

This is special specification which differs from our standard specification for customer.

1. ELECTRICAL CHARACTERISTICS

ITEM	DESCRIPTION
晶体	有脚晶体和贴片晶体可共用

2. THE OTHERS

ITEM	DESCRIPTION

DESIGN	CHECK	APPROVAL	DATE:
			REV. B

1. APPLICATION

This specification cover the tuner to be used for FM broadcast reception

2. APPENDENT DOCUMENTS

2-1.Reflow Profile figure 1

2-3.Dimensions and terminal connection figure 2

3. RECEIVING METHOD

Fm section is designed super heterodyne receiving circuit with RF.

Amp(As shown in the attached drawings)

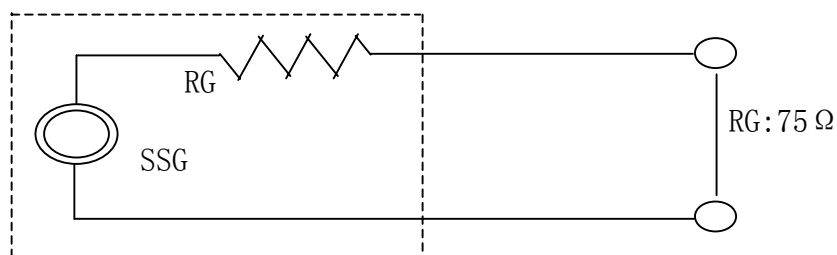
4. ELECTRICAL SPECIFICATION&CHARACTERISTICS

4-1.Electrical specification

NO.	ITEMS	SPECIFICATION
		FM
4-1-1.	Usable IC	PHILIPS TEA5767HN
4-1-2.	Local OSC	Below the receiving frequency
4-1-3.	Frequency cover range	76.0~108.0MHz
4-1-4.	Intermediate frequency	225KHz
4-1-5.	Standard supply voltage	2.5~5.0V(Typ:3.0V)
4-1-6.	Operating supply current	8.0~14.6mA(Typ:11.0mA)
4-1-7.	Stand by current	bus enable line HIGH 88uA max(Typ:60uA) bus enable line LOW 34uA max(Typ:23uA)
4-1-8.	Operating temperature	-10℃ ~ +60℃
4-1-9.	Storage temperature	-20℃ ~ +80℃
4-1-10.	Bus Interface	IIC/3-Wire

4-2. Electrical characteristic(FM)

4-2-1. FM DUMMY



4-4-2. STANDARD TEST CONDITION

The standard test condition shall be $20 \pm 2^\circ\text{C}$ and $65 \pm 5\%$ R.H,
test can be carried out in the temperature of $5^\circ\text{C} \sim 35^\circ\text{C}$,
 $45\% \sim 85\%$ R.H unless the condition effect upon the test result.

4-4-3. STANDARD INPUT SIGNAL

BAND	FM
Test frequency	98.1MHz
Input signal voltage	60dBu (1uV=0dBu)
Modulation frequency	1KHz
Modulation	22.5KHz

4-3.ELECTRICAL CHARACTERISTICS(FM)

NO	TEST ITEMS	TEST CONDITION	T. P.	T. L.	MOD.	SPEC			UNIT
			MHz	dBu	kHz	MIN	TYP	MAX	
1	FREQUENCY RANGE 频率范围	LOW	—	—	—	—	76	—	MHz
		HIGH	—	—	—	—	108	—	MHz
2	IF FREQUENCY 中频频率	—	—	—	—	—	225	—	KHz
3	USABLE SENS. 使用灵敏度	at S/N=30dB	90.1	—	22.5	—	8	15	dBu
			98.1						
			106.1						
4	GAIN BALANCE 增益平衡	at USABLE SENS.	90.1	—	22.5	—	3	5	dB
			98.1						
			106.1						
5	IF REJECTION 中频抑制	at USABLE SENS.	90.1	—	22.5	70	80	—	dB
6	IMAGE REJECTION 镜像抑制	at USABLE SENS	106.1	—	22.5	25	30	—	dB
7	S/N RATIO 信噪比		98.1	60	75	50	55	—	dB
8	AM SUPPRESSION 调幅抑制	at AM 30% 1KHz	98.1	60	75	35	40	—	dB
9	DISTORTION 失真	MONO	98.1	60	22.5	—	0.5	1.0	%
	OVERLOAD DISTORTION 过负载失真		98.1	120	75	—	1.0	1.5	%
10	STEREO SEPARATION 立体声分离度	1KHz PILOT 10%	98.1	60	75	25	30	—	dB
11	AF OUTPUT LEVEL 音频输出电平	47k Ω LOAD MONO	98.1	60	22.5	60	80	90	mV
12	AUTO STOP LEVEL 自动收台电平		90.1	—	22.5	10	20	30	dBu
			98.1						
			106.1						

5. SPECIAL ENVIRONMENT TEST (FM)

5-1. VIBRATION TEST

At condition, amplitude and oscillation shall be 2mm and 1,000 C.P.M. respectively. There shall be no looseness after each 2 hours of top-bottom back-forth and right-left vibrations.

5-2. DROP TEST

After the packed tuner at 50 cm height is dropped 6 times from each side, gain variation shall be less than 2dB and frequency drift shall be less than 200 kHz

5-3. TEMPERATURE TEST

After the tuner shall be exposed for each 120 minutes in a test Chamber of temperature cycle at 20°C, 50°C, 0°C, 20°C and then the tuner shall be operated satisfactorily electrical performance.

5-4. HUMIDITY TEST

After 5 hours exposure in a test chamber at $50^{\circ}\text{C} \pm 5^{\circ}\text{C}$ or $0^{\circ}\text{C} \pm 5^{\circ}\text{C}$ and $90 \pm 5\%$ R.H., then exposed for 4h in a room temperature, there shall be no deterioration in electrical performance.

5-5. TEMPERATURE SHOCK TEST

After 12 hours exposure in a test chamber at $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$ or $-10^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and then exposed in a room temperature for more than 4h, the tuner shall be operate satisfactorily.

6.REFLOW PROFILE

6-1. GRAPH

Temp(°C)

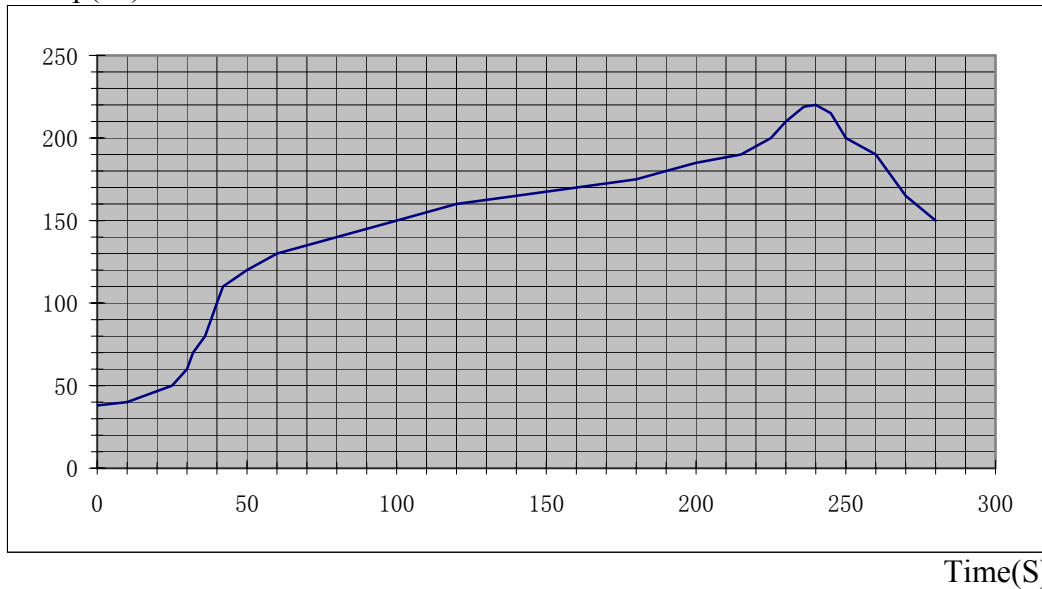
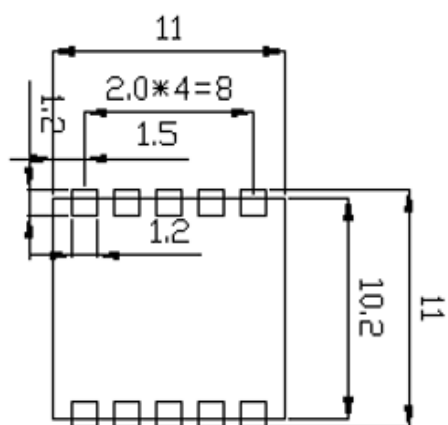
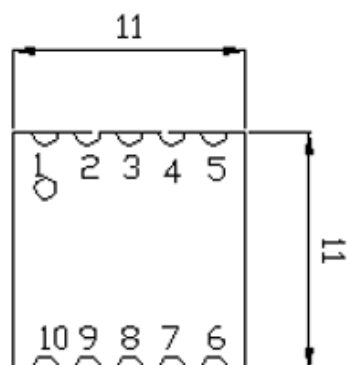
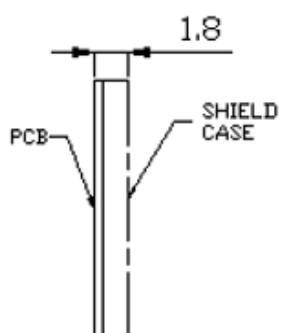


Figure 1

6-2. SPECIFICATION

SUBJECT

SUBJECT	REQUIREMENTS	ACTUAL VALUE
Ramp rate Normal to 180°C	3 °C/Sec max	1.3 °C/Sec max
Preheat temperature 160±10°C	70±15sec	60sec
Temperature maintained about 200°C	40~50sec	50sec
Peak temperature range	220~240°C	220°C



(TOP VIEW)

NO	PIN CONNECTION
10	DATA
9	CLK
8	BUS MODE
7	W/R
6	VCC
5	GND
4	L-OUT
3	R-OUT
2	MPX OUT
1	ANT

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