



**THE DATASHEET OF
ASFL1-32.768MHZ-EC-T**



3.3V HCMOS/ TTL COMPATIBLE SMD CRYSTAL CLOCK OSCILLATOR



5.0 x 3.2 x 1.3mm

ASFL1



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 |

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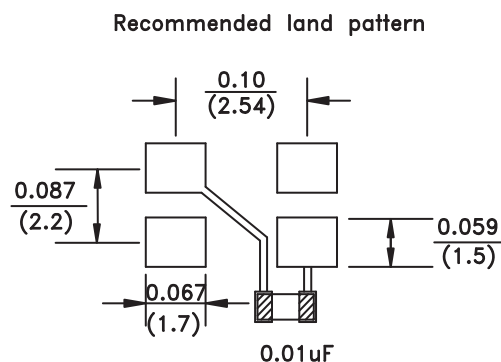


5.0 x 3.2 x 1.3mm

ASFL1



OUTLINE DRAWING:



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

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

Dimensions: inches (mm)

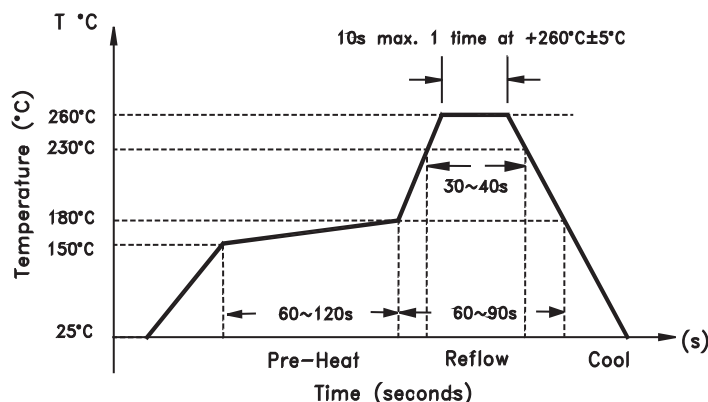
TAPE & REEL:

T= Tape and reel (1,000pcs/reel)
T2= Tape and reel (250pcs/reel)

Dimensions: mm



REFLOW PROFILE:



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