

TOSHIBA CMOS DIGITAL INTEGRATED CIRCUIT SILICON MONOLITHIC

TC9309F-059

DIGITAL TUNING SYSTEM

TC9309F-059 is a single chip digital tuning system LSI designed for FM/MW/LW ratio of PLL frequency synthesizer system corresponded to the requirement of the whole world. It has within auto memory mode, remote control, SDK, security function, and key data-chable function of high performance with clock car stereo.

FEATURES

○ Receiving band

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 001	MW	522~1620k	9k	9k	+450k
		LW	153~281k	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	5k	5k	+450k
AUSTRALIA MIDDLE AND NEAR EAST	101	FM	87.5~108.0M	100k	50k	+10.7M
		MW	531~1602k	9k	9k	+450k
EASTERN EUROPE	110	FM	65.50~74.00M 87.50~108.00M	50k	50k	+10.70M
		MW	522~1620k	9k	9k	+450
SOUTH AFRICA	111	FM	87.50~108.00M	50k	50k	-10.7M
		MW	531~1602k	9k	9k	+450k

(Note) CODE = "000" is 3 Band version of Europe.
CODE = "001" is 2 Band version of Europe.

961001EBA1

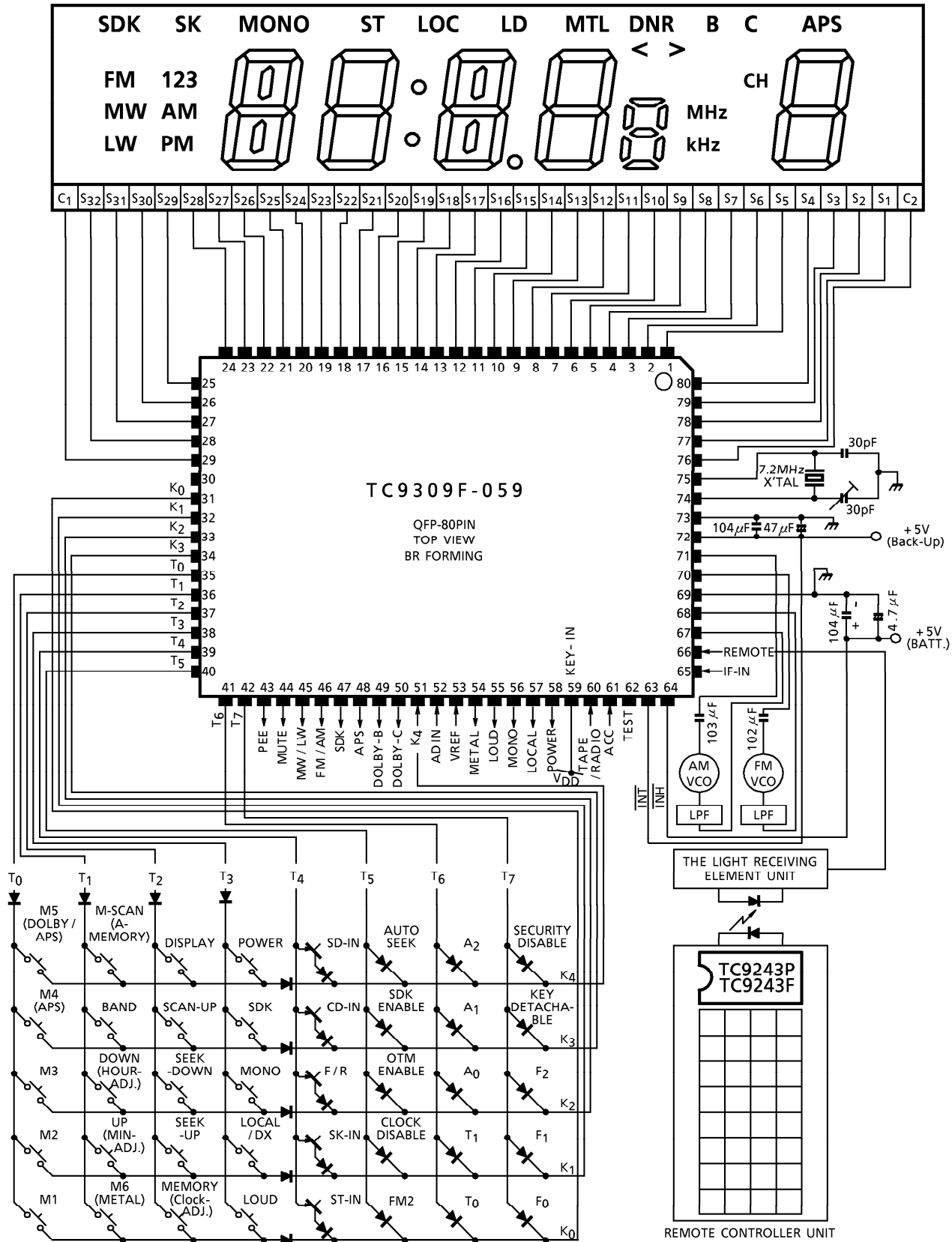
- TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing 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 function
 - Manual tuning
 - SEek tuning (up/down)
 - SCan tuning (up/*down) * Scan down tuning : Remote controller only.
 - Preset memory scan tuning
 - Auto memory tuning
 - IF count can be used (FM = ± 10.7 MHz, MW = 450 kHz)
- MEMORY FUNCTION
 - Preset memory
 - FM 18 stations (FM1, FM2, FM3)
 - MW 12 stations (MW1, MW2)
 - LW 6 stations
 - SDK 6 stations
 - One touch memory
- Function switch
 - Stereo / mono
 - Local / DX
 - Loudness on / off
 - Metal tape / normal tape
 - Dolby on / off and "B", "C"
 - ASP on / off
- Other functions
 - SDK / SK function
 - Remote control (Transmitter IC : TC9243P, TC9243F)
 - Security function
 - Key detachable function (Key input IC : TC9290P, TC9290F)
 - Power switch function
 - Tape direction indication
 - CD input

○ Tracking data

BAND	AREA	M1	M2	M3	M4	M5	M6
FM	EUROPE, SOUTH AFRICA	87.50	87.90	97.90	105.90	108.00	87.50
	USA1	87.5	87.9	97.9	105.9	107.9	87.5
	AUSTRALIA, LATIN AMERICA USA2, MIDDLE AND NEAR EAST	87.5	87.9	97.9	105.9	108.0	87.5
	EASTERN EUROPE	65.50	74.00	87.50	97.90	108.00	65.50
MW	EUROPE, EASTERN EUROPE	522	603	999	1404	1620	522
	USA1, 2	520	600	1000	1400	1710	520
	LATIN AMERICA	520	600	1000	1400	1620	520
	AUSTRALIA, SOUTH AFRICA MIDDLE AND NEAR EAST	531	603	999	1404	1602	531
LW	EUROPE	153	164	218	272	281	153

LAYOUT (Normal specification)



LAYOUT (Key detachable specification)

