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Data Sheet



AWM687TX / AWM683TX

5.8GHz Transmitter Module

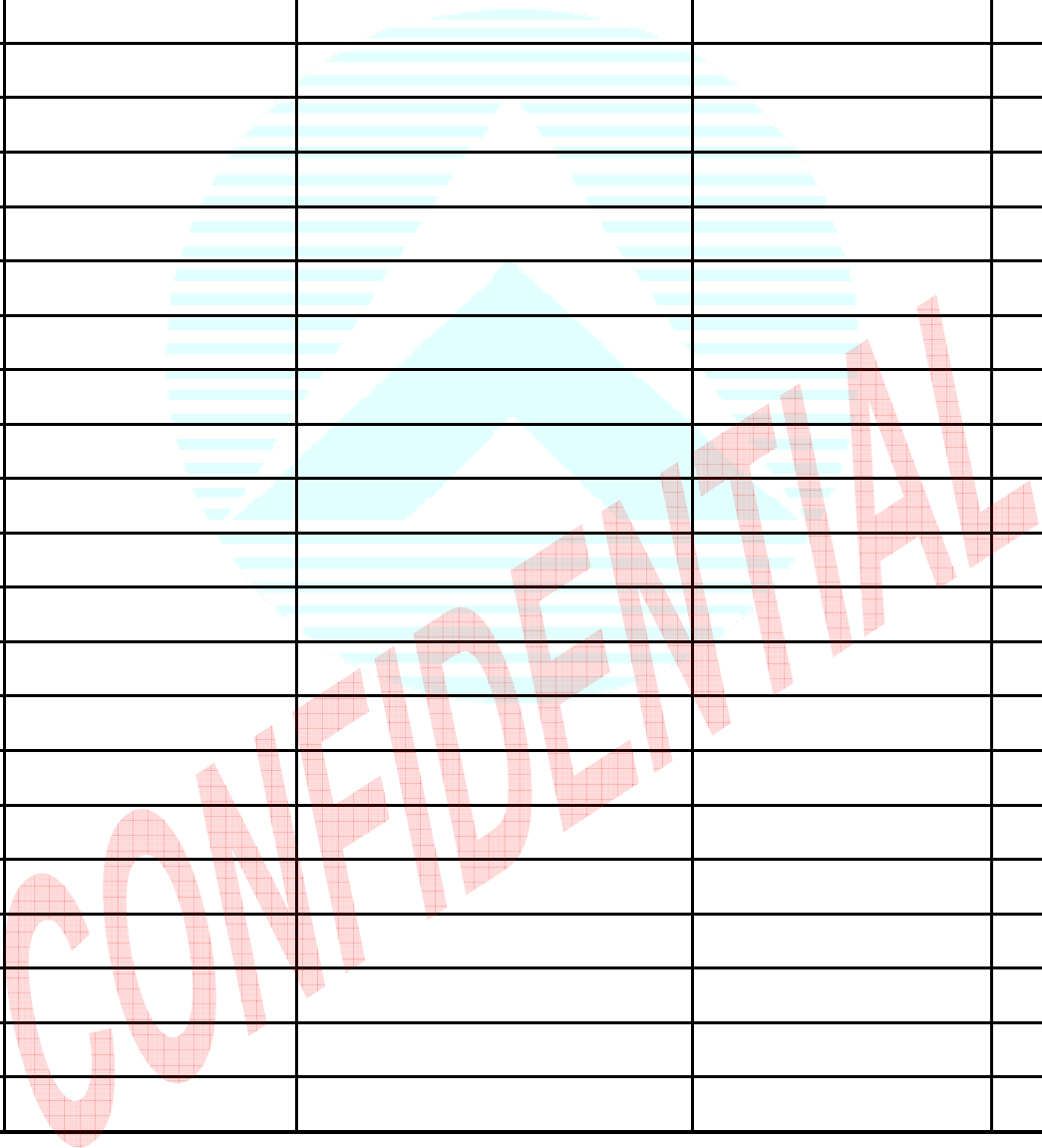
承認	承認	品保	工程
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Approve	Approve	QA	E/E



AIRWAVE TECHNOLOGIES INC.

Revision History

Version	Item	Change	Reason	Date
1	Initial version.			09/22/2008



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1. Descriptions:

Airwave 5.8GHz Audio/Video wireless RF module contains one Transmitter and one Receiver. Using of the most popular 5.8GHz ISM band and being designed with high reliability, Airwave RF module can transmit/receive a wide band audio & video signals up to 500 feet in open area.

AWM687TX: 14dBm

AWM683TX: 20dBm

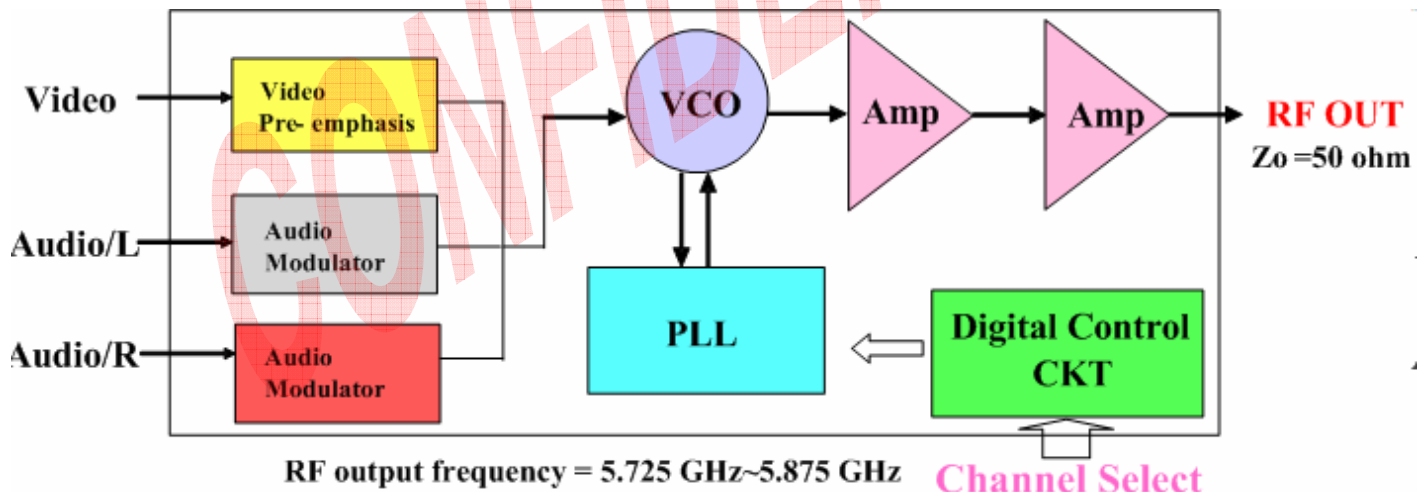
2. Feature:

- Use worldwide 5.8GHz ISM band
- Design in compact size and low power consumption
- Reach highly efficient FM-FM modulation/demodulation scheme
- Be compatible with both NTSC and PAL video formats
- Integrate Audio/Video input and output onto one module base-band PCB
- Don't need external Audio circuit
- Provide with 7 selectable channels
- Set tack switch for channel selection

3. Application:

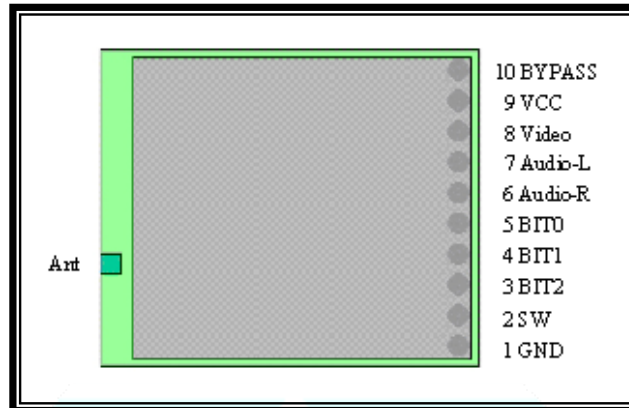
- AV Sender
- Baby monitor
- Surveillance
- Wireless Camera

4. Function block



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5. PIN Define



6. PIN Descriptions

AWM687/683TX

PIN	NAME	Descriptions	PIN	NAME	Descriptions
01	GND	Ground	06	Audio-R	Audio Right CH Input
02	SW	Connect to external tack switch for CH selection (see note1)	07	Audio-L	Audio Left CH Input
03	BIT2	see note2	08	Video	Video Input
04	BIT1		09	VCC	DC +5V power supply in
05	BIT0		10	BYPASS	Bypass capacitor

Note1:

SW	Descriptions	Frequency
	Tack switch	5740→5760→5780→5800→5820→5840→5860(MHz) CH1 CH2 CH3 CH4 CH5 CH6 CH7

Note2:

Pin3 BIT2	Pin4 BIT1	Pin5 BIT0	Descriptions	Frequency
0	0	0	Pin 3, Pin 4, Pin 5 connect to GND.	5740MHz (CH1)
0	0	1	Pin 3 and Pin 4 connect to GND, Pin 5 OPEN.	5760MHz (CH2)
0	1	0	Pin 3 and Pin 5 connect to GND, Pin 4 OPEN.	5780MHz (CH3)
0	1	1	Pin 3 connect to GND, Pin 4 and Pin 5 OPEN.	5800MHz (CH4)
1	0	0	Pin 4 and Pin 5 connect to GND, Pin 3 OPEN.	5820MHz (CH5)
1	0	1	Pin 4 connect to GND, Pin 3 and Pin 5 OPEN.	5840MHz (CH6)
1	1	0	Pin 5 connect to GND, Pin 3 and Pin 4 OPEN.	5860MHz (CH7)

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7. Absolute Maximum Ratings

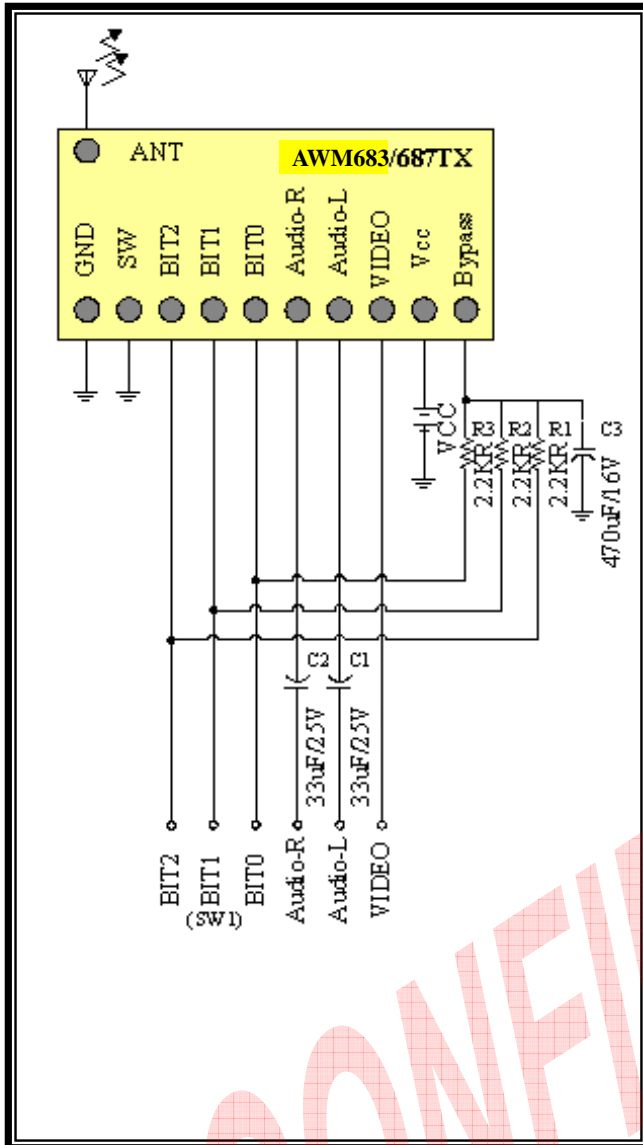
Parameters	Model.	Min.	Typ.	Max.	Unit
Storage Temperature Range	AWM687TX	-40	-	85	°C
	AWM683TX	-40	-	85	
Supply voltage	AWM687TX	-0.5	-	5.5	V
	AWM683TX	-0.5	-	5.5	

8. DC/AC Electrical characteristic:

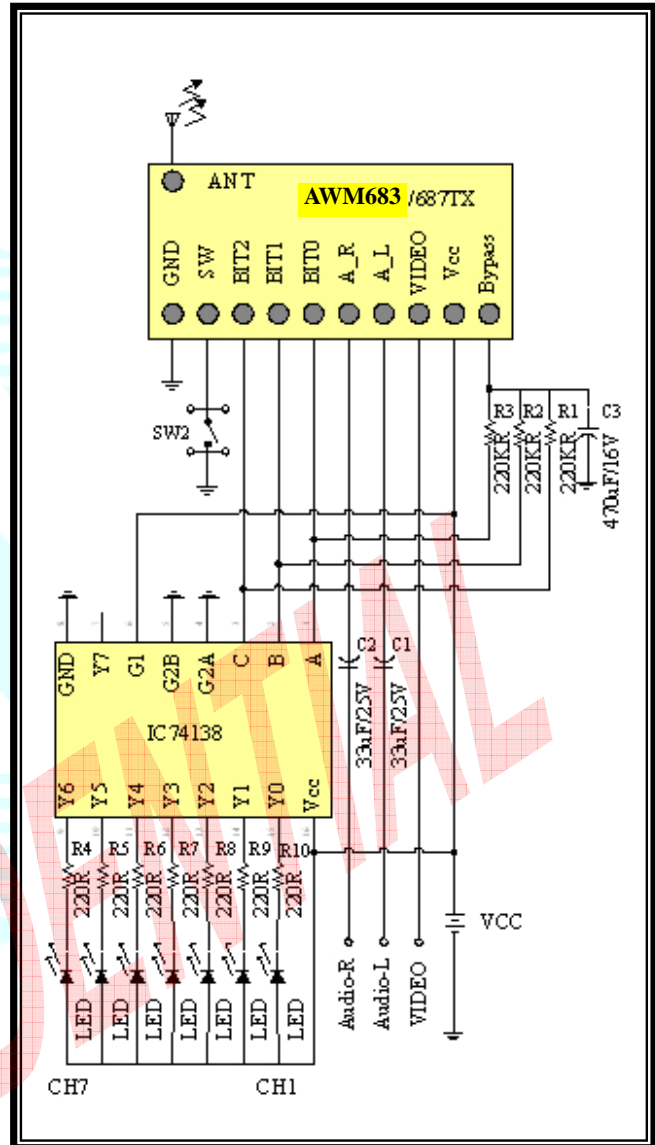
RF/ DC Parameters		Min.	Typ.	Max.	Unit
Supply voltage (DC)	AWM687TX	+4.8		+5.2	V
	AWM683TX	+4.8		+5.2	
Supply current	AWM687TX	110	120	130	mA
	AWM683TX	250	270	310	
RF output power	AWM687TX	12	14		dBm
	AWM683TX	19	20		
Operating temperature		-10		60	°C
Carrier to Subcarrier Ratio	AWM687TX/AWM683TX	24		27	dBc
RF Deviation- Video (Input 10KHz, 1Vpp)	AWM687TX		3.7		MHz
RF Deviation- Audio (Input 1KHz, 1.5Vpp)	AWM687TX	R	76		kHz
		L	67		
RF Deviation- Video (Input 10KHz, 1Vpp)	AWM683TX		3.8		MHz
RF Deviation- Audio (Input 1KHz, 1.5Vpp)	AWM683TX	R	80		kHz
		L	70		
Antenna Port Impedance			50		Ohm
5.8GHz Carrier Frequency Accuracy			±300		kHz
Audio subcarrier frequency	left	6MHz			
	right	6.5MHz			
Operation Frequency Range		5725		5875	MHz
Channel Selection		PLL Synthesizer, 7CH (See Tab11)			
Channel Frequency		Ch1=5740, CH2=5760, CH3=5780 Ch4=5800, CH5=5820, CH6=5940 Ch7=5860			
Video-Audio Modulation/Demodulation Type		FM-FM			

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9. Test circuit:



TX-DIP Switch Module



TX-Tact Switch Module

10. 參考電路用料清單

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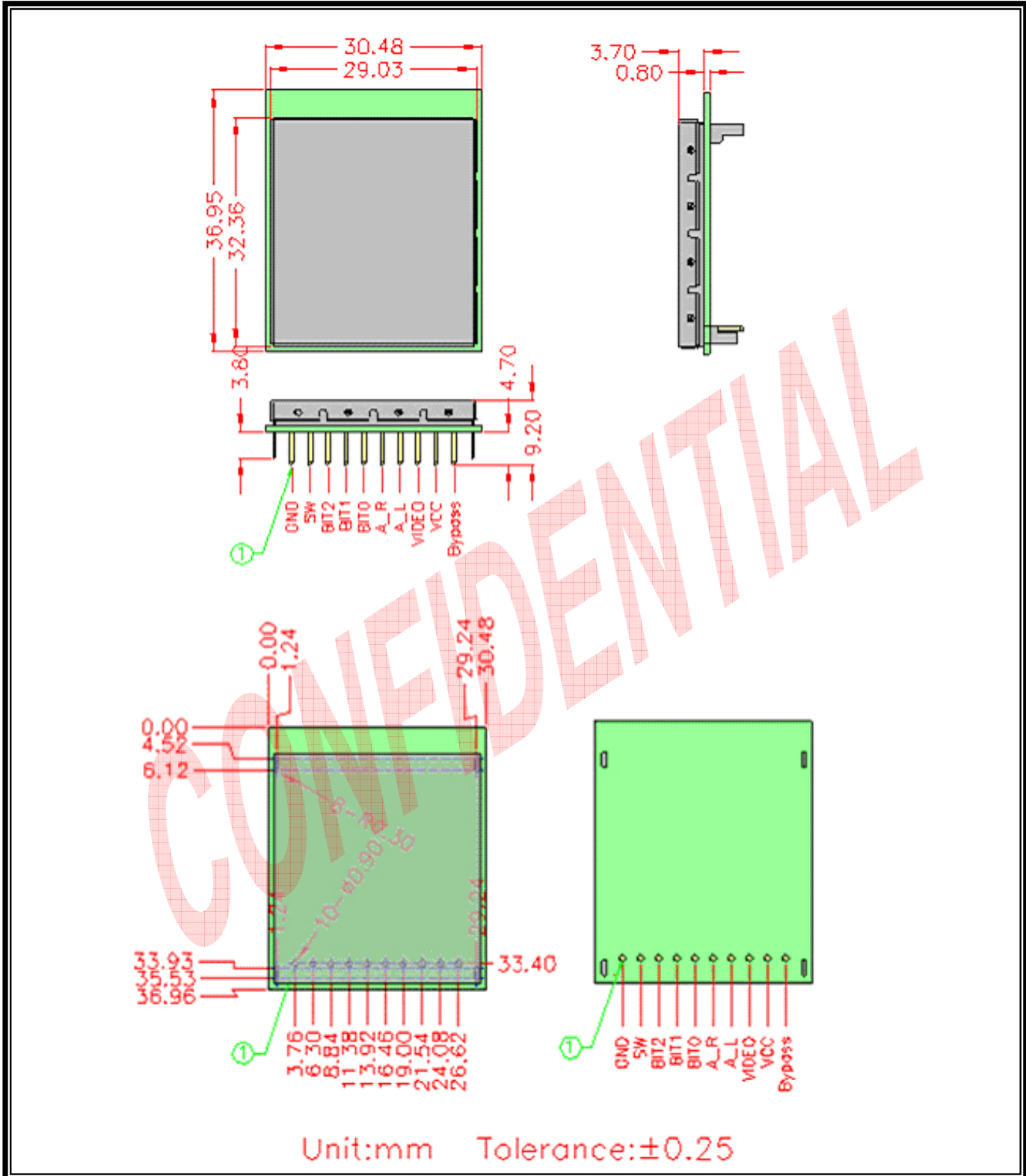
AWM687/683TX Demo Board DIP SW

品名規格	使用量	插件位置
E/CAP 33UF, 4*7 10V,SS010M0033SBT(LF)	2	C1,C2
E/CAP 470uF, 8*9 16V	3	C3,C4,C5
DIODES 1N4001, 1A/100V	1	D1
LED 紅色圓 MO34PD, SH-031-RR-L	1	D2
7805 Regulator	1	IC2
RCA PIN JACK 紅白黃, RCA-316	1	JACK3
DC POWER JACK(低錫), DS-210B 5.5mm	1	JACK1
0603 RESISTOR 0R, ±5% 1/16W RM06JTN0(LF)	1	R1
0603 RESISTOR 2.2KR, +-5% 1/16W RM06JT222(LF)	3	R2,R3,R4
0603 RESISTOR 687R, +-5% 1/16W RM06JTN683(LF)	1	R5
DIP SWITCH 指撥開關, DPL-03	1	SW1

AWM687/683TX Demo Board Tact

品名規格	使用量	插件位置
E/CAP 33UF, 4*7 10V,SS010M0033SBT(LF)	2	C1,C2
E/CAP 470uF, 8*9 16V	3	C3,C4,C5
DIODES 1N4001, 1A/100V	1	D1
LED 紅色圓 MO34PD, SH-031-RR-L	8	D2,D3,D4,D5,D6,D7,D8,D9
7805 Regulator	1	IC2
74HCT138D, 3-to-8 line decoder	1	IC1
RCA PIN JACK 紅白黃, RCA-316	1	JACK3
DC POWER JACK(低錫), DS-210B 5.5mm	1	JACK1
0603 RESISTOR 0R, ±5% 1/16W RM06JTN0(LF)	1	R1
0603 RESISTOR 220R, ±5% 1/16W RM06JT221	7	R6,R7,R8,R9,R10,R11,R12
0603 RESISTOR 687R, +-5% 1/16W RM06JTN683(LF)	1	R5
TACTING SWITCH, TS-27-B L=3.85mm	1	SW2

11. Dimension:**AIRWAVE TECHNOLOGIES INC.**



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