
QAM TUNER



QAM TUNER

■ INTRODUCTION

The QAM tuner means a module for receiving the DVB-C or ATSC broadcasting. The tuner is optionally composed of the single conversion tuner.

The block of the tuner can receive the digital signal, filter one of those channels, and convert the signal to the IF signal.

■ FEATURE AND APPLICATION

● Feature

- UHF/VHF tuner for analog and digital applications
- All channel assignments are available. (Europe,China)
- It integrates a Loop Through
- Controlled PLL tuning programmed via I²C-bus
- Low oscillator phase noise performance
- Available the symmetrical IF output Which can direct-drive the SAW

● Application

- Set-top box or TV set for DVB-C broadcasting
- DTV for ATSC broadcasting
- Set-top box for Open cable

QAM TUNER

■ SPECIFICATION

● Electrical Characteristics

Input Frequency Range	48 ~ 862 MHz
RF Input/Output Return Loss	-8dB typ. -6dB max. (@75ohm)
IF output Voltage Gain	43dB min. 48dB typ.
IF output Noise Figure	5dB typ. 9dB max. (at max. gain)
AGC Range	40dB min. 45dB typ. (V _{agc} = 4.0 ~ 0.5V, reverse)
Gain Deviation	4dB typ. 7dB max.
IF center frequency	36.125MHz or 44MHz
Phase Noise @ 10kHz @ 100kHz @ 1MHz	-85dBc/Hz typ. -80dBc/Hz max. -95dBc/Hz typ. -100dBc/Hz max. -110dBc/Hz typ. -105dBc/Hz max.

● General Characteristics

Temperature Range	Operating temperature	0℃ ~ +65℃
	Storage temperature	-20℃ ~ +80℃

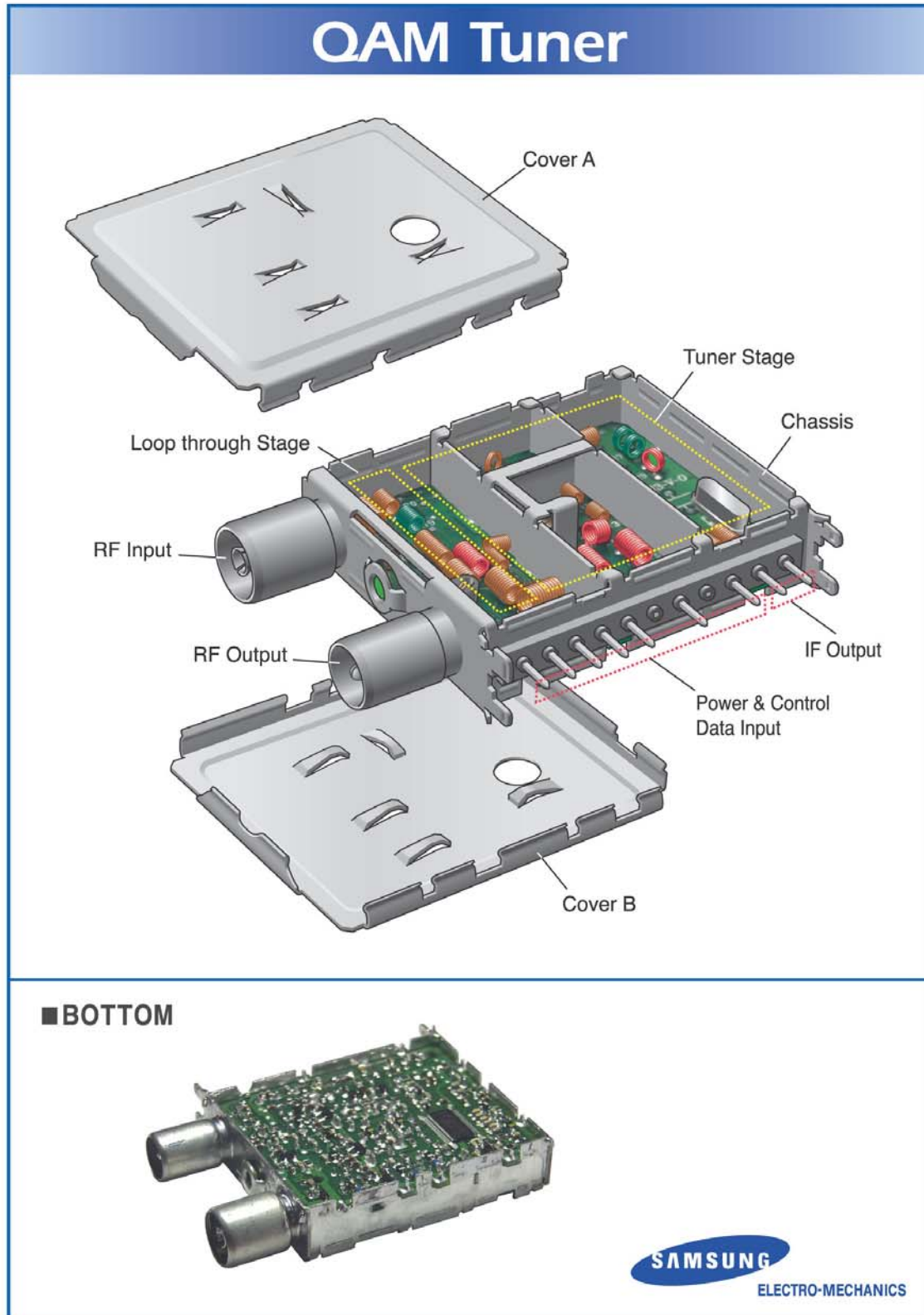
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● TERMINAL NAMES AND FUNCTIONS

PIN NO.	TERMINAL	FUNCTION	REMARK
1	N.C	-	
2	AGC	AGC (Optionally using for Monitoring)	Max. 4V
3	SAS	Tuner Address selection port	
4	SCL	Tuner I2C clock	
5	SDA	Tuner I2C data	
6	N.C	-	
7	BP	Tuner Supply	+ 5V
8	N.C	-	
9	BT	Tuning Voltage	+ 30V
10	IFOUT2	IF Output (-)	
11	IFOUT1	IF Output (+)	
12	RF INPUT	RF Signal Input Terminal	
13	RF OUTPUT	Loop through Output Terminal	

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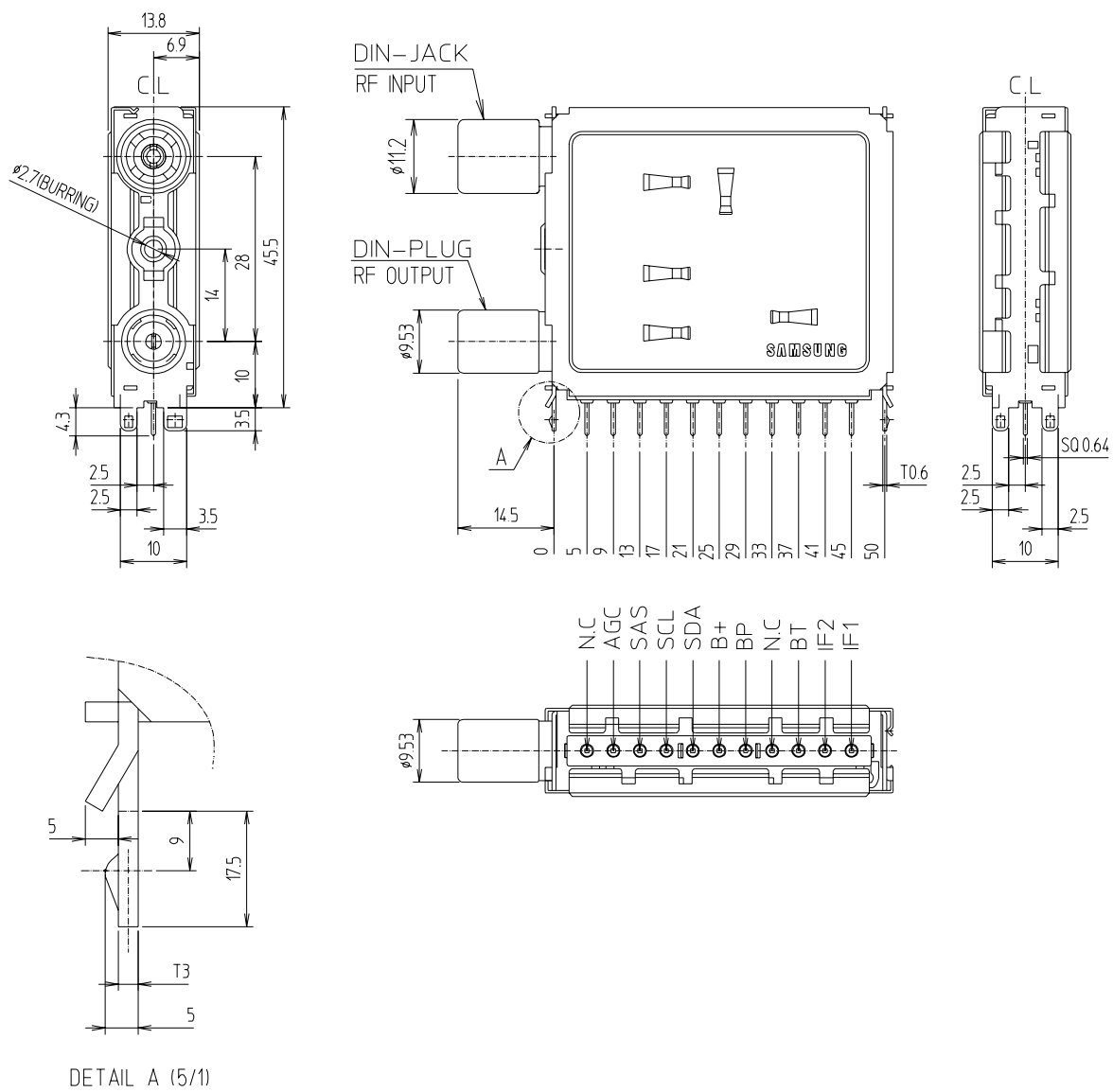
■ STRUCTURE



QAM TUNER

■ APPEARANCE AND DIMENSION

► Vertical



► Horizontal



QAM TUNER

■ PART NUMBERING

<u>T</u> <u>D</u>	<u>C</u>	<u>C</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>C</u>	<u>V</u>	<u>39</u>	<u>A</u>
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

- ① Digital Tuner
- ② Composition
- ③ Receiving Channel
- ④ Receiving System
- ⑤ Jack Type
- ⑥ AGC Control
- ⑦ Supply Voltage
- ⑧ Transmission
- ⑨ Mounting Type
- ⑩ Chassis Series Number
- ⑪ Revision Number

① Digital Tuner

Digital Tuner	
T	TUNER
D	DIGITAL

② Composition

Composition	
C	TUNER
I	TUNER + IF AMP

③ Receiving Channel

Receiving Channel	
C	Full Band

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④ Receiving System

Receiving System	
2	DVB-C

⑤ Jack Type

Jack Type	
1	One input
2	Two input
3	Loop through (Din)
4	Loop through (F-Con)
5	Loop through (In : F-Con, Out : Phone)

⑥ AGC Control

AGC Control	
0	Internal Detecting
4	Max 4.0V

⑦ Supply Voltage

Supply Voltage		
NO	B+	VT
5	5V	30V
6	5V	-

⑧ Transmission

Transmission	
T	Cable

⑨ Mounting Type

Mounting Type	
H	Horizontal
V	Vertical

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⑩ Chassis Series

Chassis Series	
36	62.6 * 45.5 * 13.8
39	52.6 * 45.5 * 13.8

⑪ Revision Number

Revision Number	
A	Rev.0

QAM TUNER

■ RELIABILITY TEST DATA

ITEM	TEST CONDITIONS	SPECIFICATIONS
COLD TEST	-40℃, 168 HR	Gain Variation : < ±3dB Local oscillator drift VHF LOW : ±15KHz VHF HIGH : ±45KHz UHF : ±75KHz
HIGH TEMPERATURE LOAD TEST	+60℃, 168 HR, B+	
HUMIDITY TEST	+40℃, 95%RH , 168 HR	
HUMIDITY & TEMPERATURE LOAD TEST	+40℃, 95%RH, 168 HR, B+	
PCT TEST	Pressure 2.1kg/cm ² , 121℃ 100%RH, 5HR	
VIBRATION TEST	Frequency ranging from 5 to 55Hz, amplitude 2mm, 40 minutes in each direction of X,Y,Z.	
STATIC ELECTRICITY TEST	Apply 10kV standard pulse 3 times at ANT. & IF terminals	

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■ BLOCK DIAGRAM

