

TOSHIBA CMOS DIGITAL INTEGRATED CIRCUIT SILICON MONOLITHIC

TC9321F-006**SINGLE CHIP DIGITAL TUNING SYSTEM FOR CAR CD**

TC9321F-006 is a CMOS LSI designed for a PLL frequency synthesizer radio system corresponded to the requirement of the whole world.

Since TC9321F-006 can be used for TC9284BF the CD processor, a low cost compact CD radio system can be constructed.

FEATURES

- CD mecha : TN-CCD-1001 (TANASHIN)
- PLL + controller : TC9321F-006 (QFP-60PIN)
- LCD driver can control condition of key. : TC9297F (QFP-60PIN)
- electronic volume : TC9421F (QFP-44PIN)

980910EBA1

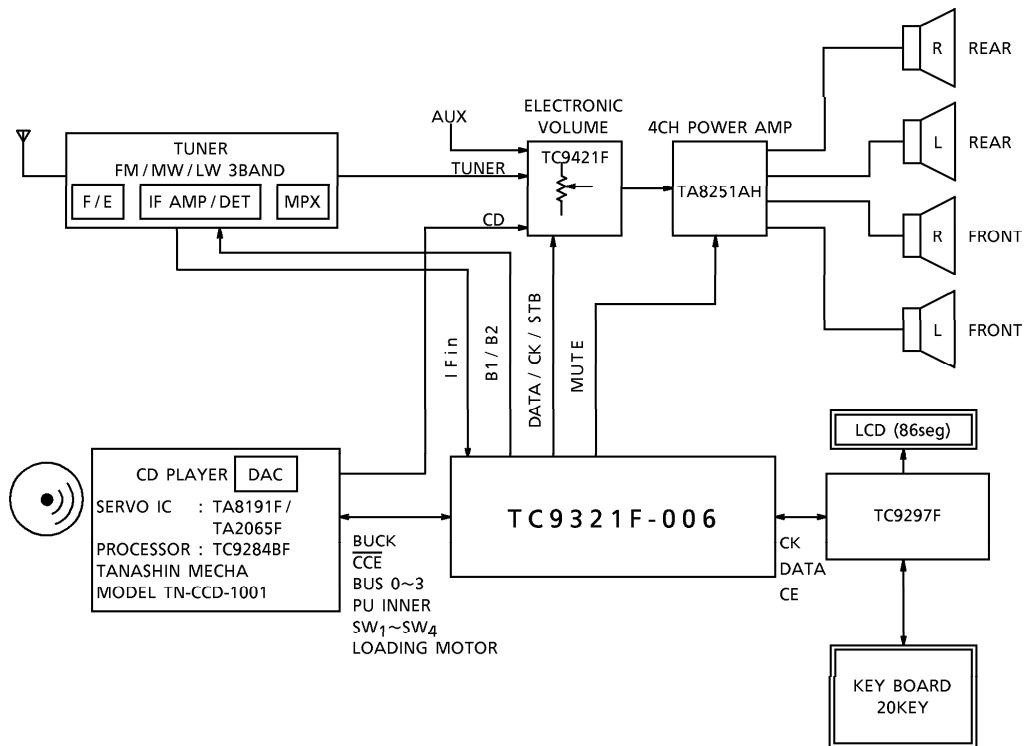
- TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.
- The products described in this document are subject to the foreign exchange and foreign trade laws.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.

○ Receiving band and preset memory

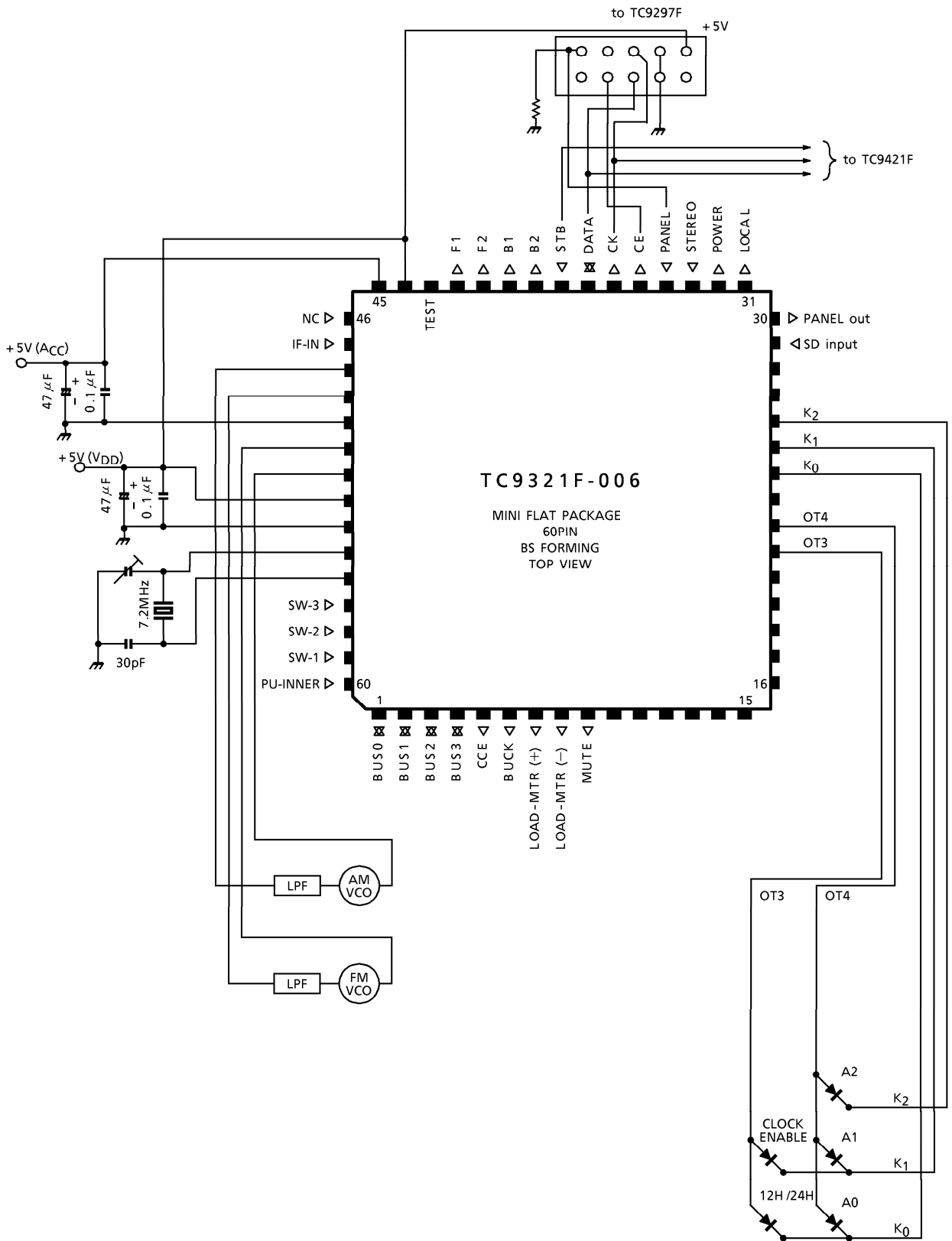
AREA	CODE			BAND	RECEIVING FREQUENCY [Hz]	STEP [Hz]	FREF [Hz]	IF [Hz]
	A2	A1	A0					
EUROPE	0	0	0	FM	87.50~108.00M	50k	50k	+ 10.70M
				MW	522~ 1620k	9k	9k	+ 450k
				LW	150~ 285k	1k	1k	
	0	0	1	FM	87.50~108.00M	50k	50k	+ 10.70M
USA (1)	0	1	0	AM	522~ 1620k	9k	9k	+ 450k
				FM	87.5~ 107.9M	200k	50k	+ 10.7M
USA (2)	0	1	1	AM	520~ 1710k	10k	10k	+ 450k
				FM	87.5~ 108.0M	100k	50k	+ 10.7M
LATIN AMERICA	1	0	0	AM	520~ 1620k	5k	5k	+ 450k
				FM	87.5~ 108.0M	100k	50k	+ 10.7M
AUSTRALIA MIDDLE AND NEAR EAST	1	0	1	AM	531~ 1602k	9k	9k	+ 450k
				FM	87.5~ 108.0M	100k	50k	+ 10.7M
SOUTH AFRICA	1	1	1	AM	531~ 1602k	9k	9k	+ 450k
				FM	87.50~108.00M	50k	50k	- 10.7M

- Tuning functions
 - manual up/down tuning
 - seek up/down tuning
 - auto memory tuning
 - preset memory scan
 - IF count (FM = 10.7MHz, MW (AM) / LW = 450kHz)
 - FM1/2/3 : 18 stations, MW (AM) 1 or 1/2 : 6 or 12 stations, LW : 6 stations
- CD functions
 - track repeat play
 - random play
 - F-skip/P-skip
 - CD FF/REW
- Other functions
 - electronic volume control
 - BASS BOOST function
 - mute function
 - AUX function
 - indication of STEREO mark
- Clock functions
 - 12H/24H clock

BLOCK DIAGRAM



TC9321F-006 Layout



TC9321F-006 Layout

