Customer Code: _____

DATASHEET

DAPU P/N: **O22S-F445-10.00MHz**

Customer P/N: _____

DAPU			Customer Approval
Drew	Audited	Approved	
Amway.wei	Tony · Wang	Jason zhao	
Date: 2020.08.11			Stamp, please! Thanks!

Guangdong Dapu Telecom Technology Co.,Ltd

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2020.08.11

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1. Electrical Parameters

MODEL：O22S-F445-10.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency		10.00		MHz	
	Output Waveform		Sine wave			
	Level	5		10	dBm	
	Load		50		Ω	
	Harmonics Suppression			-20	dBc	At frequency range 9-11MHz
	Spurious Suppression			-90	dBc	Except 9-11MHz
Reference Voltage Output	Reference Voltage	4.925	5	5.075	V	
	Internal Resistance			100	Ω	
Alarm Output	Alarm Level	0		0.4	V	
	Ready Level	2.4		3.6	V	
	Load Current			100	μA	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-5		+5	$\times 10^{-9}$	T_A varied from-20℃ to 75℃, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$, Vcc=10.5V~12.6V, O_{load}=50Ω, temperature variable speed less than 2℃per minute.
	Initial Frequency Tolerance	-0.1		+0.1	$\times 10^{-6}$	Measurement referenced to frequency observed with T_A=25℃, Vcc=10.5V~12.6V, V_c=2.5V, and after 15 minutes of operation, within 30 days after ex-works.
	Frequency Tolerance vs. supply voltage	-0.5		+0.5	$\times 10^{-9}$	measurement referenced to frequency observed T_A=25℃, Vcc=10.5V~12.6V, V_c=2.5V, O_{load}=50Ω.
	Frequency Tolerance vs. Load	-0.5		+0.5	$\times 10^{-9}$	5% Load Change Measurement referenced to frequency observed with T_A=25℃, Vcc=10.5V~12.6V,V_c=2.5V, O_{load}=50Ω.
	Orientation	-6		+6	$\times 10^{-9}$	
	Short-Term Stability: Allan Variance			0.005	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 1s.
				0.01	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 10s.
				0.1	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference，test after power for 1hour ref. to 25℃; 100s.

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	Aging Tolerance Per Day	-0.5		+0.5	$\times 10^{-9}$	V_{cc},V_c, T_A constant Measurement referenced to frequency observed with T_A=25℃, Vcc=10.5V~12.6V, V_c=2.5V, O_{load}=50Ω and after 30 days of operation.
	Aging Tolerance Per 30 Day	-5		+5	$\times 10^{-9}$	
	Aging Tolerance Per Year	-0.03		+0.03	$\times 10^{-6}$	
	Aging Tolerance 15 Year	-0.5		+0.5	$\times 10^{-6}$	
	Retrace			5	$\times 10^{-9}$	@25℃after 24hours power on/2 hours off/1 hour power on.
Power Supply	Supply Voltage	10.5	12.0	12.6	V	
	Steady Consumption			400	mA	@-20℃
				340	mA	@25℃
				380	mA	@0℃
	Warm up current			400	mA	
	Warm-Up Time			10	min	
Voltage Control Characteristics	Frequency Tuning Range	-0.8		-0.5	$\times 10^{-6}$	V_c=0V. measurement referenced to V_c=2.5V
		-0.1		+0.1	$\times 10^{-6}$	V_c=2.5V. measurement referenced to exactly 10.00MHz
		+0.5		+0.8	$\times 10^{-6}$	V_c=5.0V. measurement referenced to V_c=2.5V
	Linearity			10	%	
	Slope	Positive				
	Input Impedance	100			KΩ	
Phase Noise	Phase Noise @25℃		-70		dBc/Hz	0.1Hz
				-100		1Hz
				-130		10Hz
				-145		100Hz
				-150		1KHz
				-150		10KHz
				-150		100KHz
Environmental Conditions	Operating Temperature	-20		+75	℃	
	Operable Temperature	-30		+80	℃	
	Storage Temperature	-55		+105	℃	
	ESD Level	Human Body Model, class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; JEDEC JESD22-A115C.				
	Moisture Sensitivity Level	Level 2.				

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	Vibration	Test Condition: 0.75mm ;acceleration:10g;10Hz～500Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X ,Y , Z)， IEC 68-2-06 Test Fc.
	Shock	50g；11ms；half sine wave (3 times for each 3 directions X ,Y, Z),IEC 68-2-27 Test Ea/Severity 50A.
Air pressure	Operating	54kPa(equiv.5000m)
	Non operating	26kPa(equiv.10000m)
MTBF	@100% operating time and 45℃ ambient temperature [hours] >100 000	
Full Package Storage	Relative humidity (%)	20%～70%
	Temperature (℃)	-10~35℃

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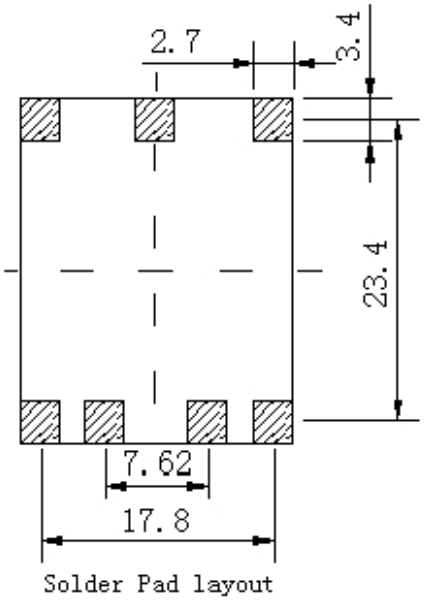
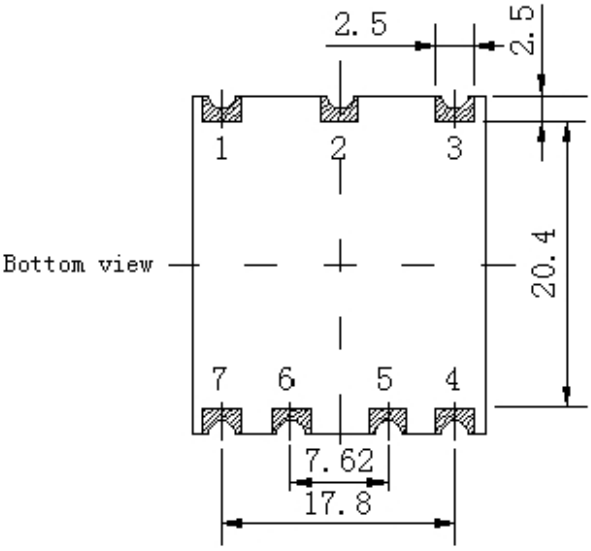
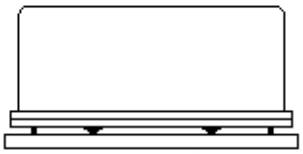
2. Mechanical Structure (mm)

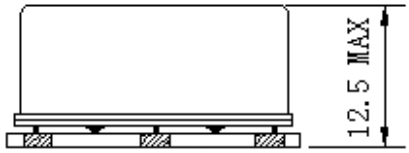


Solder Pad layout



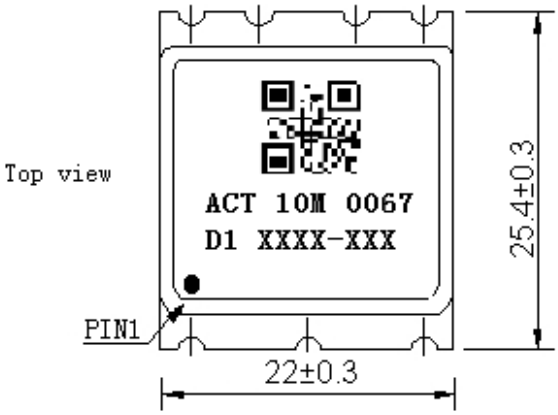


Right view



PIN FUNCTION

PIN	FUNCTION
1	RF Output
2	Oven Alarm
3	GND
4	VREF (5V±1.5%)
5	Control Voltage
6	Osc-Enable in
7	Supply Voltage



Note1: Tolerance ±0.20mm without mark.

Note2: The first two xx representative: week
After two xx representative: year
At last three xxx representative: serial number

Note3: Referential Weight 7.8g.

Note4: Oscillator must be switched ON with high signal (Pin6): TTL/CMOS/HCMOS compatible input.
High level up to 12.6V, high level min 2.4V, must be acceptable. The input impedance ≥100 KΩ.
If Osc-Enable function is not used, Pin6 must be connected to Pin7.

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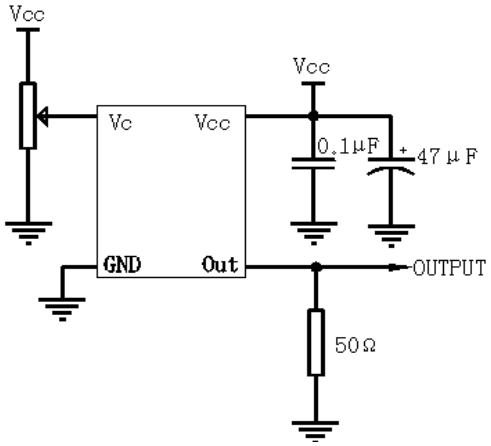
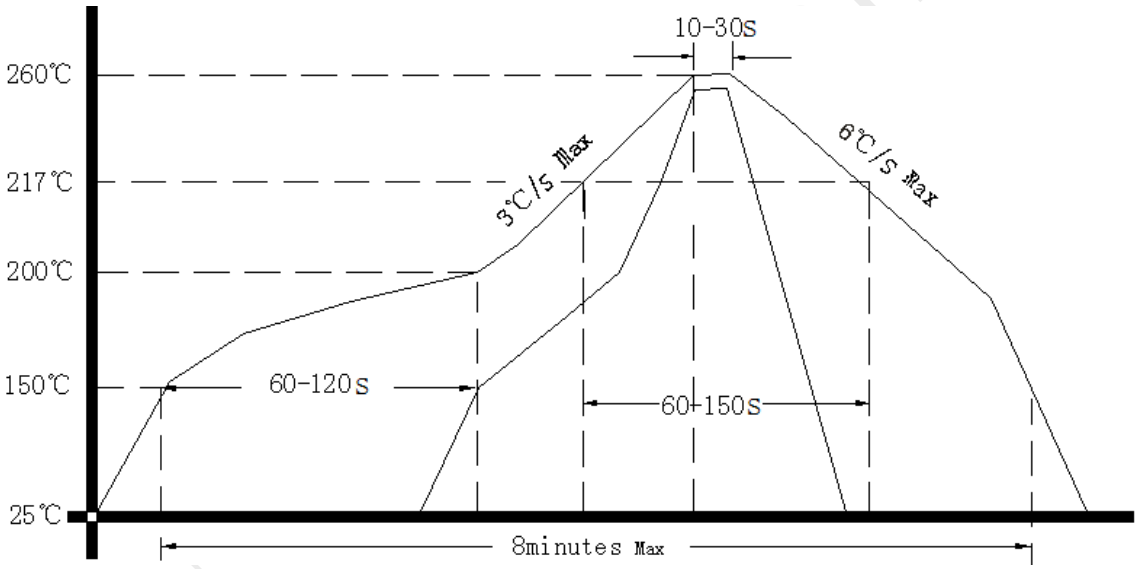
3. Test Circuit



4. Reflow Soldering Curve (RoHS)



5. Package: Tape & Reel (mm)