CUSTOMER :

NO :

MODEL NAME : DATE :

MODEL NO :

SPECIFICATION

PART NO : AS700

APPROVAL	
REFERENCE NO	

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(株) D & A

Digital & Analog Corporation

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SPECIFICATION	PAGE
FM TRANSMITTER MODULE (TX-M403B)	1 OF 5

1. Scope

This specification applied to FM TRANSMITTER Module.

2. General specification

NO	ITEM	SPEC	NOTE
1	Frequency Range	88.1MHz~107.9MHz	**100KHz STEP(at 3.3V)**
2	RF output inpedance	50 Ω	
3	Supply Voltage	2.7V~3.7V	MAX 4.0V
4	Operating temperature	- 10 ~ 55℃	
5	Humidity	85% MAX	

3. Electrical specification

NO	ITEM	Symbol	SPEC				Conditions
			MIN	TYP	MAX	UNIT	
1	Consumption current	Ic		12		mA	
2	Audio input level	Vin-A	-	-25		dBV	
3	Audio input frequency rang	Fin-A	30	-	15K	Hz	
4	Pre-emphasis time constant	t PRE	40	50	60	u SEC	
5	Channel separation	Sep	20	25	-	dB	
6	Total harmonic distortion	THD	-	0.1	0.5	%	Vin=-25dBV
7	Pilot modulation rate	Mp	12	15	18	%	Vin=-25dBV
8	Sub carrier rejection ratio	SCR	-	-30	-20	dB	Vin=-25dBV
9	Transmission output level	Vtx	-8	-5		dBm	

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4. Electrical Interface

Terminal	NAME	Interface	I/O	Description
1	L-input	Analog	I	Lch. Audio input
2	R-input	Analog	I	Rch. Audio input
3	GND	Analog	-	Ground
4	NC	Analog	-	No Connection
5	VCC	Analog	-	3.3V INPUT VOLTAGE
6	GND	Analog	-	Ground
7	ANT	Analog	O	RF OUTPUT
8	GND	Analog	-	Ground
9	CHIP_EN	Digital	I	SERIAL ENABLE INPUT
10	CLK	Digital	I	SERIAL CLK INPUT
11	DATA	Digital	I/O	SERIAL DATA INPUT/OUTPUT
12	MUTE	Digital	I	SERIAL MUTE INPUT

5. Dimensions

1) UNIT : 10(L) x 11(W) x 1.8(H) mm +/- 0.1 mm

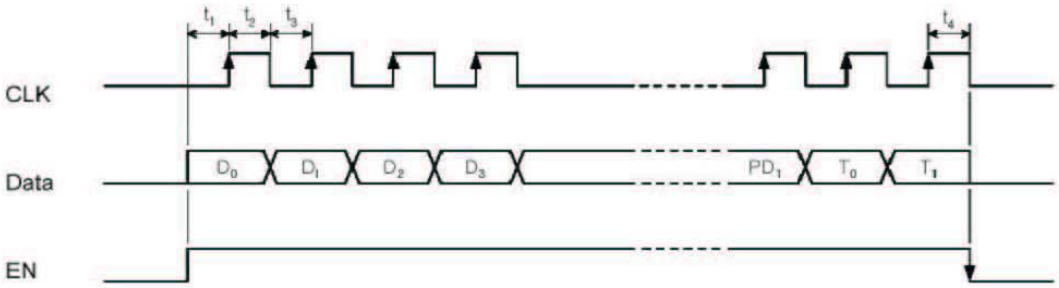
2) Packing : SMT STANDARD REEL TAPING

6. Programming guide

• Serial data input

The serial data is clocked in on the rising edge of clock and transferred into the shift register. At the falling edge of EN, stored data is latched.

t_1, t_2, t_3, & $t_4 \geq 0.2\mu sec$



Serial data

D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	Mono	PD0	PD1	T0	T1
(LSB)					Programmable counter					(MSB)	MPX	Phase Detector		Test mode	

• Counter

Divide ratio is controlled by the programmable counter. Transmission frequency is determined.
For instance, in case of 100MHz oscillation frequency, 1000[=100MHz/100kHz(f_{ref})] is entered in such a way of (LSB) 00010111110 (MSB).

• Multiplexer (MPX)

This selects a stereo or monaural mode which can be set by "1" and "0", respectively.

• Phase detector

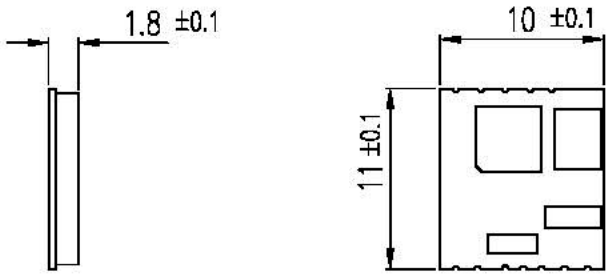
Charge pump output is controlled. A normal operation is defined by a combination of "0" "0". Forced by Low and by High can be determined via "0" "1" and "1" "0", respectively. "1" "1" represents high impedance.

• Test mode

Input mode of "1" "0" specifies normal operation with positive charge pump polarity. Mode of "0" "0" represents normal operation with negative charge pump polarity.

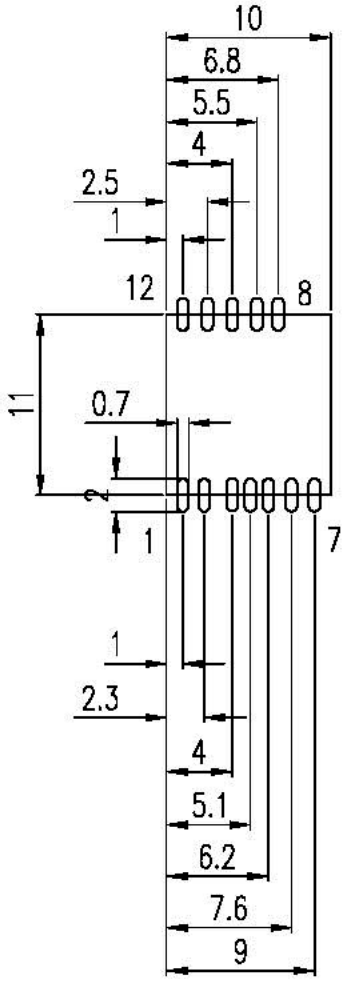
Type:monopole type
Gain:(-3dbi)

*. OUT LINE SPECIFICATION



*. SOLDER LAND LAY OUT FOR MAIN BOARD

1) LCH
2) RCH
3) GND
4) N.C
5) VCC
6) GND
7) ANT
8) GND
9) CHIP_EN
10) CLK
11) DATA
12) MUTE_EN



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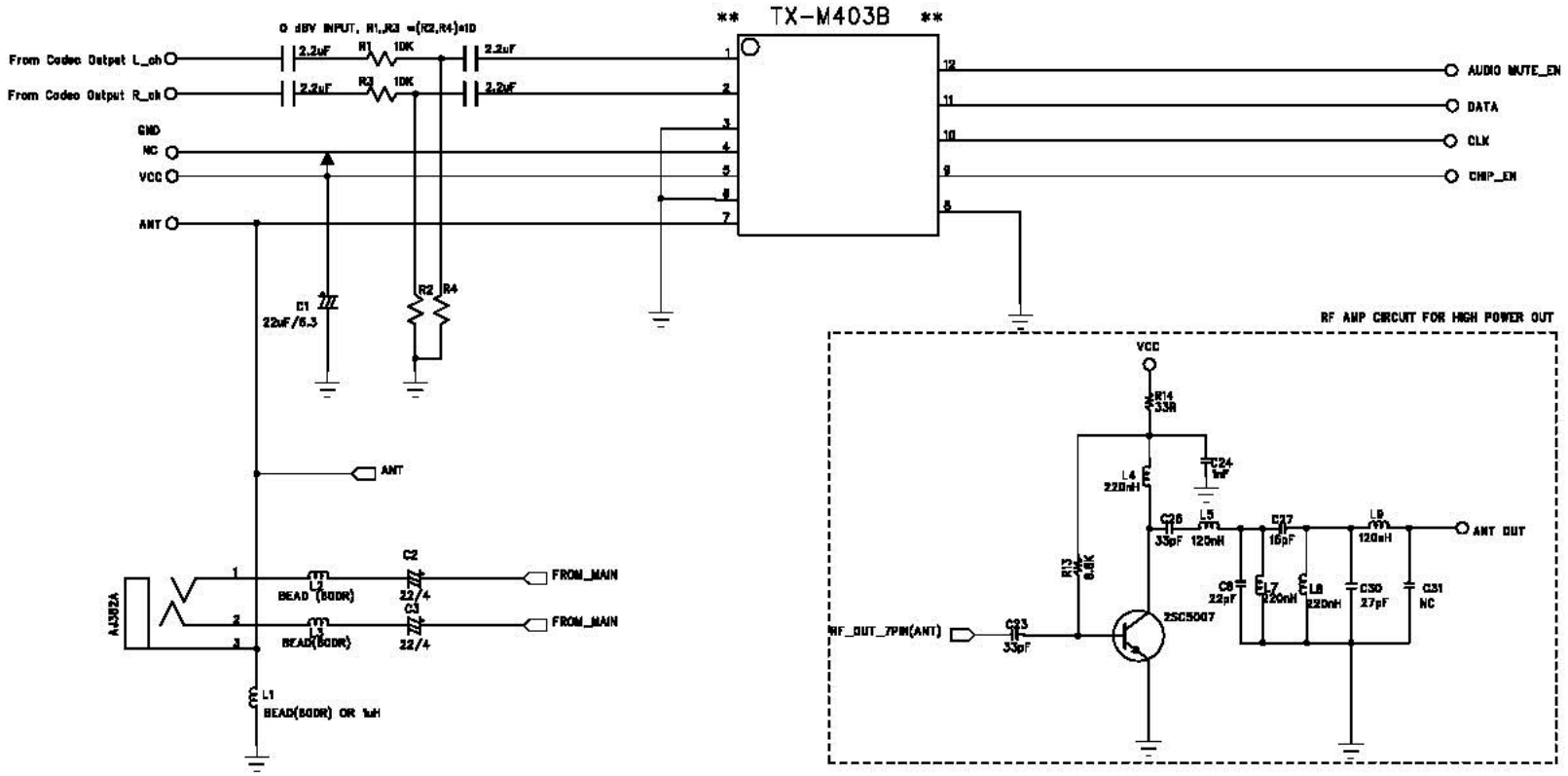
OUT LINE DRAWING		D J KANG	A K LEE	Y H LEE

[** TX-M403B APPLICATION DIAGRAM **]



REVISION HISTORY		DRAWN	CHECK	APPROVE	DATE	13 APR 2007
1		AK.LEE	CH.LEE	HS.SHIN	MODEL.NO	TX-M403B
2					DESCRIPTION	
3					DWG. NO	
4						