Customer Code : _____

DATASHEET

DAPU P/N: **CM15B-J329-24.00-16.00MHz**

Customer P/N:_____

DAPU			Customer Approval
Drew	Audited	Approved	
Amway.wei	Steven.Sun	James.Liu	
Date: 2015.06.09			Stamp, please! Thanks!

Guangdong Dapu Telecom Technology Co.,Ltd

Bldg 16,.N.Ind.Zone,SSL Industry Park, Dongguan City, Guangdong Province, China

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Table of amendment

Version	Revision contents	Prepared by	Revised date
1.0	The first issued	Amway	2015.06.09

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1. Electrical Parameters

1 PPS Reference Input	Parameters	Min.	Typ.	Max.	Unit.	Test Condition
	Waveform	HCMOS				
	High-Level Output Voltage (V_{IH})	2.4		3.4	V	50Ω
	Low-Level Output Voltage (V_{IL})			0.4	V	
	Pulse Width	10			μs	
	Connector	Pin 4				
State Input	Parameters	Min.	Typ.	Max.	Unit.	Test Condition
	Lock	2.4		3.4	V	<5mA Load
	Holdover			0.4	V	<5mA Load
	Connector	Pin 1				
RF Output	Parameters		Min.	Typ.	Max.	Unit.	Test Condition
	Nominal Frequency	Output 1	24.00			MHz	Synchronization with input 1PPS
		Output 2	16.00			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				10	ns	Load 15pF
	Duty Cycle		45	50	55	%	Load 15pF
	Frequency Tolerance vs. Operating Temperature Range		-0.01		+0.01	$\times 10^{-6}$	T_A varied from-40℃ to 85℃, measurement referenced to frequency observed with $f_{ref}=(f_{max}+f_{min})/2$, V_{cc}=3.3V , O_{load}=15pF, temperature variable speed less than 2℃per minute.
	Accuracy		-0.01		+0.01	$\times 10^{-9}$	24 hours average when locked to 1PPS after power on 2days.
	Short-term Stability		-0.1		+0.1	$\times 10^{-9}$	Temperature stability, no EMI\EMC or other interference, test after power for 1 hour ref. to 25℃; 1s, using PN9000 equipment.
	Warm-Up		-1		+1	$\times 10^{-6}$	T_A=25℃, V_{cc}=3.3V constant measurement referenced to 10.00MHz, after power on 5mins with GPS lock.

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	Aging Tolerance Per Day	-5		+5	$\times10^{-9}$	Constant measurement referenced to frequency observed with T_A=25℃, Vcc =3.3V, after 30days of operation.
	Aging Tolerance 1 Year	-0.5		+0.5	$\times10^{-6}$	
	Phase Noise (All conditions)		-100	-90	dBc/Hz	10Hz
			-130	-120		100Hz
			-148	-143		1KHz
			-150	-145		10KHz
			-150	-145		100KHz
			-150	-145		1MHz
	Connector	Pin17/Pin18				
Holdover Capability	Holdover Time	Min.	Typ.	Max.	Unit.	Test Condition
	24 Hours	-80		+80	μs	△T=±2℃, 24 hours holdover after turn on 1hour and lock 1 hour. Temperature variable speed less than 1℃ per minute.
Supply Voltage	Parameters	Min.	Typ.	Max.	Unit.	Test Condition
	Supply Voltage	3.13	3.3	3.47	V	
	Warm up current			750	mA	
	Steady Consumption			250	mA	@25℃
	AC Ripple			50	mVpk-pk	10Hz to 1MHz
	Connector	Pin 11				
1 PPS Output	Parameters	Min.	Typ.	Max.	Unit.	Test Condition
	Waveform	HCMOS				
	High-Level Output Voltage(V_{OH})	2.4			V	50Ω
	Low-level Output voltage (V_{OL})			0.4	V	
	Pulse Width	10			μs	
	Accuracy	-200		+200	ns	24 hours average when locked to 1PPS after power on 2days.
	Connector	Pin 7				

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Serial Interfaces	Parameters	Min.	Typ.	Max.	Unit.	Test Condition
	Rx high-level Input Voltage (VH)	2.4		3.4	V	
	Rx low-level Input Voltage (VL)			0.4	V	
	Tx high-level Output Voltage (VH)	2.4		3.4	V	
	Tx low-level Output Voltage (VL)			0.4	V	
	Serial Protocol	9600-N-8-1				
	Connector	Pin14 / Pin15				

Environmental Conditions	Parameter	Conditions
	Operating Temperature	-20℃ to 75℃
	Storage Temperature	-55℃ to 105℃
	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	Level 2.
	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 (℃)	-10~35℃

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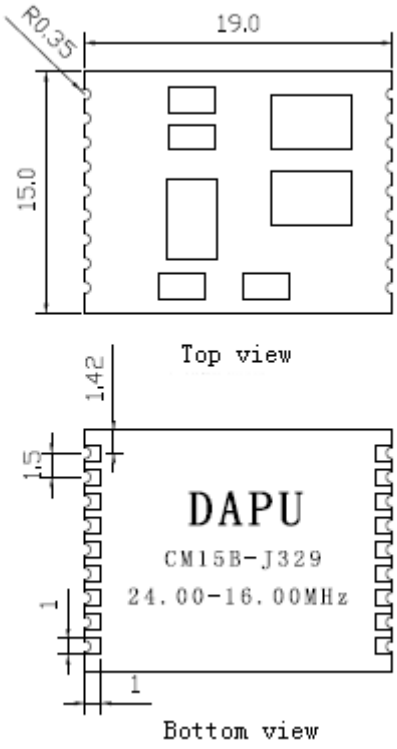
2. Mechanical Structure(mm)



Note: Tolerance ±0.2mm without mark

PIN DEFINITION			
PIN	**NAME**		**DESCRIPTION**
1	State INPUT	H: Lock	The work state is set to normal operation when the state input is high.
		L: Holdover	The work state is set to hold over when the state input is low.
3	VCC		Power supply: 3.13V to 3.47V
11	GND		GND
4	PP1S Input		PP1S reference input
14	RXD		Asynchronous serial data input. 9600-N-8-1.
15	TXD		Asynchronous serial data output.9600-N-8-1.
7	1PPS OUTPUT		The clock module 1PPS output .
17、18	OUTPUT		Frequency output, synchronization with PP1S reference.
2,5,6,8,9,10,12,13,16	NC		Not connect.

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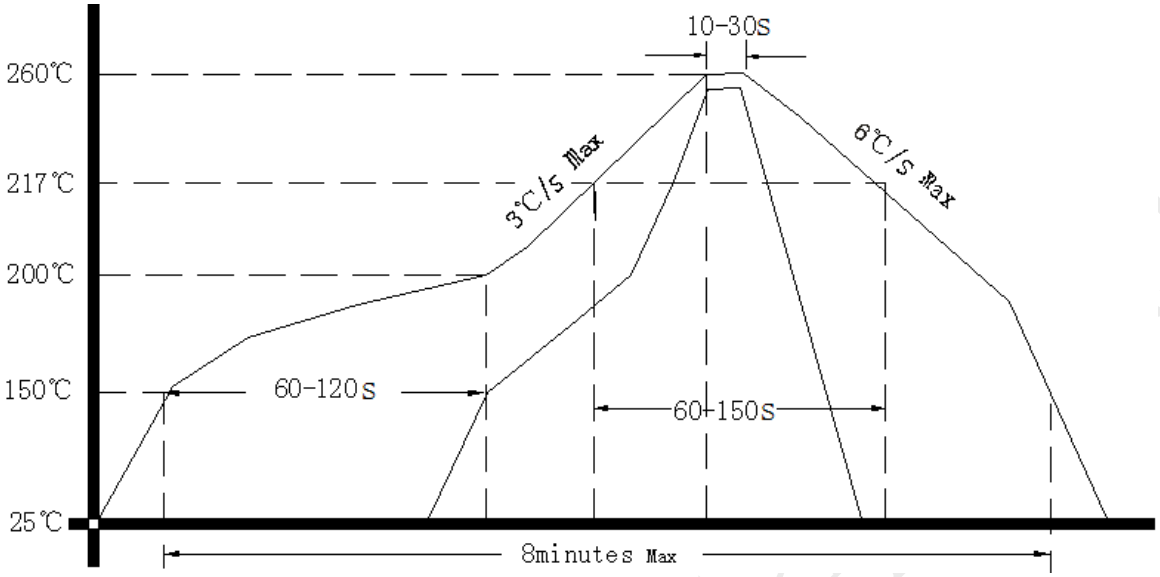
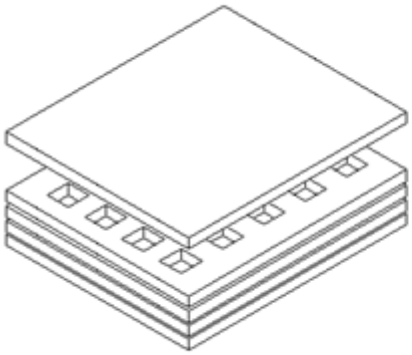
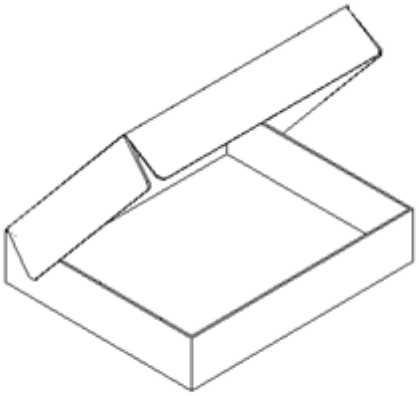
3. Reflow Soldering Curve (RoHS)



4. Package（mm）



Buffer material



Cardboard
Max 20pcs. circulator