



5.0 x 3.2 x 1.6 mm

5.0 Vdc or 3.3 Vdc • LOW PROFILE ULTRA MINIATURE CERAMIC SURFACE MOUNT CRYSTAL CLOCK OSCILLATORS ASF1, ASFL and ASFL1

FEATURES:

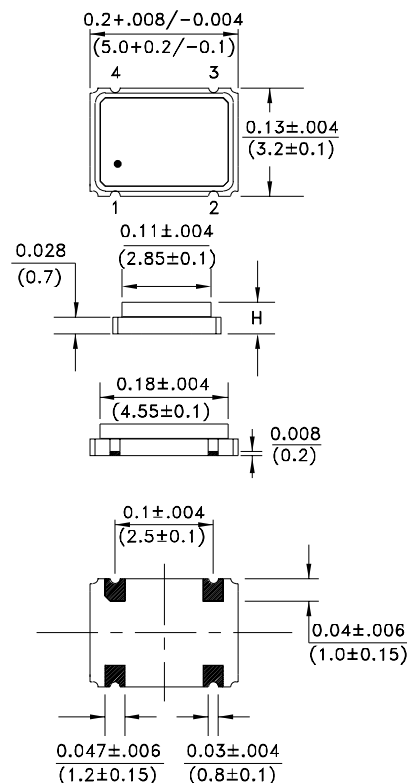
- Compact and low in height.(1.6 mm or 1.2 mm max.)
- Low current consumption.
- Tri state function.
- Suitable for high density SMT., Reflow capable.
- Tight stability option.
- Glass sealed package.

APPLICATIONS:

- CCD clock for VTR camera.
- Equipment connected to PC or PC cards.
- Thin equipment.

STANDARD SPECIFICATIONS

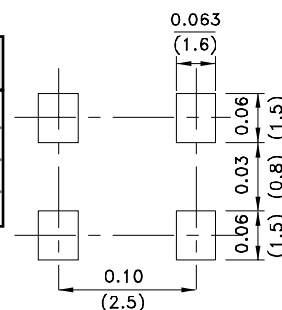
PARAMETERS	ASF1	ASFL	ASFL1
Frequency Range (F _O)	1.50MHz ~ 125MHz		
Operating Temperature (T _{OPR})	-10°C to +70°C		
Storage Temperature (T _{STO})	-50°C to +125°C		
Frequency Stability (ΔF/ F _O)	±100ppm max. (See Options)		
Supply Voltage (V _{dd})	5.0 Vdc ±10%	3.3Vdc ±10%	
Input Current (I _{dd})	20mA max. 45mA max. 50mA max. 100mA max.	12mA max. for (F < 33MHz) 25mA max. for (F < 50MHz) 35mA max. for (F < 70MHz) 60mA max. for (F ≤ 125MHz)	
Duty Cycle or Symmetry	40 / 60% max. (See Options)		
Rise and Fall Times (T _R / T _F)	6ns max.		
Output Load	5TTL or 15pF(50pF max.) 2TTL or 15pF	5TTL or 15pF(30pF max.) for F < 70MHz 2TTL or 15pF for F ≥ 70MHz	
Output Voltage (V _{OH}) (V _{OL})	“1” 0.9 * V _{dd} min. “0” 0.1* V _{dd} max.		
Tri-State Function	“1” or Open: Oscillation “0”: Output disabled (Hi Z)		≥ 2.2V < 0.8V
Start-up Time	10ms max.		
Aging per Year	±5ppm @ 25°C		



Bottom view
Recommended land pattern

Connect a By-Pass capacitor 0.01 μ F between V_{dd} and GND.
Environmental, and mechanical specifications, see appendix C. Group 2.
Marking, see appendix G. Test circuit, waveforms, see appendix B.
Tape and Reel, see appendix H.(1,000 pcs/reel).
Reflow profile, see appendix E.
Application notes, see appendix A.

PIN NO.	FUNCTION
1	Tri State
2	GND / Case
3	Output
4	V_{dd}



P/N	H
ASFL	0.063±.006 (1.6±0.15)
ASF1, ASFL1	0.043±.004 (1.1±0.1)

Dimensions: Inches (mm)

* Vary with frequency and temperature.

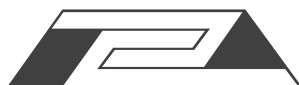
ORDERING OPTIONS

ASFXX - Frequency - Temperature - Overall Frequency Stability - Duty Cycle - Packaging

Blank or L	- E for -20°C to + 70°C - F for -30°C to + 70°C - N for -30°C to + 85°C - L for -40°C to + 85°C	- J for ± 20 ppm max.* - R for ± 25 ppm max.* - K for ± 30 ppm max.* - H for ± 35 ppm max.* - B for ± 40 ppm max. - C for ± 50 ppm max.
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-T
(Tape & Reel)

-S for 45 / 55% @ 1/2 V_{dd}



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[ASF1-3.686MHZ-N-K-S](#)