

TOSHIBA CMOS DIGITAL INTEGRATED CIRCUIT SILICON MONOLITHIC

**TC9309F-002****SINGLE CHIP DTS MICRO CONTROLLER (DTS-10)**

TC9309F-002 is a CMOS LSI designed for FM/MW/LW radio of PLL frequency synthesizer system corresponded to the requirement of the whole world.

Since DTS, clock, tape function and electronic volume control function are built in, volume, balance, tone and fader control can be used with TC9222N, TC9222F or TC9188N, TC9188F.

**FEATURES**

## ○ Receiving band

AREA	CODE	BAND	RECEIVING BAND [Hz]	STEP [Hz]	REF [Hz]	IF [Hz]
	A2A1A0					
Europe	000	FM	87.50~108.00M	50k	50k	+ 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	50k	- 10.70M
		MW	531~ 1602k	9k	9k	+ 450k

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

## ○ Tuning function

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

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- Memory function
    - FM1/FM2/FM3 : MAX 18 STATIONS
    - MW1/MW2 : MAX 12 STATIONS
    - LW : MAX 6 STATIONS

} MAX 36 STATIONS

  - Each band have last memory.
- Clock function
    - 24h display in EUROPE
    - 12h display in other area
  - Other function
    - RADIO : STEREO DISPLAY, STEREO/MONO, LOCAL/DX
    - TAPE : METAL/NORMAL, NOISE REDUCTION, DIRECTION DISPLAY
    - COMMON : LOUDNESS
  - Electronic volume function (with TC9222N, TC9222F or TC9188N, TC9188F)
    - The control of volume, balance, tone, fader.
    - Indicator of electronic volume by 5 points.
    - Mute function.
  - The other function
    - CD input and display
    - 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-002 Layout

