

2.5 x 2.0mm SMD CMOS 2-OUTPUT PROGRAMMABLE OSCILLATOR



2.5 x 2.0 x 0.8mm

AP2SM



FEATURES:

- Multi-output frequencies on pin 1 and 3
- Performance comparable to fixed frequency oscillator
- Low jitter and low phase noise
- Low current consumption
- Short lead time
- Suitable for mass production
- IR-reflow capable
- Industrial wide temperature

APPLICATIONS:

- Mobile phone
- Wireless-LAN
- PC card
- DVD
- DVC
- DSC

For Small Quantities, Delivery Time is 1-5 days

ELECTRICAL SPECIFICATIONS:

Characteristics	Unit	Minimum	Typical	Maximum
Frequency Range				
F1 (Prime output on pin 3)	MHz	1	--	52
F2 (Secondary output on pin 1)	MHz	F1 or F1/2 (See options)		
Operating Temp. Range (See Options)	°C	-20	--	75
Freq. stability over operating temp.* (See Options)				
	ppm	-100	--	100
Supply Voltage (Vdd)				
	V	2.97	3.3	3.63
	V	2.25	2.5	2.75
	V	1.62	1.8	1.98
Input Current (3.3V, 15pF)	mA	--	4	8
Input Current (2.5V, 15pF)	mA	--	3	7
Input Current (1.8V, 15pF)	mA	--	2.5	5
Output Load				
	CMOS 15pF max.			
Output V _{OH} (15pF load)	V	--	--	10% Vdd
Output V _{OL} (15pF load)	V	90% Vdd	--	--
Symmetry	%	45	50	55
Standby Current (PIN 1 option: B)	uA	--	--	10
Rise Time (10%→90% Vdd)	ns	--	--	10
Fall Time (90%→10% Vdd)	ns	--	--	10
Tri-state Stand-by (See options) (Input to pin 1)				
	pin 1 : High or Open , pin 3 : Enable			
	pin 1 : Low , pin 3 : Disable			
Tri-state Power Down (See options) (Input to pin 1)				
	pin 1 : High or Open , pin 3 : Enable			
	pin 1 : Low , pin 3 : Disable with power down			
Disable current (Stand-by)	uA	--	--	200
Disable current (Power down)	uA	--	--	10
Jitter peak-to-peak**	psec	--	40	--
Phase Noise**	dBc/Hz	-142 @ 1kHz (Pin 3 output 27MHz)		

* Inclusive of calibration @25°C, operating temperature range, input voltage variation, load variation, aging,

** Jitter and Phase Noise performance depends on programming parameter and output frequency.

Please contact ABRACON for different frequencies.

OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

AP2SM□-Frequency-□-□-□-□

Supply Voltage		Operating Temp.		Freq. Stability		PIN 1		Packaging	
Blank*	3.3 V	I	0°C to +50°C	J***	±20ppm	**Blank	OE	Blank	Bulk
1	2.5 V	D	-10°C to +60°C	R	±25ppm	**B	PDB	T	Tape and Reel
2	1.8 V	E	-20°C to +70°C	K	±30ppm	OP1*****	F1		
*3.3V : Standard		F	-30°C to +70°C	C	±50ppm	OP2*****	F1/2		
		N	-30°C to +85°C						
		L	-40°C to +85°C						

*** Available for I, D, or E temp options only.

Contact ABRACON for EJ or LR options. (Availability limited)

**** Frequency in MHz

Example part numbers;

AP2SM-50.000MHz-L-R-OE-T: +/-25ppm over -40 to +85 °C, 50MHz (F1) on pin 3, OE on pin 1.

AP2SM-50.000MHz-L-R-OP1-T: +/-25ppm over -40 to +85 °C, 50MHz (F1) on pin 3, and pin 1.

AP2SM-50.000MHz-L-R-OP2-T: +/-25ppm over -40 to +85 °C, 50MHz (F1) on pin 3, 25MHz (F1/2) on pin 1.

** OE: Tri-state the output buffer.

** PDB: Tri-state the output buffer and shut off the oscillator, <10µA when PDB enabled.

***** OP1: Pin 1 outputs the specified frequency F1. OP2: Pin1 outputs a half of F1 frequency.

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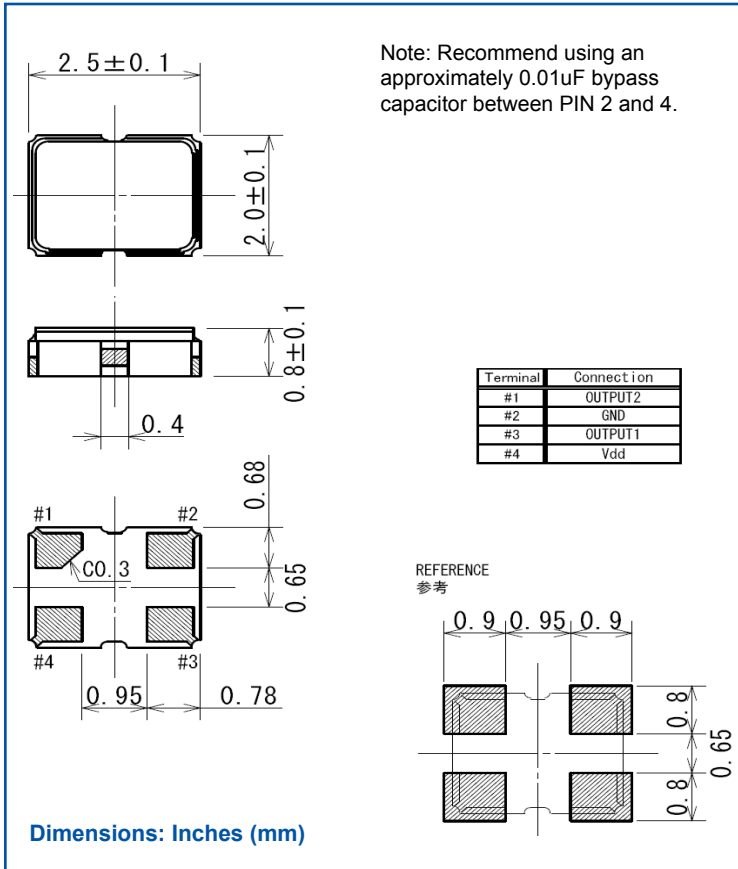


2.5 x 2.0 x 0.8mm

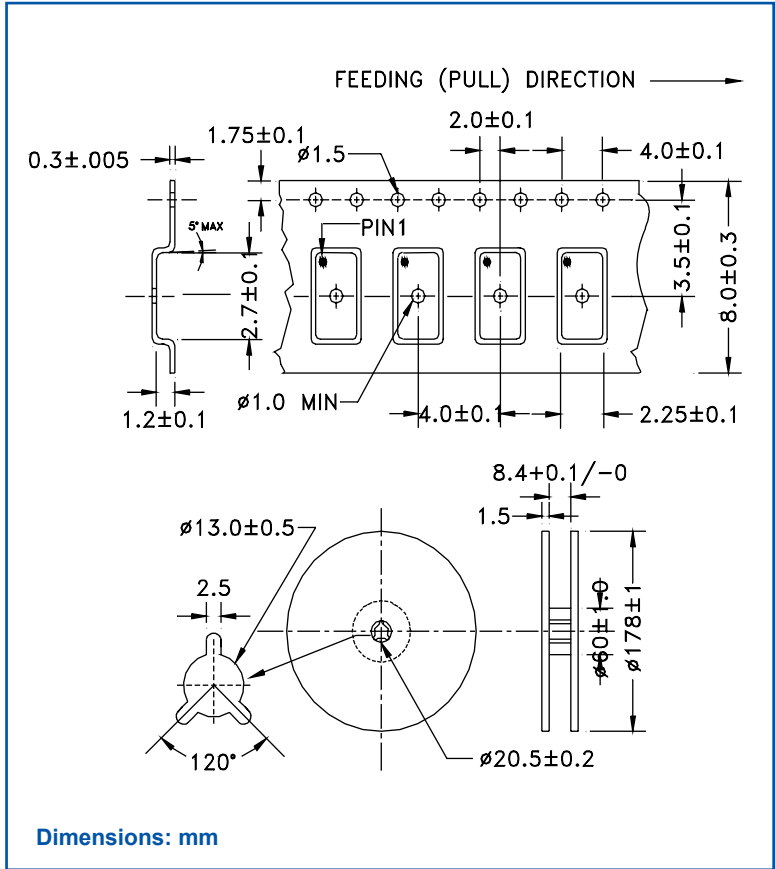
AP2SM



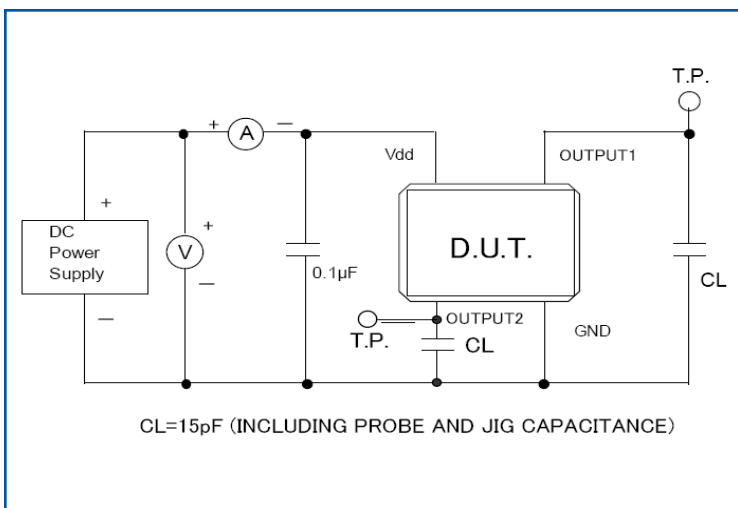
OUTLINE DRAWING:



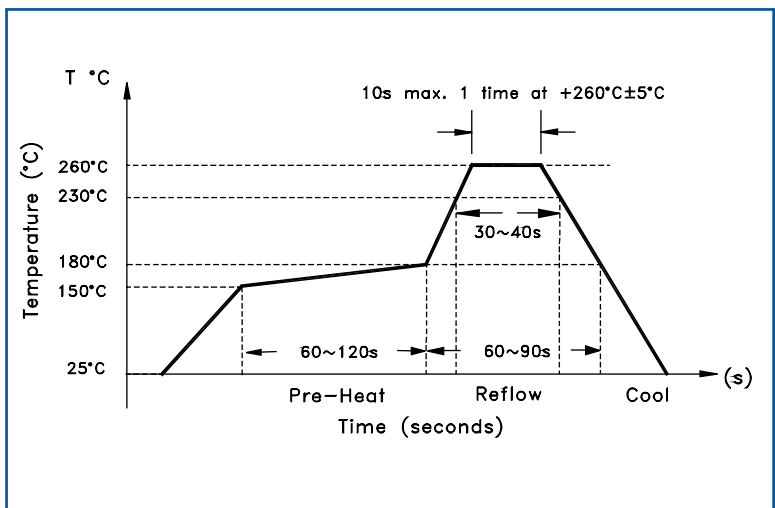
TAPE & REEL: Tape and reel 1,000pcs/reel



TEST CIRCUIT:



REFLOW PROFILE:



Need a test socket for the AP2SM Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, [click here](#). P/N: AXS-2520-04-01

NOTE: Abracon manufactured products are intended for general commercial and industrial use. For applications requiring high reliability and/or presenting extreme operating environment, written consent & authorization from Abracon is required.

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