

Features

- HCMOS Output
- Stabilities to ± 20 PPM
- Temperature Ranges as wide as -20°C to $+70^{\circ}\text{C}$
- Supply Voltages: 1.8V; 2.5V; 3.3V

1.8V ELECTRICAL CHARACTERISTICS	
PARAMETERS	MAX (Unless otherwise noted)
Frequency (F_o)	32.768 kHz
Storage Temperature Range (T_{STG})	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$
Supply Voltage (V_{DD})	$1.8\text{V} \pm 10\%$
Input Current (I_{DD})	120 μA
Standby Current	10 μA
Output Symmetry (50% V_{DD})	45 % \sim 55 %
Rise/Fall Time (10%/90% V_{DD} Levels) (T_R/T_F)	50 nS
Output Voltage (V_{OL})	10 % V_{DD}
(V_{OH})	90 % V_{DD} Min
Output Load (HCMOS)	15 pF
Start-up Time (T_S)	2 mS
Output Disable Time ¹	1 μS
Output Enable Time ¹	2 mS

ENABLE / DISABLE FUNCTION	
Pin ¹	Output (pin 3)
OPEN ¹	Active
'1' Level $V_{IH} \geq 70\%V_{DD}$	Active
'0' Level $V_{IL} \leq 30\%V_{DD}$	High Z

Frequency Stability	Operating Temperature ($^{\circ}\text{C}$)
$\pm 50\text{PPM}^2$	$-20 \sim +70$
$\pm 50\text{PPM}^2$	$-40 \sim +85$
$\pm 25\text{PPM}^2$	$-20 \sim +70$
$\pm 25\text{PPM}^3$	$-40 \sim +70$
$\pm 20\text{PPM}^3$	$-10 \sim +60$

¹ An internal pull-up resistor from pin 1 to pin 4 allows active output if pin 1 is left open

² Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, Vibration, reflow, and one-year aging, shock, and vibration.

³ Inclusive of 25°C tolerance and operating temperature range.

Features

- HCMOS Output
- Stabilities to ± 20 PPM
- Temperature Ranges as wide as -40°C to $+85^{\circ}\text{C}$

- Supply Voltages: 1.8V; 2.5V; 3.3V

2.5V ELECTRICAL CHARACTERISTICS	
PARAMETERS	MAX (Unless otherwise noted)
Frequency (F_o)	32.768 KHz
Storage Temperature Range (T_{STG})	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$
Supply Voltage (V_{DD})	$2.5\text{V} \pm 10\%$
Input Current (I_{DD})	126 μA
Standby Current	10 μA
Output Symmetry (50% V_{DD})	45 % \sim 55 %
Rise/Fall Time (10%/90% V_{DD} Levels) (T_R/T_F)	50 nS
Output Voltage (V_{OL})	90 % V_{DD}
(V_{OH})	10 % V_{DD} Min
Output Load (HCMOS)	15 pF
Start-up Time (T_S)	2 mS
Output Disable Time ¹	1 μS
Output Enable Time ¹	2 mS

ENABLE / DISABLE FUNCTION	
Pin ¹	Output (pin 3)
OPEN ¹	Active
'1' Level $V_{IH} \geq 70\%V_{DD}$	Active
'0' Level $V_{IL} \leq 30\%V_{DD}$	High Z

Frequency Stability	Operating Temperature ($^{\circ}\text{C}$)
$\pm 50\text{PPM}^2$	$-20 \sim +70$
$\pm 50\text{PPM}^2$	$-40 \sim +85$
$\pm 25\text{PPM}^2$	$-20 \sim +70$
$\pm 25\text{PPM}^3$	$-40 \sim +70$
$\pm 20\text{PPM}^3$	$-10 \sim +60$

¹ An internal pull-up resistor from pin 1 to pin 4 allows active output if pin 1 is left open

² Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, Reflow, one-year aging, shock, and vibration.

³ Inclusive of 25°C tolerance and operating temperature range.

Features

- HCMOS Output
- Stabilities to ± 20 PPM
- Temperature Ranges as wide as -40°C to $+85^{\circ}\text{C}$
- Supply Voltages: 1.8V; 2.5V; 3.3V

3.3V ELECTRICAL CHARACTERISTICS	
PARAMETERS	MAX (Unless otherwise noted)
Frequency (F_0)	32.768 KHz
Storage Temperature Range (T_{STG})	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$
Supply Voltage (V_{DD})	$3.3\text{V} \pm 10\%$
Input Current (I_{DD})	130 μA
Standby Current	10 μA
Output Symmetry (50% V_{DD})	45 % \sim 55 %
Rise/Fall Time (10%/90% V_{DD} Levels) (T_R/T_F)	50 nS
Output Voltage (V_{OL})	10 % V_{DD}
(V_{OH})	90 % V_{DD} Min
Output Load (HCMOS)	15 pF
Start-up Time (T_S)	2 mS
Output Disable Time ¹	1 μS
Output Enable Time ¹	2 mS

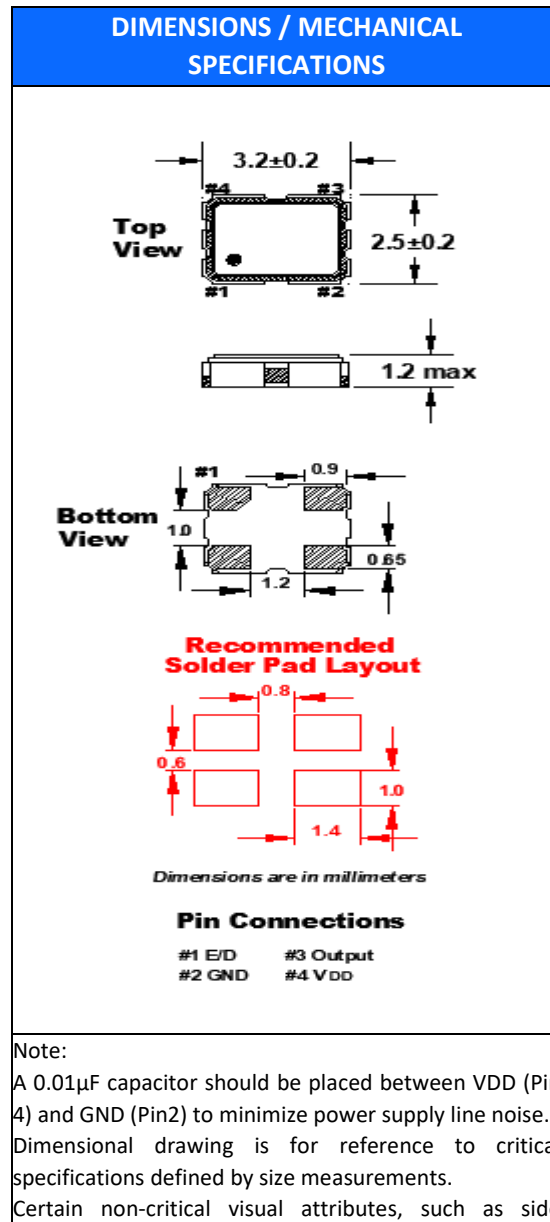
ENABLE / DISABLE FUNCTION	
Pin ¹	Output (pin 3)
OPEN ¹	Active
'1' Level $V_{IH} \geq 70\%V_{DD}$	Active
'0' Level $V_{IL} \leq 30\%V_{DD}$	High Z

Frequency Stability	Operating Temperature ($^{\circ}\text{C}$)
$\pm 50\text{PPM}^2$	$-20 \sim +70$
$\pm 50\text{PPM}^2$	$-40 \sim +85$
$\pm 25\text{PPM}^2$	$-20 \sim +70$
$\pm 25\text{PPM}^3$	$-40 \sim +70$
$\pm 20\text{PPM}^3$	$-10 \sim +60$

¹ An internal pull-up resistor from pin 1 to pin 4 allows active output if pin 1 is left open

² Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, Reflow, one-year aging, shock, and vibration.

³ Inclusive of 25°C tolerance, operating temperature range.



STANDARD SPECIFICATIONS	
PARAMETERS	MAX (Unless otherwise noted)
Maximum Soldering Temp / Time	260°C / 10 Seconds x 2
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au (0.3~1μm) over Ni (1.27~8.89μm)
Seal Method	Seam
Lead (Pb) Free	Yes
ROHS/REACH Compliant	Yes

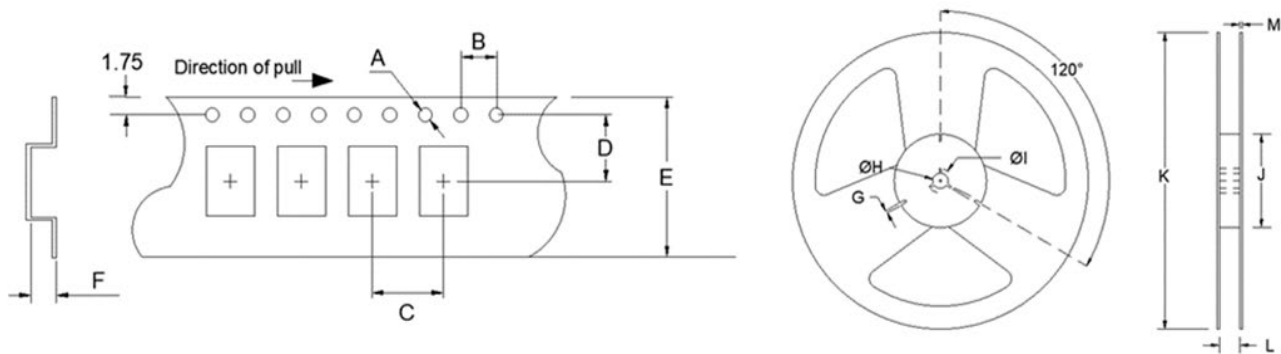
FO3HK

(Former FK315, FK345, FK335 Series)

3.2mm x 2.5mm
HCMOS Oscillator



TAPE SPECIFICATIONS (mm)						REEL SPECIFICATIONS (mm)							
A	B	C	D	E	F	REEL QTY	G	H	I	J	K	L	M
∅1.5	4.0	4.0	3.5	8.0	1.4	-T1 = 1,000 -T2 = 2,000 -T3 = 3,000	2.5	∅13	∅22	∅60	∅178	8.0	1.2



Available Options & Part Identification for HCMOS Oscillator O3HK

Sample PN: **FO3HKCBM0.032768-T3**

F	O3HK	C	B	M	0.032768	-T3
Fox	Model Number	Voltage C = 3.3V±10% V = 2.5V to 10% W = 1.8V to 10%	Stability B = ±50 PPM D = ±25 PPM E = ±20 PPM	Operating Temperature D = -10 to +60°C F = -20 to +70°C M = -40 to +85°C	Frequency (MHz)	Values Added Options Blank = Bulk T1 = 1,000 pcs T2 = 2,000 pcs T3 = 3,000 pcs

Reliability Test Conditions

Please contact Abracon Quality Assurance department