

TOSHIBA CMOS DIGITAL INTEGRATED CIRCUIT SILICON MONOLITHIC

TC9309F-011**SINGLE CHIP DTS MICRO CONTROLLER (DTS-10)**

TC9309F-011 is a CMOS LSI designed for FM/MW/LW radio of PLL frequency synthesizer system corresponded to the requirement of the whole world.

Since prescaler and LCD driver are built in addition to PLL and controller, the compact FM/MW/LW digital tuning system of high performance with clock car stereo can be constructed.

FEATURES

○ Receiving band

AREA	CODE	BAND	RECEIVING BAND [Hz]	STEP [Hz]	REF [Hz]	IF [Hz]
	A2A1A0					
Europe	000	FM	87.50~108.00M	50k / 25k	25k	+ 10.70M
	or 001	MW	522~ 1620k	9k	9k	+ 459k
		LW	153~ 281k	1k	1k	/ + 450k
USA 1	010	FM	87.5~ 108.1M	200k	50k	+ 10.7M
		MW	520~ 1720k	10k	10k	+ 450k
USA 2	011	FM	87.5~ 108.0M	100k	50k	+ 10.7M
		MW	520~ 1720k	10k	10k	+ 450k
Latin America	100	FM	87.5~ 108.0M	100k	50k	+ 10.7M
		MW	520~ 1620k	5k	5k	+ 450k
Australia Middle and Near East	101	FM	87.5~ 108.0M	100k	50k	+ 10.7M
		MW	531~ 1602k	9k	9k	+ 450k
Japan	110	FM	76.0~ 90.0M	100k	50k	- 10.7M
		MW	522~ 1629k	9k	9k	+ 450k
South Africa	111	FM	87.50~108.00M	50k / 25k	25k	- 10.70M
		MW	531~ 1602k	9k	9k	+ 450k

CODE = "000" is 3 BAND version of Europe. CODE = "001" is 2 BAND version of Europe.

980910EBA2

- 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.

○ Tuning function

- MANUAL TUNING (UP/DOWN)
- AUTO TUNING (SEEK AND SCAN)
- AUTO MEMORY TUNING
- PRESET MEMORY SCAN

○ Memory function

- FM1/FM2/FM3 : MAX 18 STATIONS
 - MW1/MW2 : MAX 12 STATIONS
 - LW and SDK (FM) : MAX 6 STATIONS
- } MAX 42 STATIONS
- Each band have last memory.

○ Clock function

- 24h display in EUROPE
- 12h display in other area

○ Other function

- STEREO/MONO, LOCAL/DX, LOUDNESS, METAL/NORMAL, NOISE REDUCTION and, the display and the control output of AUTO PROGRAM SEARCH
- The control output and the level indicator of electronic volume
- The buzzer sound is output when the function key is pushed.

○ Tracking data

BAND	AREA	M1	M2	M3	M4	M5	UNIT
FM	Europe, South Africa	87.50	90.10	98.10	106.10	108.00	MHz
	USA 1	87.5	90.1	98.1	106.1	108.1	
	Australia, Latin America USA 2, Middle and Near East	87.5	90.1	98.1	106.1	108.0	
	Japan	76.0	80.0	83.0	86.0	90.0	
MW	Europe	522	612	999	1404	1620	kHz
	USA 1, 2	520	610	1000	1400	1720	
	Latin America	520	610	1000	1400	1620	
	Australia, South Africa Middle and Near East	531	612	999	1404	1602	
	Japan	522	612	999	1404	1629	
LW	Europe	153	164	218	272	281	

TC9309F-011 Layout

