

HCMOS 3.3V 32.768kHz SMD Oscillator



Model: FK235 Series

RoHS/REACH Compliant / Pb Free

Rev. 7/21/2014

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FEATURES

- Tight Stability
- 3.3V Operation
- HCMOS Output
- Standby Function

• PART NUMBER SELECTION

Part Number	Model Number	Frequency Stability(PPM)	Operating Temperature (°C)
864-Frequency-xxxxx	FK235	±50	-20 ~ +70
864A-Frequency-xxxxx	FK235R	±50	-40 ~ +85
864B-Frequency-xxxxx	FK236	±25	-20 ~ +70
864C-Frequency-xxxxx	FK236R	±25	-40 ~ +85
864D-Frequency-xxxxx	FK238	±20	-10 ~ +60

• ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (Fo)	32.768kHz
Temperature Range (TOPR)	
Operating (TSTG)	See Part Number Selection
Storage	-55°C ~ +125°C
Supply Voltage (VDD)	3.3V ± 10%
Input Current (IDD)	130 µA
Output Symmetry (50% VDD)	45% ~ 55%
Rise Time (10% ~ 90% VDD) (TR)	50 nS
Fall Time (90% ~ 10% VDD) (TF)	50 nS
Output Voltage (VOL)	10% VDD
(VOH)	90% VDD Min
Output Load (HCMOS)	15 pF
Standby Current (ISTD)	10 µA
Start-up Time (TS)	2 mS
Output Disable Time ²	1 µS
Output Enable Time ²	2 mS
Aging (@25°C 1 st Year)	±3 PPM
Maximum Soldering Temp / Time	260°C / 10 Seconds
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au over Ni

¹ Inclusive of 25°C tolerance, operating temperature range, supply voltage change and aging.

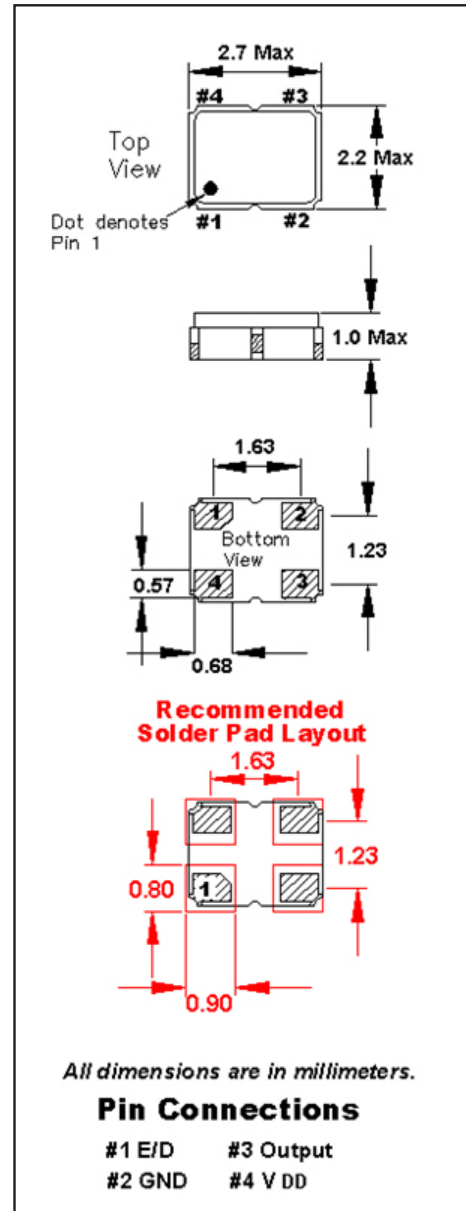
² An internal pullup resistor from pin 1 to pin 4 allows active output if pin 1 is left open.

*Note: A 0.01µF capacitor should be placed between V_{DD} (Pin 4) and GND (Pin 2) to minimize power supply line noise.

*Drawing is for reference to critical specifications defined by size measurements.

Certain non-critical visual attributes, such as side castellations, reference pin shape, etc. may vary.

All specifications subject to change without notice.



• ENABLE / DISABLE FUNCTION

Pin 1	OUTPUT (Pin 3)
OPEN ²	ACTIVE
'1' Level V _{IH} ≥ 70% V _{DD}	ACTIVE
'0' Level V _{IL} ≤ 30% V _{DD}	High Z