

Travelling Merchant: \_\_\_\_\_

# DATASHEET

Standard:           **O54A-F849-20.00MHz**          

P/N: \_\_\_\_\_

Plot			The Label
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2014.07.07			

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**Table of amendment**

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2012.05.18
1.1	“Mechanical Structure” changed	<i>Amway</i>	2014.07.07



## 1. Electrical Parameters

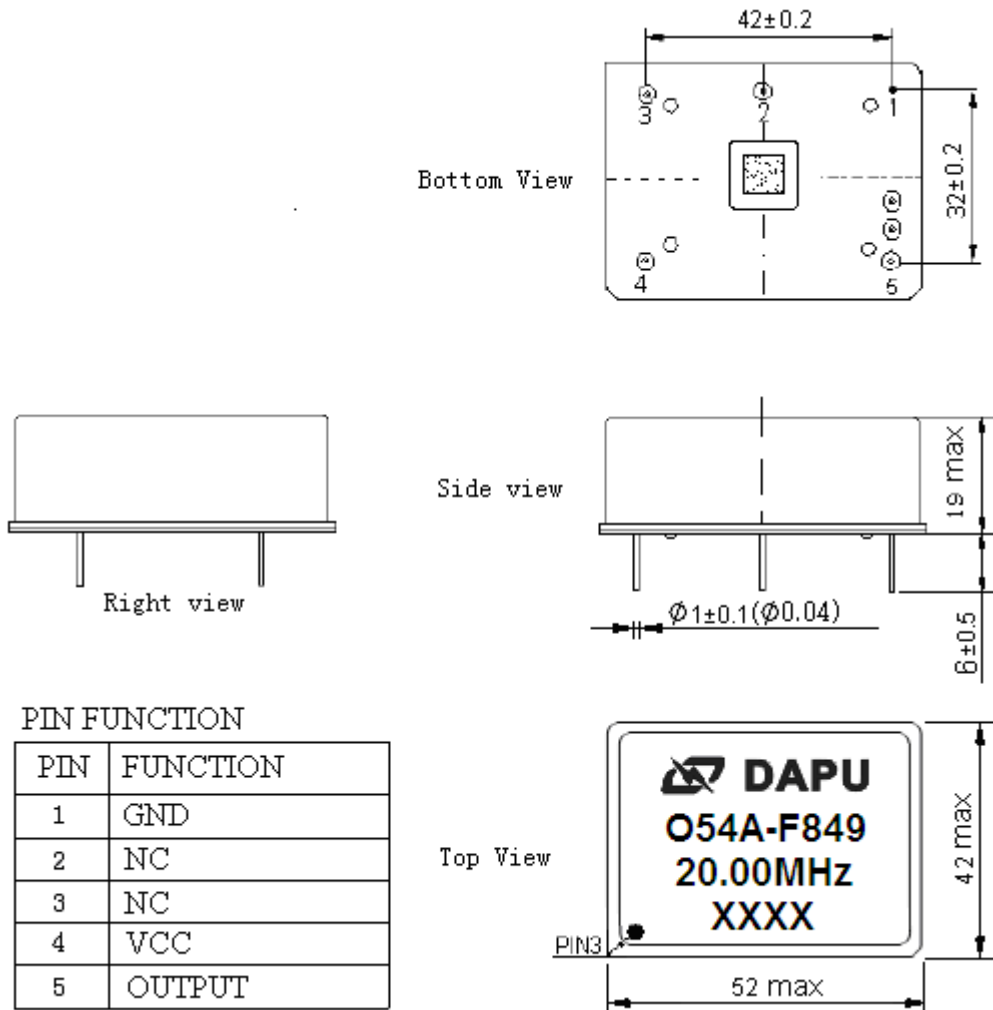
MODEL: O54A-F849-20.00MHz						
Item	Description	Parameters			Unit	Test Condition
		Min.	Typ.	Max.		
Output	Frequency	20.00			MHz	
	Output Waveform	LVCMOS				
	Output Low Voltage			0.4	V	$V_{cc}=12.0V, O_{load}=15pF$
	Output High Voltage	2.4		3.6	V	$V_{cc}=12.0V, O_{load}=15pF$
	Duty Cycle	45	50	55	%	@50%
	Rise / Fall Time (10%~90%)			5	ns	@25°C
	Load	15		45	pF	
Frequency Stabilities	Frequency Tolerance vs. Operating Temperature Range	-0.5		+0.5	$\times 10^{-9}$	$T_A$ varied from 0°C to 70°C, $f=(f_{max}-f_{min})/2f_0$ , $V_{cc}=12.0V, O_{load}=15pF$ , temperature variable speed less than 2°C per minute.
	Initial Frequency Tolerance	-0.1		+0.1	$\times 10^{-6}$	Measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=12.0V$ , and after 15 minutes of operation, within 30 days after ex-works.
	Frequency Tolerance vs. Supply Voltage	-0.05		+0.05	$\times 10^{-9}$	measurement referenced to frequency observed $T_A=25^\circ C, V_{cc}$ varied from 11.4V to 12.6V, and $O_{Load}=15pF$ .
	Frequency Tolerance vs. Load	-0.05		+0.05	$\times 10^{-9}$	10% load change measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=12.0V$ , and $O_{Load}=15pF$ .
	Short-Term Stability : Allan Variance			0.01	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference, test after power for 1hour ref. to 25°C; 1s, using PN9000 equipment.
	Aging Tolerance Per Day	-0.05		+0.05	$\times 10^{-9}$	$V_{cc}, T_A$ constant measurement referenced to frequency observed with $T_A=25^\circ C, V_{cc}=12.0V$ , and after 30 days of operation.
	Aging Tolerance 1 Year	-5		+5	$\times 10^{-9}$	
	Aging Tolerance 20 Years	-0.04		+0.04	$\times 10^{-6}$	
	24 hours Holdover	-5		+5	$\mu s$	$\pm 15^\circ C$ temperature variation, gradient 0.15 °C / minute
	Retrace	-5		+5	$\times 10^{-9}$	@25°C after stabilization +24 hours off +2 hours on.



Power Supply	Supply Voltage	11.4	12.0	12.6	V	
	Steady Consumption			350	mA	@25°C
	Warm-up Time			10	minute	@25°C within $\pm 0.05 \times 10^{-6}$ of final frequency with reference after 1 hour on.
	Warm up current			650	mA	
Phase Noise	Phase Noise		-100	-90	dBc/Hz	1Hz
			-130	-120		10Hz
			-145	-135		100Hz
			-150	-145		1KHz
			-160	-155		10KHz
Environmental Conditions	Operable Temperature	-40		+85	°C	
	Storage Temperature	-55		+105	°C	
	ESD Level	Human Body Model, class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.				
		Machine Model, class B: 200V to 400V; ANSI/ESDA/JEDEC JS-001-2010.				
	Moisture Sensitivity Level	Not humidity sensitive.				
	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.					



## 2. Mechanical Structure (mm)



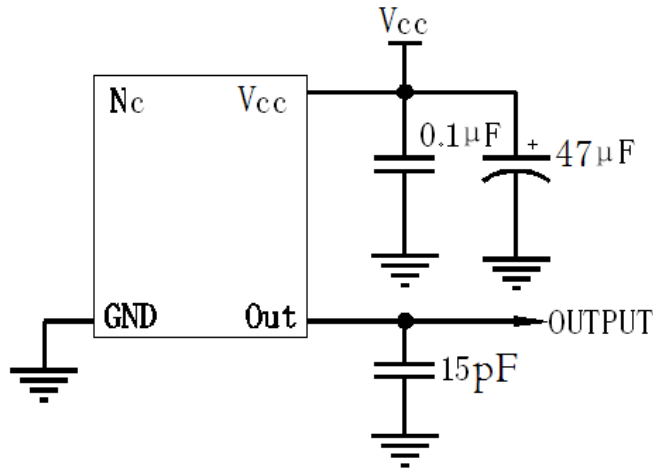
### PIN FUNCTION

PIN	FUNCTION
1	GND
2	NC
3	NC
4	VCC
5	OUTPUT

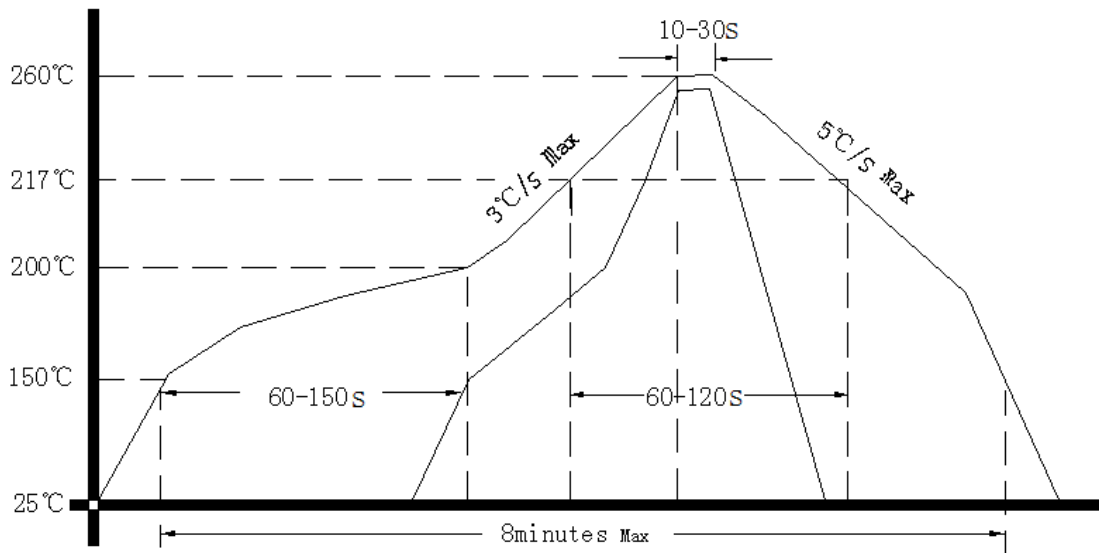
- Note1:** Tolerance  $\pm 0.2$ mm without mark
- Note2:** The first two xx representative: week  
After two xx representative: year
- Note3:** Referential Weight 78g
- Note4:** NC is not connect



### 3. Test Circuit



### 4. Reflow Soldering Curve (RoHS)



### 5. Package (mm)

