
b	0.35		0.59	0.014		0.023
b1	0.2		0.36	0.008		0.014
b2	0.75		1.42	0.030		0.056
b3	0.75			0.030		
D			23.11			0.910
E	7.95		9.73	0.313		0.383
e		1.778			0.070	
e3		19.558			0.770	
e4		7.62			0.300	
F			6.86			0.270
i			5.08			0.200
L	2.54			0.100		

SDIP24.TBL

PACKAGE MECHANICAL DATA (TDA7222AD)
 28 PINS - PLASTIC MICROPACKAGE (SO)



PM-SO28EFS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			2.65			0.104
a1	0.1		0.3	0.004		0.012
b	0.35		0.49	0.014		0.019
b1	0.23		0.32	0.009		0.013
C		0.5			0.020	
c1	45° (typ.)					
D	17.7		18.1	0.697		0.713
E	10		10.65	0.394		0.419
e		1.27			0.050	
e3		16.51			0.65	
F	7.4		7.6	0.291		0.299
L	0.4		1.27	0.016		0.050
S	8° (max.)					

SO28.TBL

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