

# 3.3V HCMOS/ TTL COMPATIBLE SMD CRYSTAL CLOCK OSCILLATOR

**ASFL1**



**RoHS  
Compliant**



5.0 x 3.2 x 1.3mm

## FEATURES:

- Tri state function
- Suitable for high density SMT
- Available tight stability option +/-20ppm
- Seam sealed package assures high reliability performance
- Suitable for RoHS compliant reflow process

## APPLICATIONS:

- CCD clock for VTR camera
- Equipment connected to PC or PC cards
- Thin equipment
- Wireless communication
- PDA, Laptop computer

## STANDARD SPECIFICATIONS:

| Parameters                        |                    | Minimum | Typical | Maximum | Units | Notes                                                           |
|-----------------------------------|--------------------|---------|---------|---------|-------|-----------------------------------------------------------------|
| Frequency Range                   |                    | 0.321   | -----   | 133.33  | MHz   |                                                                 |
| Operating Temperature             |                    | -10     | -----   | +70     | °C    | See options                                                     |
| Storage Temperature               |                    | -55     | -----   | +125    | °C    |                                                                 |
| Overall Frequency Stability       |                    | -100    | -----   | +100    | ppm   | See options                                                     |
| Supply Voltage (Vdd)              |                    | 2.97    | 3.3     | 3.63    | V     |                                                                 |
| Input Current                     | 0.321MHz ~ 29.9MHz | -----   | 8       | 15      | mA    |                                                                 |
|                                   | 30MHz ~ 79.9MHz    | -----   | 20      | 45      |       |                                                                 |
|                                   | 80MHz ~ 133.33MHz  | -----   | 28      | 85      |       |                                                                 |
| Symmetry (@ 1/2Vdd)               |                    | 40      | 50      | 60      | %     | See options                                                     |
| Rise and Fall Time (Tr/Tf)        | 0.321MHz ~ 29.9MHz | -----   | 5       | 10      | ns    |                                                                 |
|                                   | 30MHz ~ 79.9MHz    | -----   | 5       | 7       |       |                                                                 |
|                                   | 80MHz ~ 133.33MHz  | -----   | 3       | 7       |       |                                                                 |
| Output Load                       |                    | -----   | -----   | 15      | pF    |                                                                 |
|                                   |                    | -----   | -----   | 5       | TTL   |                                                                 |
| Output Voltage                    | VOH                | 0.9*Vdd | -----   | -----   | V     |                                                                 |
|                                   | VOL                | -----   | -----   | 0.1*Vdd | V     |                                                                 |
| Tri-state Function                | VIH                | 0.7*Vdd | -----   | -----   | V     | "1" or Open: Oscillation                                        |
|                                   | VIL                | -----   | -----   | 0.3*Vdd | V     | "0": Output disable (Hi Z)                                      |
| Disable Current                   |                    |         |         | 10      | μA    |                                                                 |
| Start-up Time                     | 0.321MHz ~ 29.9MHz | -----   | 1       | 10      | ms    |                                                                 |
|                                   | 30MHz ~ 79.9MHz    | -----   | 3       | 10      |       |                                                                 |
|                                   | 80MHz ~ 133.33MHz  | -----   | 3       | 10      |       |                                                                 |
| Phase Jitter RMS (12kHz to 20MHz) |                    | -----   | -----   | 1       | ps    | Reference only. Please contact Abracon for specific frequencies |
| Aging                             |                    | -5.0    | -----   | +5.0    | ppm   | @+25°C First year                                               |

## OPTIONS AND PART IDENTIFICATION:

(Left blank if standard)

ASFL1-   MHz -       -  

**Frequency in MHz**  
e.g. 24.576MHz  
14.31818MHz  
26.000MHz

**Operating Temp.**  
I: 0°C ~ +50°C  
D: -10°C ~ +60°C  
E: -20°C ~ +70°C  
F: -30°C ~ +70°C  
N: -30°C ~ +85°C  
L: -40°C ~ +85°C

**Freq. Stability**  
J: ± 20 ppm(\*)  
R: ± 25 ppm  
K: ± 30 ppm  
H: ± 35 ppm  
B: ± 40ppm  
C: ± 50 ppm

**Symmetry**  
Blank: 40/60% @1/2Vdd  
S: 45/55% @1/2Vdd

(\*) Temp option I, D, E and -10°C ~ +70°C only.

**Packaging**  
Blank: Bulk  
T: 1000pcs/reel  
T2: 250pcs/reel

ABRACON IS  
ISO9001:2008  
CERTIFIED



**ABRACON  
CORPORATION**

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Dimensions: inches (mm)