

TOSHIBA CMOS DIGITAL INTEGRATED CIRCUIT SILICON MONOLITHIC

TC9309F-106

SINGLE CHIP DIGITAL TUNING SYSTEM FOR CD RADIO CASSETTE

TC9309F-106 is a CMOS LSI designed for a PLL frequency synthesizer radio system corresponded to the requirement of the whole world.

Since TC9309F-106 can be used for TC9236F (AF) the CD processor and receive remote control signal, a low cost compact CD radio system can be constructed.

FEATURES

- Receiving band and preset memory

AREA	CODE	BAND	FREQUENCY RANGE [Hz]	STEP [Hz]	FREF [Hz]	IF [Hz]
	A2A1A0					
EUROPE	000	FM	87.50~108.00M	50k	50k	+ 10.70M
	or	MW	522~ 1620k	9k	9k	+ 450k
	001	LW	150~ 285k	1k	1k	
USA1	010	FM	87.5~ 107.9M	200k	50k	+ 10.7M
		MW	520~ 1710k	10k	10k	+ 450k
USA2	011	FM	87.5~ 108.0M	100k	50k	+ 10.7M
		MW	520~ 1710k	10k	10k	+ 450k
LATIN AMERICA	100	FM	87.5~ 108.0M	100k	50k	+ 10.7M
		MW	520~ 1620k	10k	10k	+ 450k
AUSTRALIA MIDDLE AND NEAR EAST	101	FM	87.5~ 108.0M	100k	50k	+ 10.7M
		MW	531~ 1602k	9k	9k	+ 450k
JAPAN	110	UNUSED				
SOUTH AFRICA	111	FM	87.50~108.00M	50k	50k	- 10.7M
		MW	531~ 1602k	9k	9k	+ 450k

(Note 1) CODE = 0, 0, 0 : 3Band (FM / MW / LW), CODE = 0, 0, 1 : 2Band (FM / MW)
In case of CODE = 0, 0, 0, B2 Input Port must fixed to "L".

(Note 2) Except for CODE = 0, 0, 0, Band indicator is FM / AM display.

(Note 3) Receiving frequency of FM is as shown below by area.

Europe, ... ↔ 107.9 ↔ 107.95 ↔ 108.0 ↔ 87.5 ↔ 87.55 ↔ 87.6 ↔ ...
 South Africa
 USA1 ... ↔ 107.5 ↔ 107.7 ↔ 107.9 ↔ 87.5 ↔ 87.7 ↔ 87.9 ↔ ...
 OTHERS ... ↔ 107.8 ↔ 107.9 ↔ 108.0 ↔ 87.5 ↔ 87.6 ↔ 87.7 ↔ ...

961001EBA2

- 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 foreign exchange and foreign trade control 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.

- Tuning functions and preset memory
 - manual up/down tuning
 - seek up/down tuning
 - scan up tuning
 - IF count (FM = $\pm 10.7\text{MHz}$, MW (AM) = 450kHz)
- Preset memory functions
 - FM : 10 stations, MW (AM) : 10 stations, LW : 5 stations total max. 25 stations
- Clock functions
 - 12H/24H clock
- CD functions
 - random play
 - intro play
 - repeat play or track repeat play
 - memory play (max 20 preset)
 - CD FF/REW
 - synchro rec mode
 - tray open/close control
 - indication of CD remain time
- Remote control functions
 - mute ON/OFF
 - volume up/down
 - direct selecting of preset memory and track number
- Other functions
 - function change (CD/TUNER/TAPE/AUX)
 - indication of STEREO mark
 - power on/off key

BLOCK DIAGRAM



