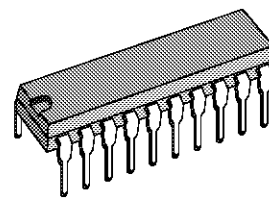


SINGLE-CHIP AM/FM RADIO WITH FRONT-END

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



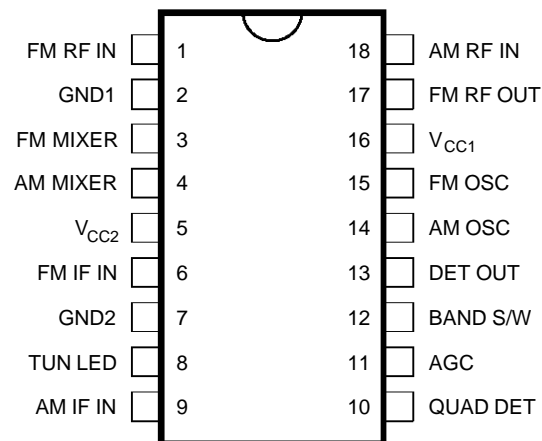
DIP18
(Plastic Package)

ORDER CODE : TDA7227

DESCRIPTION

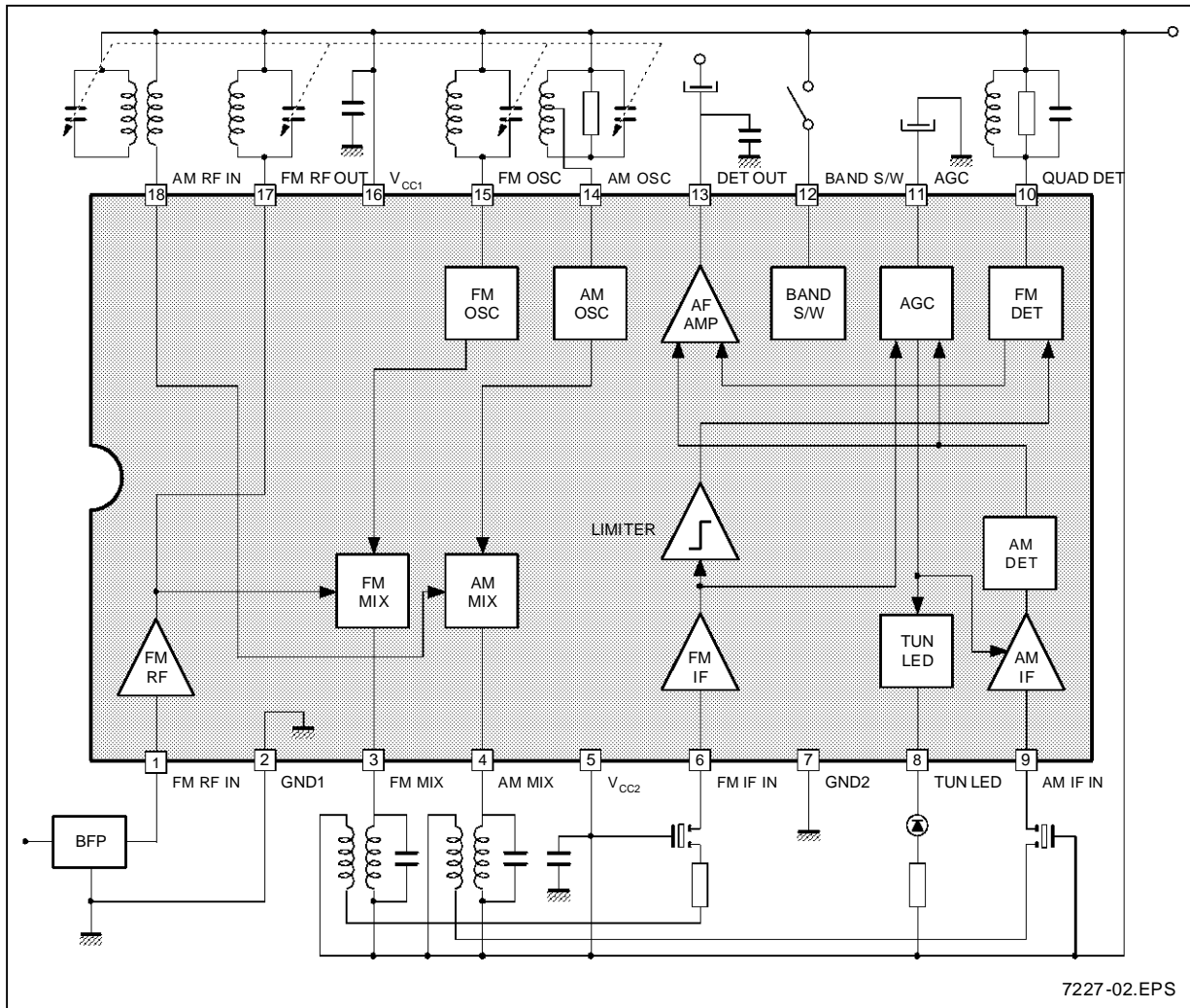
TDA7227 is a mono AM/FM one chip tuner ICs which is designed for portable radios, clock radios and radio cassette recorders.

PIN CONNECTIONS



7227-01.EPS

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°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 μ

FM SECTION

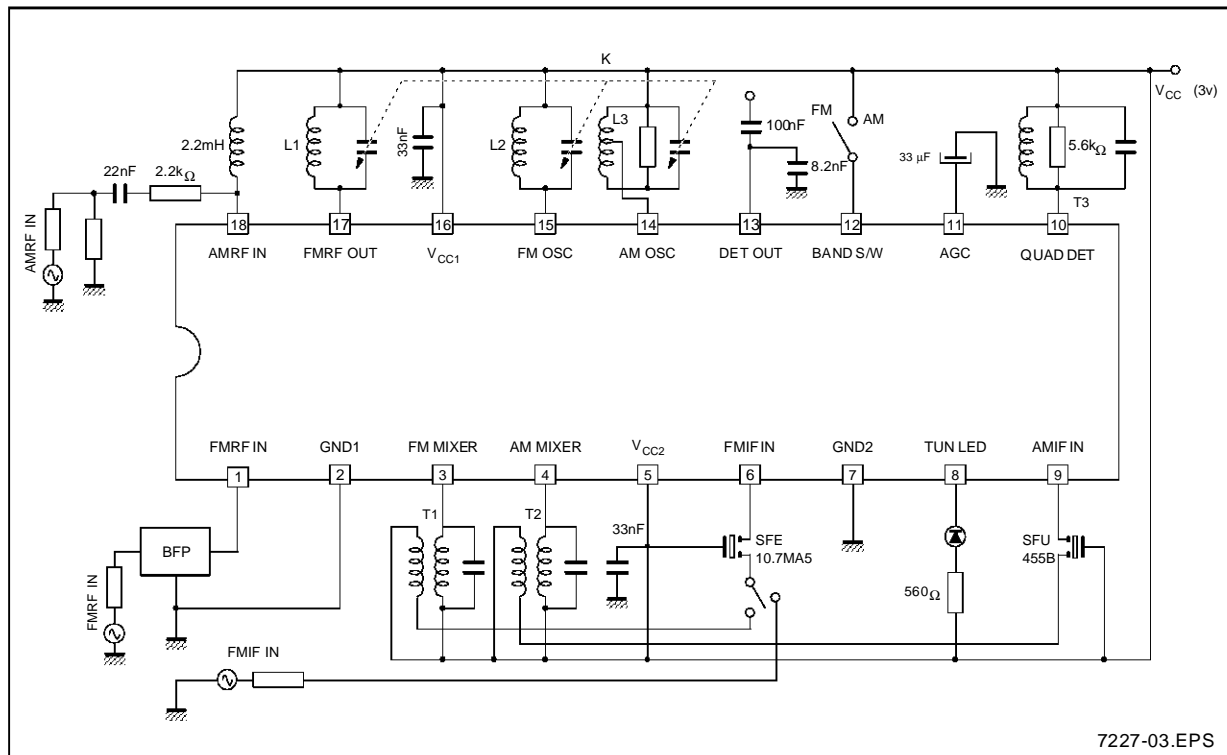
$V_{IN} (lim)$	Input Limiting Voltage	- 3dB limiting		44		 dB μ
V_O	Recovered Output Voltage	$V_{IN} = 80\text{dB}\mu$		80		 mV
S/N	Signal to Noise Ratio	$V_{IN} = 80\text{dB}\mu$		70		 dB
THD	Total Harmonic Distorsion	$V_{IN} = 80\text{dB}\mu$		0.4		 %
AMR	AM Rejection Ratio	$V_{IN} = 80\text{dB}\mu$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

7227-03.TBL

TEST CIRCUIT



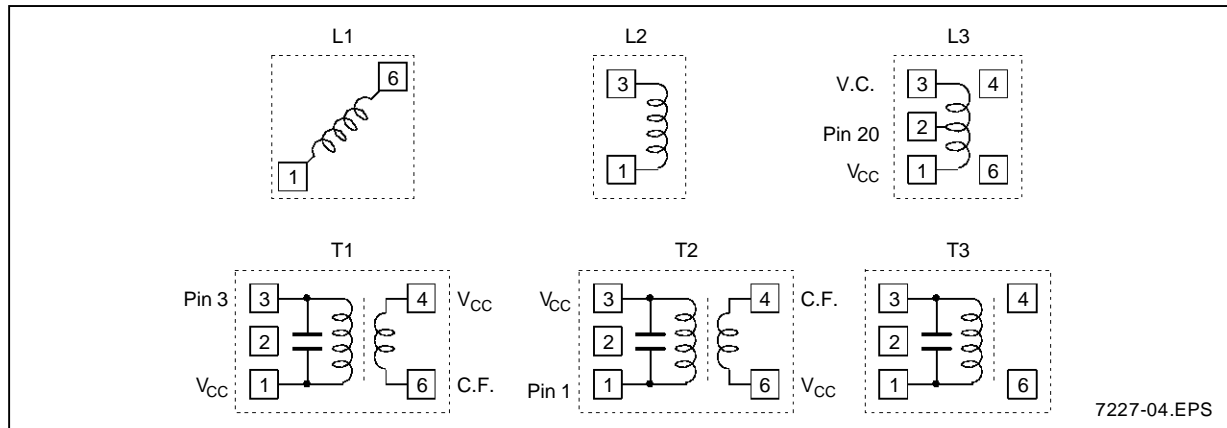
TDA7227

COIL DATA

Coil N°	f (Hz)	L (μH)	C _o (pF)	Q _o	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

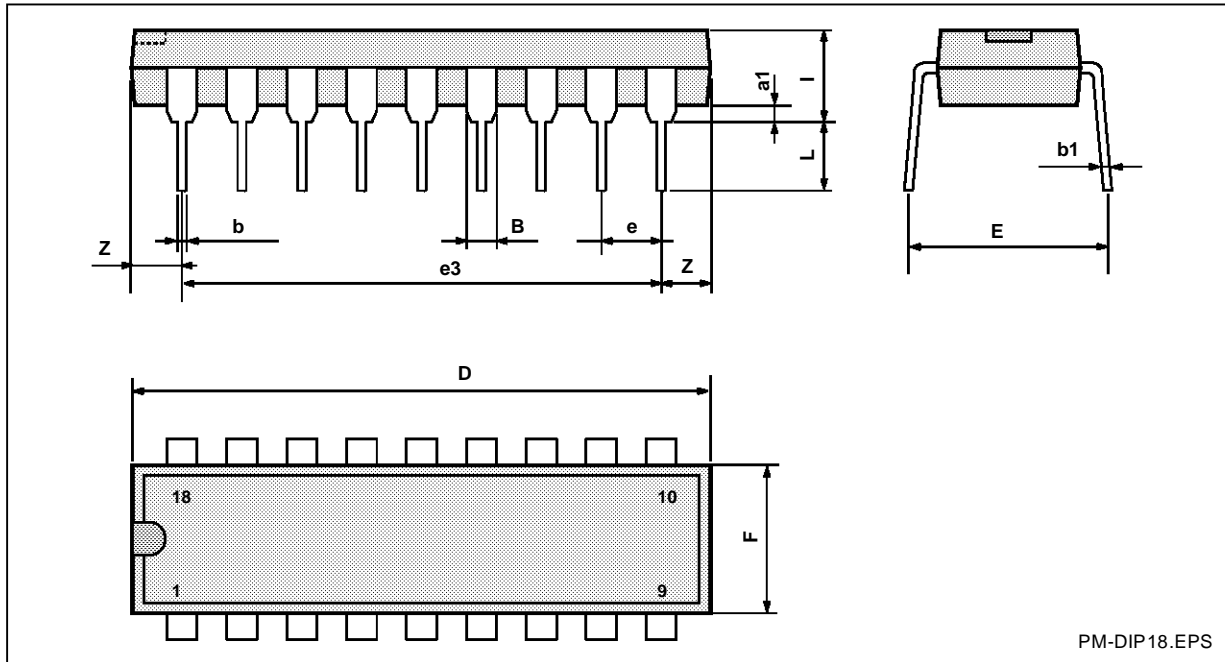
* S : Sumida Electronic CO, Ltd.

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

DIP18.TBL

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