

Customer Code : _____

DATASHEET

DAPU P/N: CM55F-G129-10.00MHz-A

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DAPU			Customer Approval
Drew	Audited	Approved	Stamp, please! Thanks!
Date: 2018.11.26			

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	<i>Amway</i>	2018.08.20
1.1	"Mechanical Structure" changed	<i>Amway</i>	2018.11.26

DAPU Confidential



1、Electrical Parameters

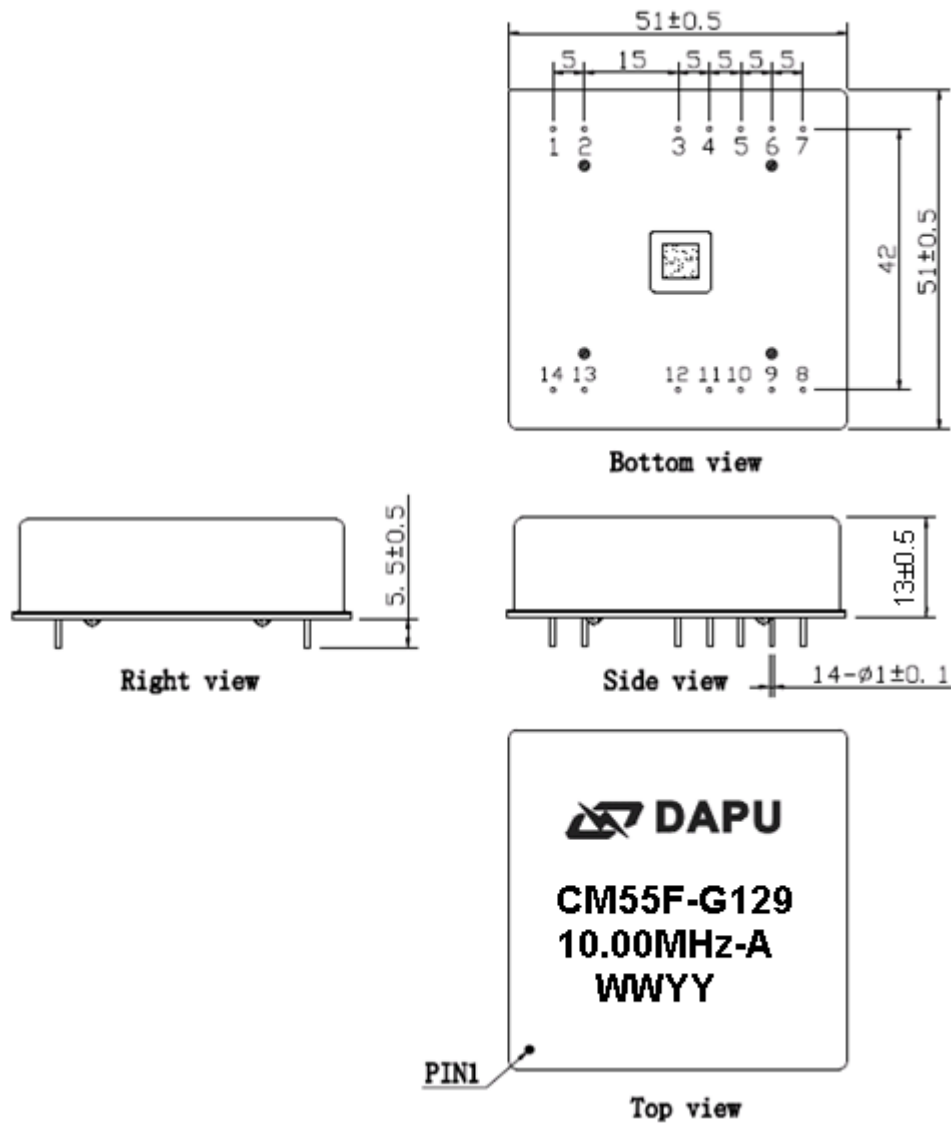
1 PPS Reference Input	Parameters	Min.	Typ.	Max.	Unit.	Test Condition	
	Waveform	HCMOS					
	High-Level Output Voltage (V_{IH})	2.7			V	50Ω	
	Low-Level Output Voltage (V_{IL})			0.4	V		
	Pulse Width	10			μs		
Connector	Pin 10						
State Input	Parameters	Min.	Typ.	Max.	Unit.	Test Condition	
	Lock Enable	2.7			V	<5mA Load	
	Lock Disable			0.4	V	<5mA Load	
	Connector	Pin 8					
RF Output	Parameters	Min.	Typ.	Max.	Unit.	Test Condition	
	Nominal Frequency	10.00			MHz		
	Waveform	HCMOS					
	High-level Output voltage (V_{OH})	2.7			V	<5mA Load	
	Low-level Output voltage (V_{OL})			0.4	V	<5mA Load	
	Rise/Fall Time			8	ns	<5mA Load	
	Duty Cycle	45	50	55	%	<5mA Load	
	Accuracy	-1		1	$\times 10^{-12}$	24 hour average when locked to 1 PPS	
	Short-term stability			2	$\times 10^{-11}$	Temperature stability, no EMI/EMC or other interference , test after power for 1 hour ref. to 25°C; 1s, using PN9000 equipment.	
	Aging Tolerance Per Day	-0.2		+0.2	$\times 10^{-9}$	Vcc, TA constant measurement referenced to frequency observed with TA=25°C, Vcc=5.0V, in FREE RUN condition and after 30 days of operation.	
	Aging Tolerance 1 Year	-0.01		+0.01	$\times 10^{-6}$		
	Phase noise (All conditions)			-118	-113		dBc/Hz
				-138	-133	100Hz	
				-148	-143	1KHz	
			-150	-145	10KHz		
			-150	-145	100KHz		
Connector	Pin 14					1MHz	



Holdover Capability	Holdover Time	Min.	Typ.	Max.	Unit.	
	Accuracy	-15		+15	ns	Reference 1PPS accuracy ≤ ±20ns (1σ)
	8 hours	-1.5		+1.5	μs	ΔT=±5°C, 8 hours holdover after turn on 7days and lock 3days. Temperature variable speed less than 1°Cper minute
Supply Voltage	Parameters	Min.	Typ.	Max.	Unit.	
	Supply voltage	4.75	5.0	5.25	V	
	Current consumption			1400	mA	During Warm-up
				600	mA	During steady state operation @25°C
	AC ripple			50	mVpk-pk	10Hz to 1MHz
Connector	Pin 3					
1 PPS Output Waveform Characteristics	Parameters	Min.	Typ.	Max.	Unit.	
	Waveform	HCMOS				
	High-Level Output Voltage(V _{OH})	2.7			V	50Ω
	Low-level Output voltage (V _{OL})			0.4	V	
	Pulse width	10			μs	
	Connector	Pin 12				
State Output	Parameters	Min.	Typ.	Max.	Unit.	
	Lock	2.7			V	<5mA Load
	Holdover			0.4	V	<5mA Load
	Connector	Pin 5				
Environmental Conditions	Parameter	Conditions				
	Operating temperature	-20°C to +75°C				
	Storage Temperature	-55°C to +105°C				
	Storage humidity	30%~80%				
	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 hours. (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.					
Full Package Storage	Relative humidity (%)	20%~70%				
	Temperature (°C)	-10~35°C				



2、Mechanical Structure(mm)



Note1: Tolerance ± 0.20 mm without mark

Note2: YY represents: year

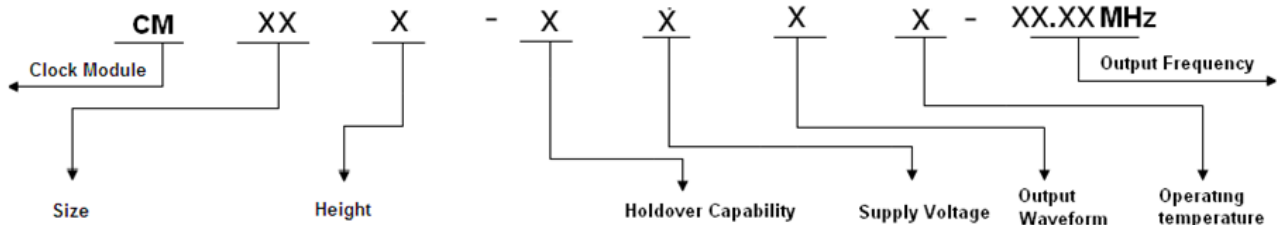
WW represents: week

Note3: Referential Weight 60 ± 5 g



PIN DEFINITION		
PIN	Name	DESCRIPTION
3	VCC	Power supply input,4.75V to 5.25V.
5	Lock OUTPUT	State output. Output high level when the work state is Run2(See section 4),others low level.
6	RX INPUT	Asynchronous serial data input.9600-N-8-1.
7	TX OUTPUT	Asynchronous serial data output(See section 5).9600-N-8-1.
8	State INPUT	H: Lock Enable The work state is set to normal operation when the state input is high.
		L: Lock Disable The work state is set to hold over when the state input is low.
9	NC	Not connected.
10	1PPS INPUT	1PPS reference input.
12	1PPS OUTPUT	The clock module 1PPS output.
14	10MHz OUTPUT	10MHz OCXO frequency output.
1、2	NC	Not connected.
4、11、13	GND	GND

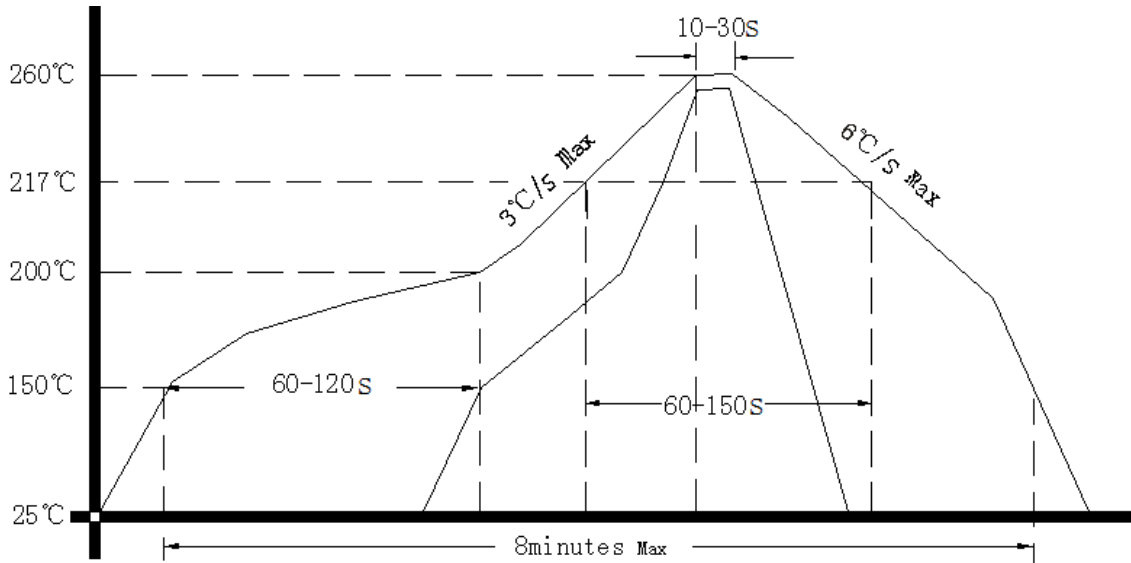
3、Coding Rules



Size	Height	Holdover Capability	Supply Voltage	Output Waveform	Operating temperature
22 20×20 (mm)	A 19mm, single Freq, external GPS receiver	A ±1.5µs 0°C~60°C 24hours	1 5.0V	1 Sine Wave	1 0°C~80°C
55 50×50 (mm)	B 19mm, single Freq, internal GPS receiver	B ±3.0µs 0°C~60°C 24hours	2 3.3V	2 HCMOS	2 -10°C~70°C
66 60×60 (mm)	C 19mm, single Freq, internal dual-mode receiver	C ±8.0µs 0°C~60°C 24hours			9 -20°C~75°C
65 65×65 (mm)	F 13mm, single Freq, external GPS receiver	D ±1.5µs ΔT=±5°C 24hours			8 -40°C~85°C
77 75×75 (mm)	G 13mm, single Freq, internal GPS receiver	E ±3.0µs ΔT=±5°C 24hours			
	H 13mm, dual-Freqs, internal GPS receiver	F ±8.0µs ΔT=±5°C 24hours			
	K 13mm, single Freq, internal dual-mode receiver	G ±1.5µs ΔT=±5°C 8hours			
	L 13mm, dual-Freqs, internal dual-mode receiver	H ±3.0µs ΔT=±5°C 8hours			
	P 13mm, for PTP, 1588 applications	I ±8.0µs ΔT=±5°C 8hours			
		K ±1.5µs ΔT=±2°C 24hours			
		M ±3.0µs ΔT=±2°C 24hours			
		N ±8.0µs ΔT=±2°C 24hours			
		O ±1.5µs ΔT=±2°C 8hours			
		P ±3.0µs ΔT=±2°C 8hours			
		Q ±8.0µs ΔT=±2°C 8hours			
		Z ±12 µs ΔT=±5°C 12hours			
		J ±80µs ΔT=±2°C 24hours			



4、 Reflow Soldering Curve (RoHS)



5、 Package (mm)

