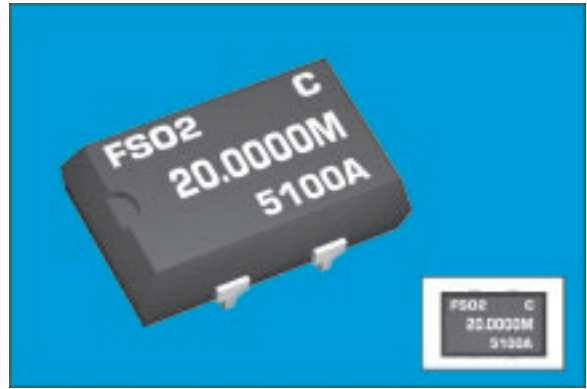


SURFACE MOUNT HCMOS CLOCK OSCILLATORS

F50-2 SERIES

The F50 series is compatible with both TTL and HCMOS technologies. The J-leaded configuration and high resistance to soldering temperature make it ideal for surface mount production processes. The F50 offers the low power consumption of HCMOS, but will drive a full 10 TTL Gates when used in a TTL application. This part is built to withstand vapor phase and other high temperature soldering operations and to give long term outstanding performance and reliability. **For mechanically and electrically equivalent lower cost alternative see page 50.**



Actual Size

FEATURES

- Extended Temperature Range
- Solderable @ 260° for 10 sec.
- Tape and Reel (1,000 pcs. STD)

• ELECTRICAL CHARACTERISTICS (Ta = 25°C, VDD = 5.0V, CL = Max Load)

PARAMETERS	CONDITIONS	F50-2		F50-2T		F50-2H		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
Frequency Range		1.025	26.000	26.000+	66.667	26.000+	66.667	MHz
Frequency Stability *	-10°C ~ +70°C -40°C ~ +85°C	-100 -200	+100 +200	-100 -200	+100 +200	-100 ---	+100 ---	PPM
Temperature Range								
Operating (TOPR)		-10	+70	-10	+70	-10	+70	°C
Storage (TSTG)		-55	+125	-55	+125	-55	+125	
Supply Voltage (VDD)		+4.5	+5.5	+4.5	+5.5	+4.5	+5.5	V
Input Current (IDD)	No Load		23		35		35	mA
	Output Disabled (Iz)		12		28		20	
Output Symmetry	2.5V	40	60	---	---	40	60	%
	1.4V	45	55	45	55	---	---	
Rise Time (TR)	1.0V ~ 4.0V		8		5		7	nS
	0.4V ~ 2.4V		8		5		7	
Fall Time (TF)	4.0V ~ 1.0V		8		5		7	
	2.4V ~ 0.4V		8		5		7	
Output Voltage (VOL)	IOL = MAX		0.4		0.4		0.4	V
	IOH = MAX	4.6		2.4		4.6		
Output Current (IOL)	VOL = MAX		16		8		4.0	mA
	VOH = MIN		-0.4		-0.4		-4.0	
Output Load	HCMOS		50				50	pF
	TTL		10		5			TTL
Start-up Time (Ts)			4		10		10	mS
Output Enable/Disable Time			100		100		100	nS

* Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging, shock, and vibration.

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

See page 35 for mechanical specifications, test circuits, and output waveform.

Note: ±50PPM frequency stability at -10 to +70°C also available (Up to 55 MHz)

Note: A 0.01µF bypass capacitor should be placed between VDD (Pin 4) and GND (Pin 2) to minimize power supply line noise.

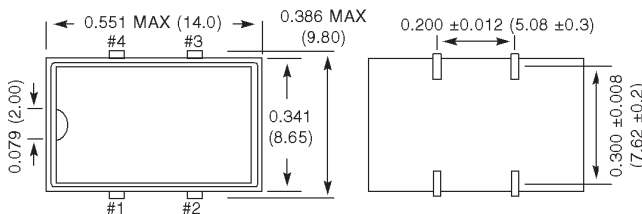
All specifications subject to change without notice. Rev. 6/9/98

• ENABLE / DISABLE FUNCTION **

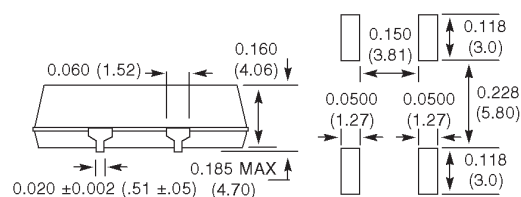
INH (Pin 1)	OUTPUT (Pin 3)
OPEN ***	ACTIVE
'1' Level VIH ≥ 2.0 V (F50-2 / F50-2H)	ACTIVE
'1' Level VIH ≥ 3.5 V (F50-2T)	ACTIVE
'0' Level VIL ≤ 0.8 V (F50-2 / F50-2H)	High Z
'0' Level VIL ≤ 1.5 V (F50-2T)	High Z

Pin Connections

- #1 E/D** #3 Output
- #2 GND #4 +5VDC



Recommended Solder Pad Layout



Inch dimensions shall govern.

All dimensions are in inches & parenthetically in millimeters.

See page 63 for tape and reel specifications.

Fox Electronics Part Description¹ Guide for Oscillators



(####.#####)

1
Make Selection from Product Family in Fox Catalog or Foxonline.com
For Example: F5C-2E

2
Frequency MHz
Customer Fills In

3
Stability²
Pick from Section A

4
Operating Temp²

5
SMD Packaging

6
Fox Use

7/8
Value Added

9
Custom

Section A

Operating Temp. Range

SMD Packaging

Value Added

Custom

Fox Production SMD Reel Quantities

F310 Series	2K
F340 Series	2K
F330 Series	2K
F510L Series	2K
F540L Series	2K
F520L Series	2K
F530L Series	2K
F4200 Series	2K
F4500 Series	2K
F4400 Series	2K
F4300 Series	2K
F4100 Series	2K
F3345 Series	2K
F4600 Series	2K
F4700	2K
RFX250	2K
RFX300	2K
FSO Series	1K

A ± 100ppm
B ± 50 ppm
C ± 30ppm
D ± 25ppm
E ± 20ppm
F ± 15ppm
G ± 12ppm
H ± 10ppm
J ± 7.5ppm
K ± 7ppm
L ± 5ppm
M ± 4ppm
N ± 3ppm
P ± 2.5ppm
R ± 2ppm
S ± 1.5ppm
T ± 1ppm

A = 0° to +50°C
B = -10° to +50°C
C = 0° to +70°C
D = -10° to +60°C
E = -10° to +70°C
F = -20° to +70°C
Z = -25° to +75°C
G = -30° to +70°C
H = -30° to +75°C
J = -30° to +80°C
K = -30° to +85°C
L = -35° to +80°C
V = -35° to +85°C
M = -40° to +85°C

0 = Tape/Reel*
250 = 250
500 = 500
1000 = 1000

M = Special Marking
N = Cut Base
S = Bulk
Z = SMD tape

C = Custom
Place attach drawing and/or additional electrical specs for our engineering department.

Notes:

¹ Fox unique part numbers for non-standards are randomly generated based on the elements of the part description in a format: ### - Frequency - Random # (099-22.1184-39789 is Fox unique part number).

² All combinations are not possible.

* 0 = Tape/Reel assumes that no quantity per reel was specified: therefore, the Fox Production SMD Reel Quantities list applies. For any other quantities specified a broken reel charge will apply.