

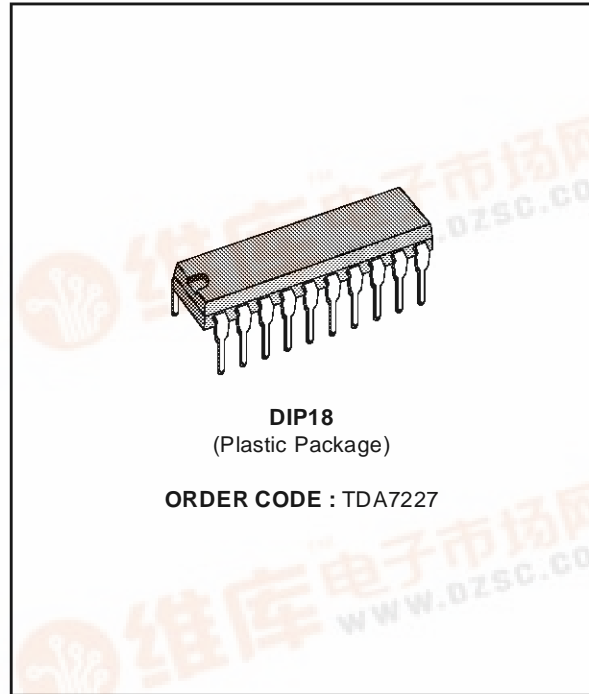


# TDA7227

## SINGLE-CHIP AM/FM RADIO WITH FRONT-END

### ADVANCE DATA

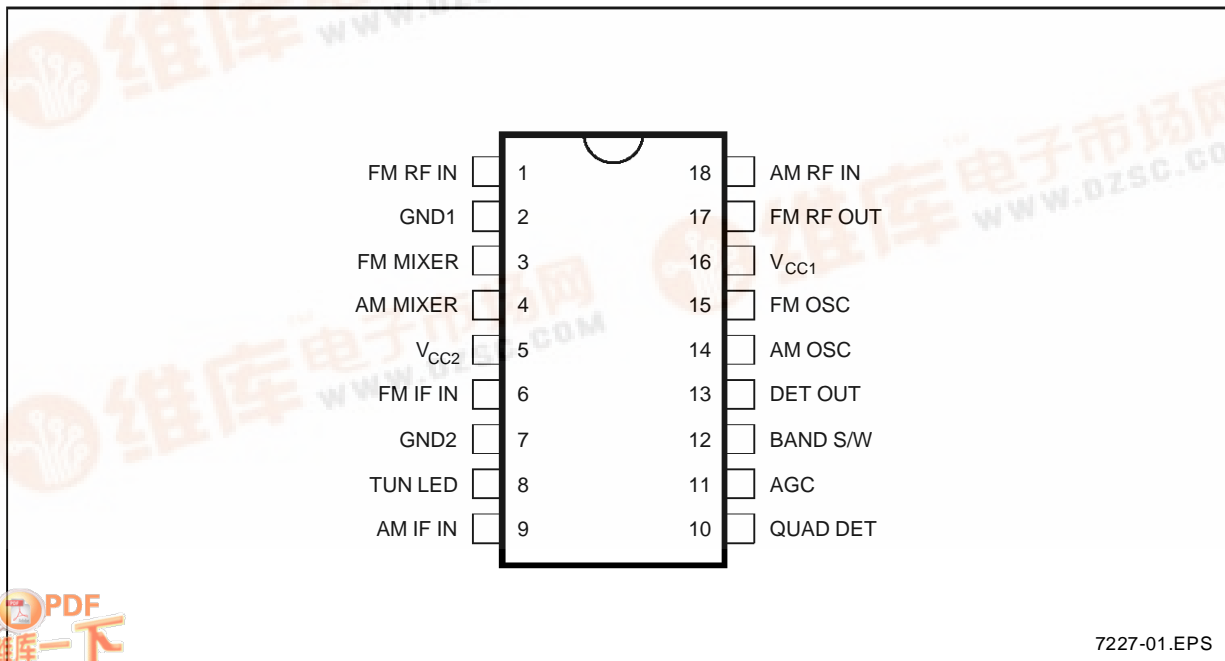
- BUILT-IN FM F/E AND AM/FM IF
- AM DETECTOR COIL AND IF COUPLING CAPACITOR ARE NOT NECESSARY
- WIDE OPERATING VOLTAGE RANGE (1.8 - 7V)
- LED DRIVE CIRCUIT FOR TUNING INDICATOR



### DESCRIPTION

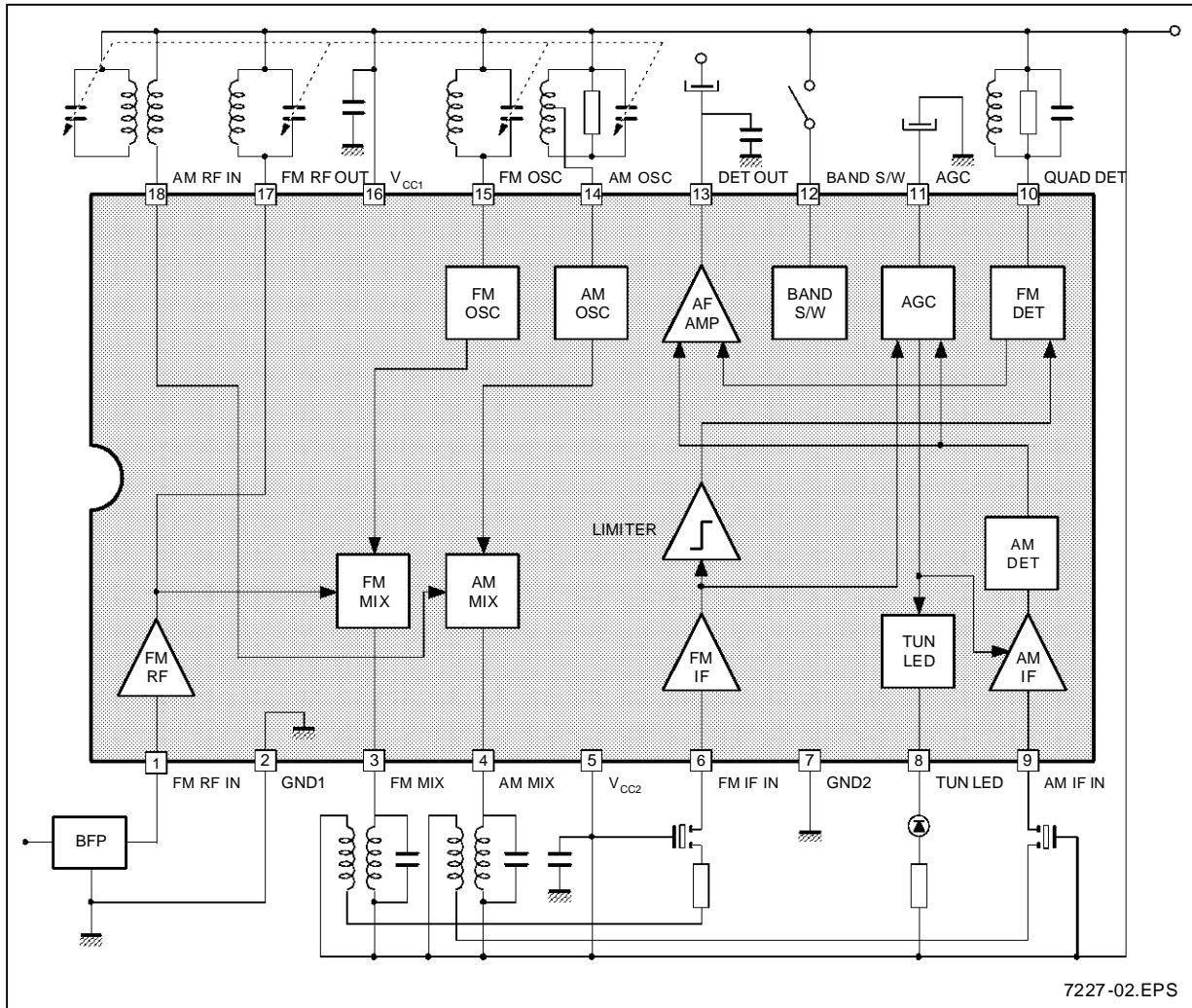
TDA7227 is a mono AM/FM one chip tuner ICs which is designed for portable radios, clock radios and radio cassette recorders.

### PIN CONNECTIONS



# TDA7227

## BLOCK DIAGRAM



## 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	- 25 to 75	°C
$T_{stg}$	Storage Temperature	-55 to 150	°C

7227-01.TBL

## RECOMMENDED OPERATING CONDITION AT $T_A = 25^\circ\text{C}$

Symbol	Parameter	Value	Unit
$V_S$	Supply Voltage	1.8 to 7	V
$T_{oper}$	Operating Temperature	- 20 to 60	°C

7227-02.TBL

**ELECTRICAL CHARACTERISTICS**

$T_A = 25^\circ\text{C}$ ,  $V_{CC} = 3\text{V}$  F/E :  $f = 100\text{MHz}$ ,  $f_m = 1\text{kHz}$   
 FM IF :  $f = 10.7\text{MHz}$ ,  $f = + 22.5\text{kHz}$ ,  $f_m = 1\text{kHz}$   
 AM :  $f = 1\text{MHz}$ ,  $m = 30\%$ ,  $f_m = 1\text{kHz}$

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_S$	Supply Voltage		1.8	3	7	V
$I_{CC}$	Supply Current	$V_{IN} = 0$ , FM mode $V_{IN} = 0$ , AM mode		9 7		mA mA
$V_{IN} (lim)$	FM F/E Input Limiting Voltage	- 3dB limiting		10		dB $\mu$

**FM SECTION**

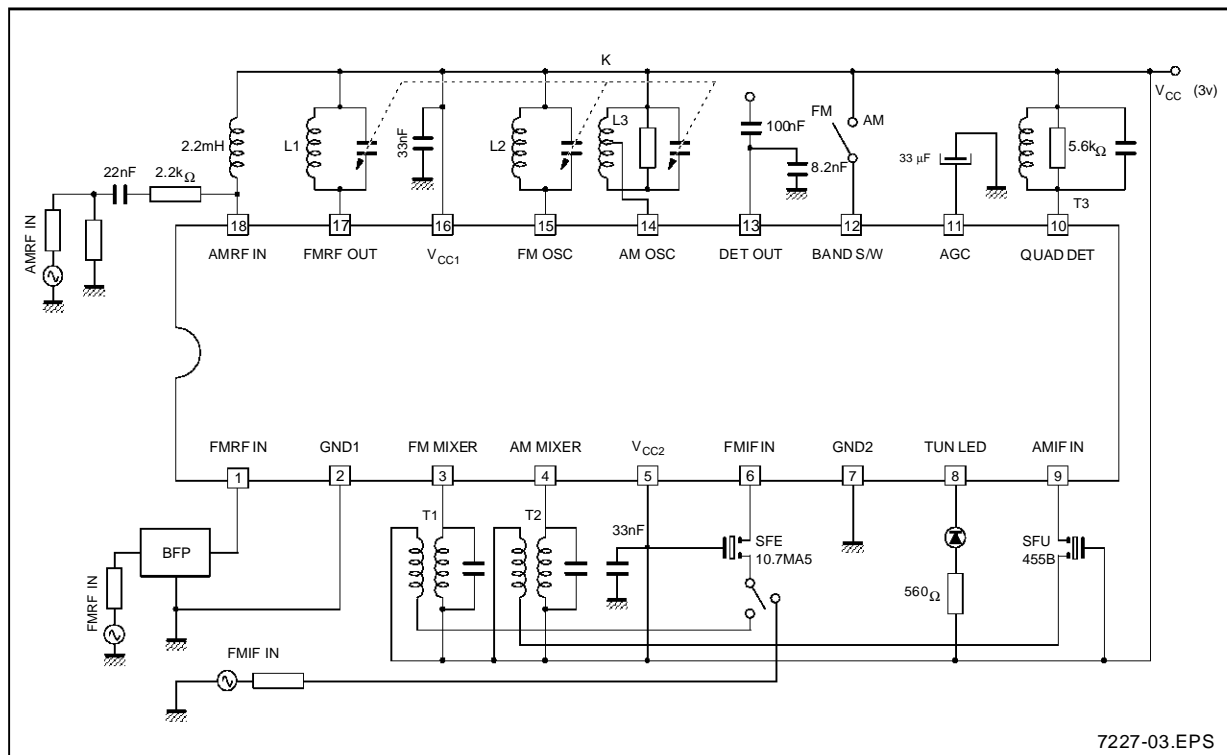
$V_{IN} (lim)$	Input Limiting Voltage	- 3dB limiting		44		dB $\mu$
$V_O$	Recovered Output Voltage	$V_{IN} = 80\text{dB}\mu$		80		mV
S/N	Signal to Noise Ratio	$V_{IN} = 80\text{dB}\mu$		70		dB
THD	Total Harmonic Distorsion	$V_{IN} = 80\text{dB}\mu$		0.4		%
AMR	AM Rejection Ratio	$V_{IN} = 80\text{dB}\mu$		50		dB

**AM SECTION**

$G_V$	Gain	$V_{IN} = 26\text{dB}\mu$		40		mV
$V_O$	Recovered Output Voltage	$V_{IN} = 60\text{dB}\mu$		60		mV
S/N	Signal to Noise Ratio	$V_{IN} = 60\text{dB}\mu$		44		dB
THD	Total Harmonic Distorsion	$V_{IN} = 60\text{dB}\mu$		1.0		%
$R_O$	Pin 12 Output Resistance	FM mode AM mode		5 5		k $\Omega$ k $\Omega$

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**TEST CIRCUIT**



7227-03.EPS

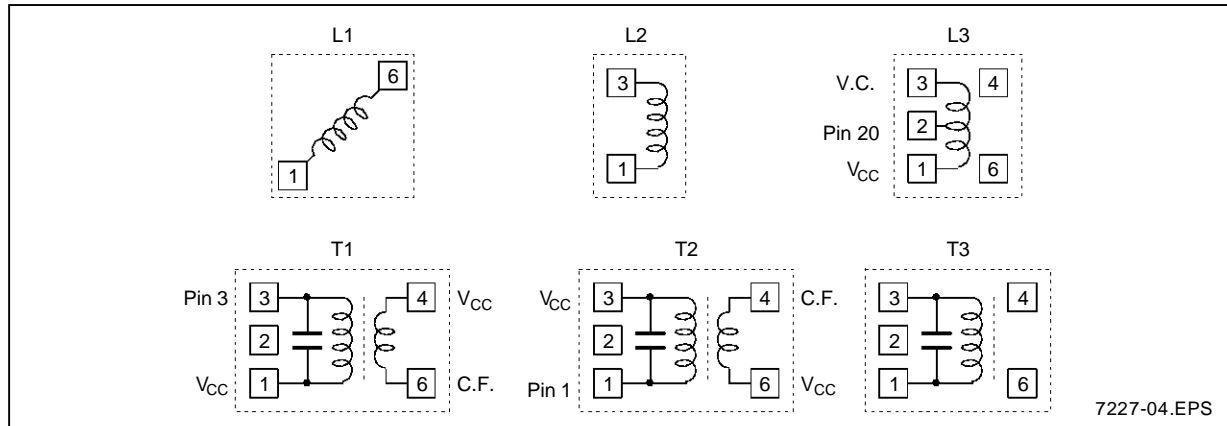
# TDA7227

## COIL DATA

Coil N°	f (Hz)	L (μH)	C <sub>o</sub> (pF)	Q <sub>o</sub>	Turns					Wire (mmØ)	Ref. *
					1 - 2	2 - 3	1 - 3	1 - 4	1 - 6		
L1 FM RF	100M			100				2 $\frac{1}{2}$		0.5 UEW	
L2 FM OSC	100M			100			2 $\frac{3}{4}$			0.5 UEW	
L3 AM OSC	796k	288		115	13	73				0.08 UEW	S - 4147 - 1356 - 045
T1 FM MIX	10.7M		75	115			12		1	0.12 UEW	S - 0133 - 309 - 045
T2 AM MIX	455k		180	120			180		15	0.08 UEW	S - 2150 - 2162 - 165
T3 FM DET	10.7M		47	165			16			0.09 UEW	S - 2153 - 4095 - 132

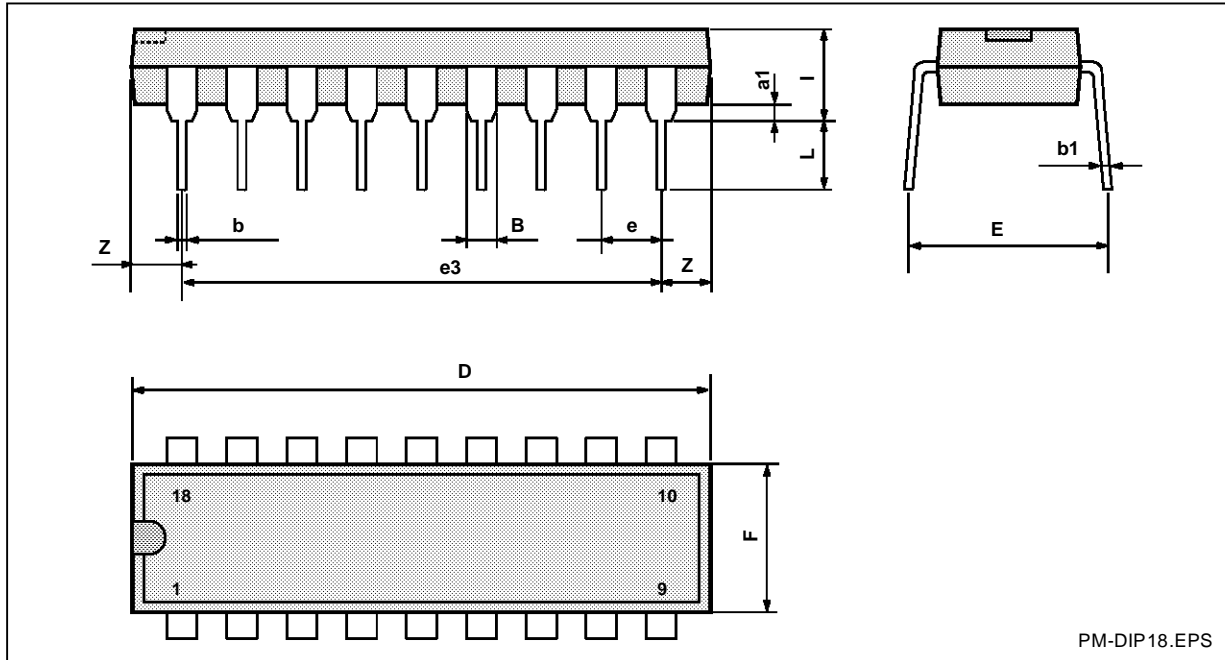
\* S : Sumida Electronic CO, Ltd.

7227-04.TBL



**PACKAGE MECHANICAL DATA**

18 PINS - PLASTIC DIP



Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
a1	0.254			0.010		
B	1.39		1.65	0.055		0.064
b		0.46			0.018	
b1		0.25			0.010	
D			23.24			0.914
E		8.5			0.335	
e		2.54			0.100	
e3		20.32			0.800	
F			7.1			0.280
i			3.93			0.155
L		3.3			0.130	
Z		1.27	1.59		0.050	0.062

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