

SMD CMOS PROGRAMMABLE CRYSTAL OSCILLATOR



3.2 x 2.5 x 1.2mm

AP3S

Moisture Sensitivity Level (MSL) –
This product is Hermetically Sealed and
not Moisture Sensitive -MSL = N/A: Not Applicable



RoHS
Compliant

FEATURES:

- Performance comparable to fixed frequency oscillator
- Lowest peak-to-peak jitter
- Low supply current
- Short lead time
- Suitable for mass production
- Alternative to long lead-time XO's

For Small
Quantities,
Delivery Time
is 1-5 days

ELECTRICAL SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range	V _{dd} = 3.3V	1	-----	200	MHz	In-house programming small quantity only (< 1,000pcs) Contact Abracon for mass production quantity
	V _{dd} = 2.5V	1	-----	166		
	V _{dd} = 1.8V	11	-----	110		
	V _{dd} = 1.8V	1	-----	10.999		
Operating Temperature		-10	-----	+60	°C	See options
Storage Temperature		-55	-----	+150	°C	
Overall Frequency Stability*		-100	-----	+100	ppm	See options
Supply Voltage (V _{dd})	V _{dd} = 3.3V	2.97	3.30	3.63	V	Standard
	V _{dd} = 2.5V	2.25	2.50	2.75		V _{dd} option 1
	V _{dd} = 1.8V	1.62	1.80	1.98		V _{dd} option 2
Input Current	V _{dd} = 3.3V	-----	-----	10	mA	1MHz ≤ F < 30MHz
		-----	-----	15		30MHz ≤ F < 75MHz
		-----	-----	20		75MHz ≤ F < 133MHz
		-----	-----	22		133MHz ≤ F < 166MHz
		-----	-----	25		166MHz ≤ F < 200MHz
	V _{dd} = 2.5V	-----	-----	8		1MHz ≤ F < 30MHz
		-----	-----	10		30MHz ≤ F < 75MHz
		-----	-----	15		75MHz ≤ F < 133MHz
		-----	-----	15		133MHz ≤ F < 166MHz
	V _{dd} = 1.8V	-----	-----	6		1MHz ≤ F < 30MHz
		-----	-----	8		30MHz ≤ F < 75MHz
		-----	-----	2		75MHz ≤ F < 133MHz
Symmetry****		45	50	55	%	@ 1/2V _{dd}
Rise and Fall Time (Tr/Tf)**	V _{dd} = 3.3V	-----	-----	3	ns	1MHz ≤ F < 10MHz
		-----	-----	2		10MHz ≤ F
	V _{dd} = 2.5V	-----	-----	4		1MHz ≤ F < 10MHz
		-----	-----	3		10MHz ≤ F
	V _{dd} = 1.8V	-----	-----	5		1MHz ≤ F < 10MHz
		-----	-----	4		10MHz ≤ F
Output Load:		-----	-----	15	pF	CMOS



SMD CMOS PROGRAMMABLE CRYSTAL OSCILLATOR



3.2 x 2.5 x 1.2mm

AP3S



RoHS
Compliant

ELECTRICAL SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes	
Output Voltage	V_{OL}	-----	-----	0.33	V	$V_{dd} = 3.3V$
	V_{OH}	2.97	-----	-----		
	V_{OL}	-----	-----	0.25	V	$V_{dd} = 2.5V$
	V_{OH}	2.25	-----	-----		
	V_{OL}	-----	-----	0.18	V	$V_{dd} = 1.8V$
	V_{OH}	1.62	-----	-----		
Start-up Time	-----	-----	2.0	ms		
Tri-state function (Stand-by)	"1" ($V_{IH} > 0.7 \cdot V_{dd}$) or Open: Oscillation "0" ($V_{IH} < 0.3 \cdot V_{dd}$): Disable			-----		
Standby current	-----	-----	15	μA		
Period jitter Peak to Peak (Reference only. Please contact Abracon for each frequencies.):	-----	-----	40	ps	Standard frequencies***	
	-----	-----	200	ps	Other frequencies Reference only Please contact Abracon	
Aging:	-3.0	-----	+3.0	ppm	@+25°C First year	

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

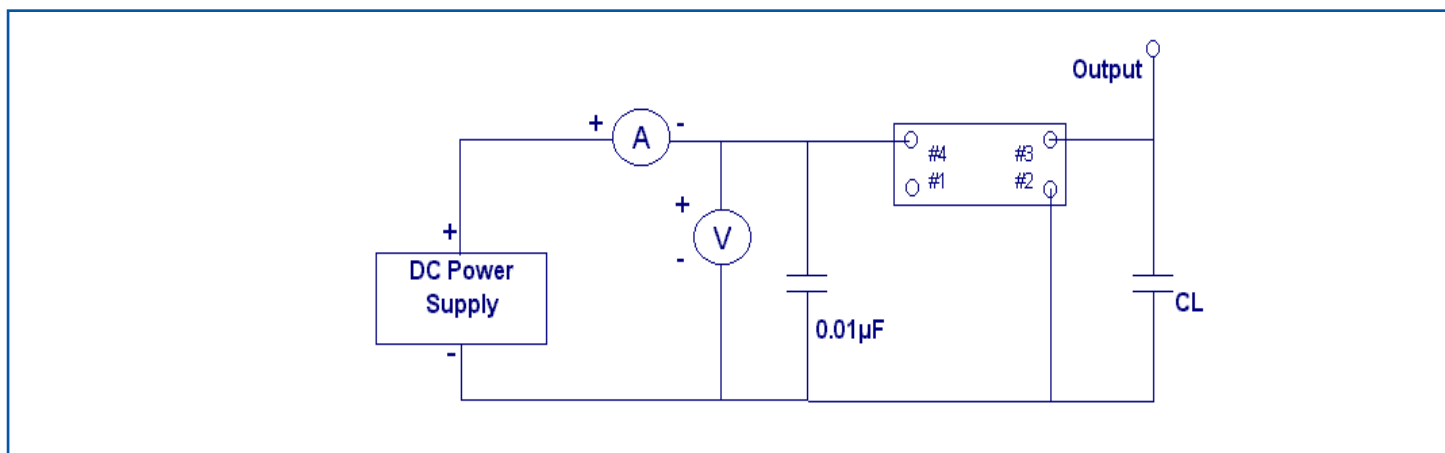
For ± 20 ppm, inclusive of calibration @25°C, operating temperature range, load variation, shock, and vibration.

** Transition times are measured between 10% and 90% of V_{dd} with an output load of 15 pF.

*** 4.0, 6.0, 8.0, 12.0, 13.0, 16.0 19.2, 20.0, 24.0, 26.0, 32.0, 38.4, and 40.0MHz

**** Only 40/60% is available for certain frequencies. Please contact Abracon when ordering.

TEST CIRCUIT:



SMD CMOS PROGRAMMABLE CRYSTAL OSCILLATOR



3.2 x 2.5 x 1.2mm

AP3S



RoHS
Compliant

OPTIONS & PART IDENTIFICATION:

AP3S - MHz - -

Supply Voltage

*Blank: 3.3V
1: 2.5V
2: 1.8V

Frequency in MHz

Please specify the frequency in MHz.
e.g. 14.31818MHz

Operating Temp.

I: 0°C ~ +50°C
E: -20°C ~ +70°C
F: -30°C ~ +70°C
N: -30°C ~ +85°C
L: -40°C ~ +85°C

Overall Freq. Stability

J(****): ±20ppm
R: ±25ppm
K: ±30ppm
C: ±50ppm

Tri-state pin

**Blank: OE
***B: Power Down

Packaging

Blank: Bulk
T: Tape & Reel (1k/reel)
T3: Tape & Reel (3k/reel)

* 3.3V is standard

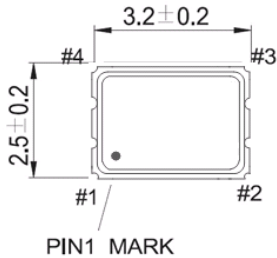
** OE: Tri-state the output buffer

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

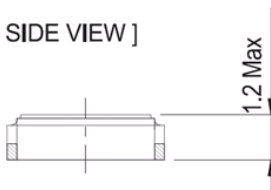
**** Available for -10 to +60°C, I, or E temp options only. Contact ABRACON for EJ or LR options. (Availability limited)

OUTLINE DRAWING:

[TOP VIEW]

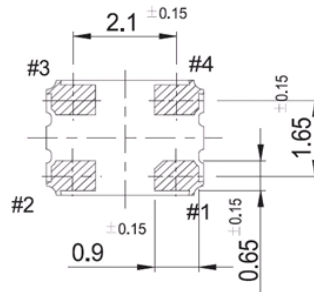


[SIDE VIEW]



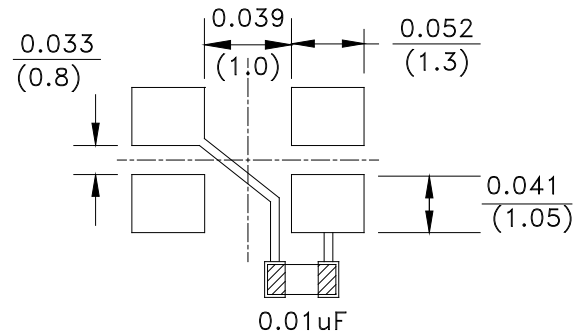
UNIT : mm

[BOTTOM VIEW]



Pin	Function
1	Tri-State
2	GND/Case
3	Output
4	Vdd

Recommended land pattern



Note: Recommend using an approximately 0.01uF bypass capacitor between PIN 2 and 4.

Dimensions: inches (mm)

SMD CMOS PROGRAMMABLE CRYSTAL OSCILLATOR

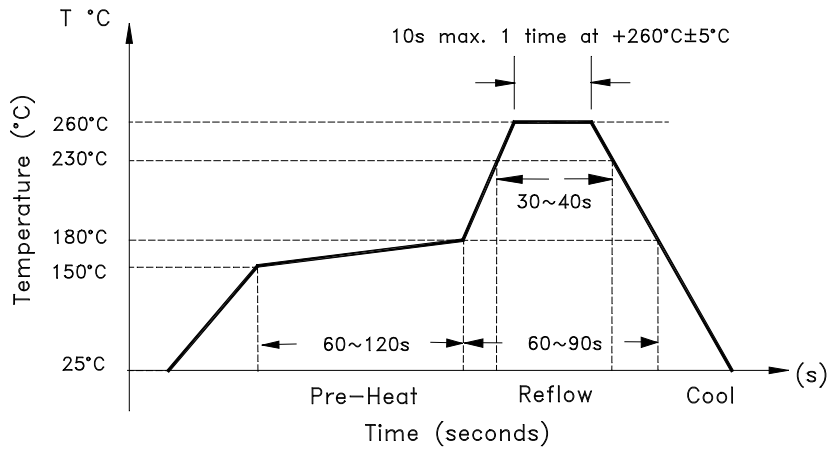


3.2 x 2.5 x 1.2mm

AP3S

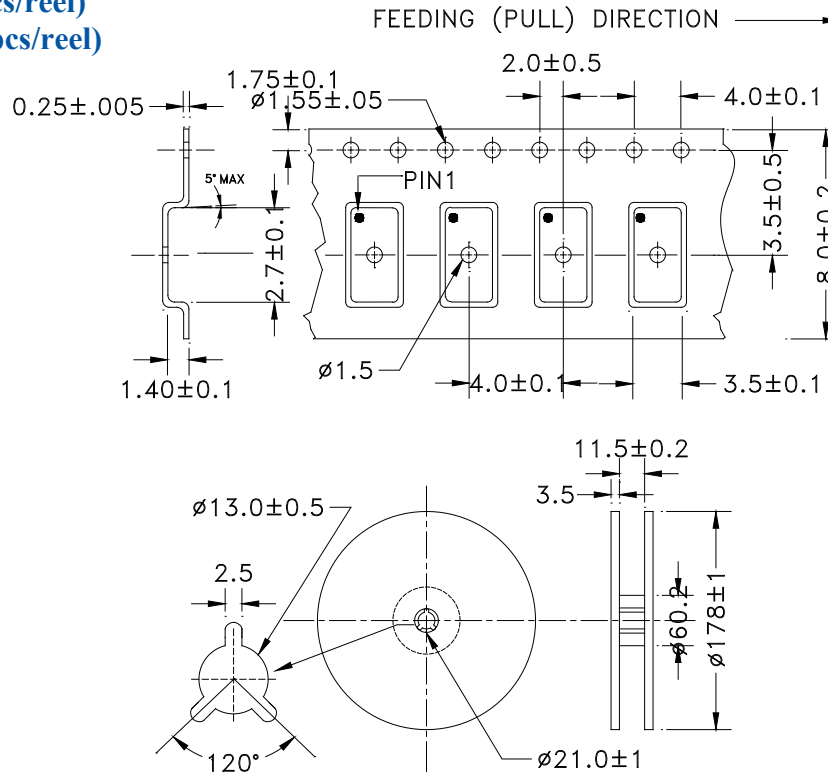


REFLOW PROFILE



TAPE & REEL:

T= Tape and reel (1,000pcs/reel)
T3= Tape and reel (3,000pcs/reel)



Dimensions: mm

ATTENTION: Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

ABRACON IS
ISO 9001:2008
CERTIFIED



Visit www.abracon.com for Terms & Conditions of Sale
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

Revised: 09.16.11

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru