

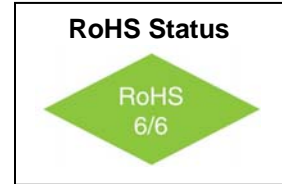
# VF3

## XO Low Jitter

### 5x7mm SMD, HCMOS/TTL

#### Features

- HCMOS – TTL compatible
- 3.3V supply voltage
- Tight duty cycle
- Tristate control standard



#### Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		0.012		133	MHz	
Frequency Stability	$\Delta F/F$	Overall conditions including: calibration, temp., aging 10 yrs, shock, vibration			$\pm 100$	ppm	See Table 1
Operating Temperature	T		-40		+85	°C	See How to Order
Input Voltage	V <sub>CC</sub>		3.15	3.30	3.45	V	
Input Current	I <sub>CC</sub>	0.012MHz ≤ F <sub>O</sub> < 0.048MHz 0.048MHz ≤ F <sub>O</sub> < 1.5MHz 1.5MHz ≤ F <sub>O</sub> < 20MHz 20MHz ≤ F <sub>O</sub> < 50MHz 50MHz ≤ F <sub>O</sub> < 70MHz 70MHz ≤ F <sub>O</sub> < 125MHz 125MHz ≤ F <sub>O</sub> < 133MHz			5 5 7 20 30 30 40	mA	
Load		10 LSTTL gates or 15pF Typ, 30pF Max.					
Duty Cycle		@50% V <sub>CC</sub>	45	50	55	%	
Rise / Fall Time	T <sub>R</sub> /T <sub>F</sub>	0.012MHz ≤ F <sub>O</sub> < 1.0MHz 1.0MHz ≤ F <sub>O</sub> < 20MHz 20MHz ≤ F <sub>O</sub> < 50MHz 50MHz ≤ F <sub>O</sub> < 70MHz 70MHz ≤ F <sub>O</sub> < 125MHz 125MHz ≤ F <sub>O</sub> < 133MHz			200 10 6 3 3 3	ns	
Logic "1" Level	V <sub>OH</sub>	Max Load	0.9V <sub>CC</sub>			V	
Logic "0" Level	V <sub>OL</sub>	Max Load			0.1V <sub>CC</sub>	V	
Start-up Time	T <sub>S</sub>			3	10	ms	
Phase Jitter		1σ		0.5	1	ps	f <sub>j</sub> >1KHz
Tristate Function		Input HIGH (>2.5V) or floating: Active Input LOW (0.5V): Infinite Impedance					

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**Absolute Maximum Ratings**

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Input Break Down Voltage	V <sub>CC</sub>		-0.5		7.0	V	
Storage Temp.	T <sub>s</sub>		-55		+125	°C	

**Environmental and Mechanical Conditions**

Parameter	Condition
Mechanical Shock	Per MIL-STD-202, Method 213, Cond. E
Thermal Shock	Per MIL-STD-883, Method 1011, Cond. A
Vibration	Per MIL-STD-883, Method 2007, Cond. A
Soldering Conditions	260°C for 10s Max., or 230°C for 90s
Hermetic Seal	Leak rate less than 5 x 10 <sup>-8</sup> atm.cc/s of helium
Flammability	UL94V-0 flame resistant
Terminal Finish	Gold (Au) 0.30 - 1.00 µm Nickel (Ni) 1.3 - 8.9 µm

**Table 1:**  
**Available Frequency Stabilities over Operating Temperature Ranges**

Code	Temperature Range	B	A	S
		±50ppm	±25ppm	±20ppm
	-10°C to 70°C	*	*	○
1	-40°C to 85°C	*	*	○

\* Includes aging

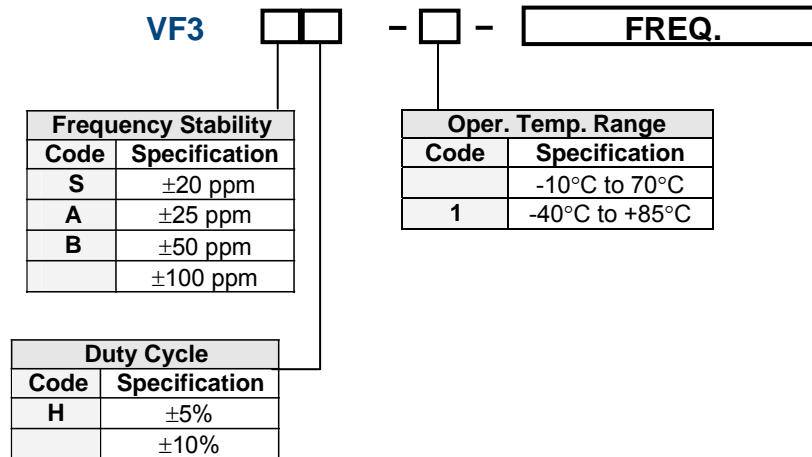
○ Does not include aging

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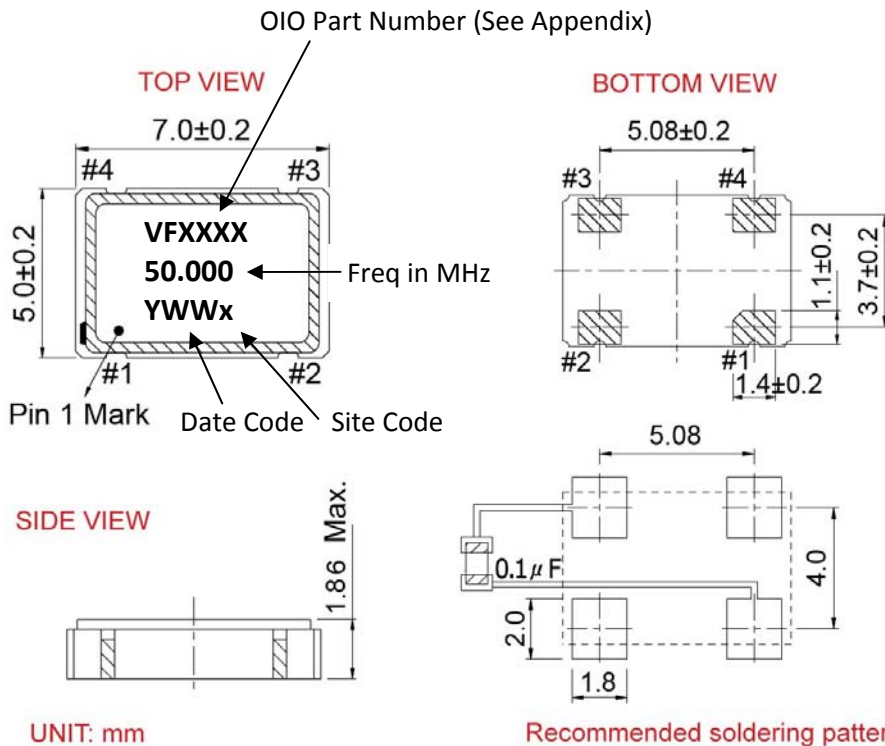
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### How to Order



### Mechanical / Marking Specification <sup>1</sup>



### Pin Assignments

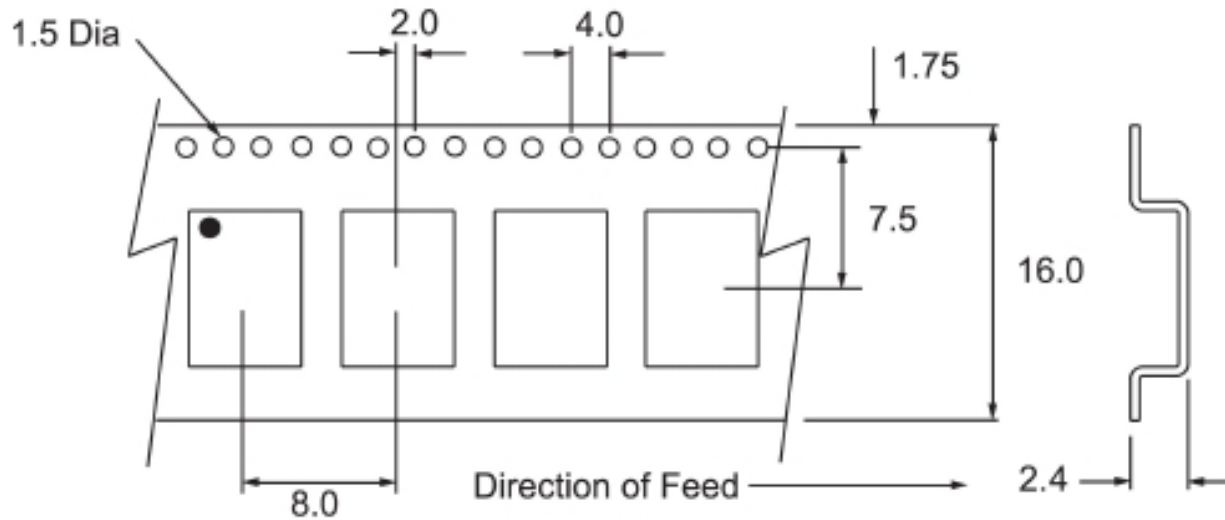
Pin	Connection
Pin 1	Tristate Control
Pin 2	Ground
Pin 3	Output
Pin 4	V <sub>CC</sub>

1] Products were marked as VF3XX-X (ie: VF3BH-1) before this revision change.

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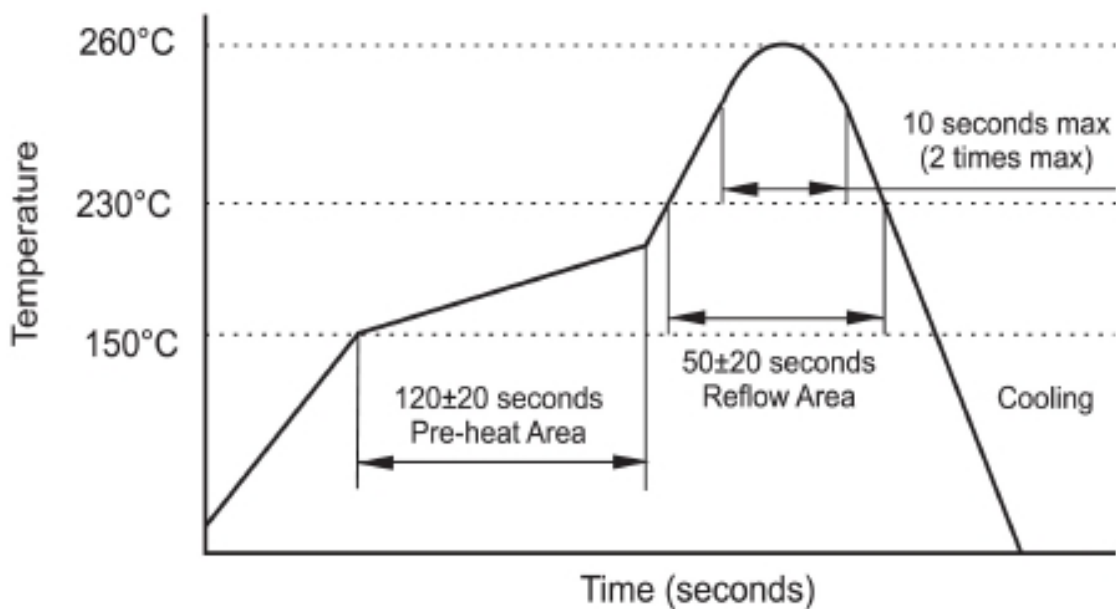
**Tape & Reel**

**Carrier Tape Dimensions:**



Dimensions are millimeters.

**Solder Reflow Characteristics:**



# VF3

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#### Appendix

4 - Digit part numbers are used for marking.

SN	PART NUMBER	ORDERING CODE
1	OIO3022	VF3H-1-103.680MHZ
2	OIO3053	VF3BH-1-33.0000MHZ
3	OIO3063	VF3B-1-4.0000MHZ
4	OIO3156	VF3BH-1-100.0000MHZ
5	OIO3157	VF3BH-1-75.0000MHZ
6	OIO3186	VF3B-1-24.0000MHZ
7	OIO3187	VF3BH-1-33.3300MHZ
8	OIO3188	VF3B-1-80M0000
9	OIO3196	VF3B-1-36.0000MHZ
10	OIO3216	VF3BH-1-106.250MHZ
11	OIO3217	VF3BH-1-62.500MHZ
12	OIO3305	VF3B-1-19.4400MHZ
13	OIO3350	VF3SH-1-40.0000MHZ
14	OIO3403	VF3BH-1-80.0000MHZ
15	OIO3421	VF3S-1-38.8800MHZ
16	OIO3432	VF3SH-1-12.0000MHz
17	OIO3442	VF3-1-24.5760MHZ
18	OIO3444	VF3-1-27.0000MHZ
19	OIO3454	VF3B-1-51.84MHz
20	OIO3462	VF3AH-1-37.0560MHZ
21	OIO3487	VF3BH-1-24.0000MHZ
22	OIO3567	VF3AH-1-36.8640MHZ
23	OIO3568	VF3AH-1-40.0000MHZ
24	OIO3569	VF3-1-8.000MHz-T/R
25	OIO3580	VF3-1-50.000 MHz TP-T/R
26	OIO3611	VF3BH-11.0592 MHz
27	OIO3619	VF3S-60.00MHz
28	OIO3633	VF3A-1-25.000 MHz
29	OIO3648	VF3H-33.3333 MHz
30	OIO3655	VF3SH-1-27.000 MHz
31	OIO3656	VF3B-1-24.5454 MHz-TR
32	OIO3683	VF3SH-1-20.000 MHz
33	OIO3700	VF3BH-1-36.864MHz
34	OIO3702	VF3B-14.7456MHz
35	OIO3726	VF3AH-1-25.000MHz
36	OIO3729	VF3SH-1-24.576MHz
37	OIO3746	VF3B-1-53.125MHz
38	OIO3767	VF3BH-1-14.7456MHz
39	OIO3772	VF3SH-1-50.000MHz
40	OIO3783	VF3BH-1-41.666MHz

SN	PART NUMBER	ORDERING CODE
41	OIO3797	VF3AH-1-2.048MHz
42	OIO3811	VF3H-50.000MHz-T/R
43	OIO3812	VF3SH-1-38.880MHz
44	OIO3890	VF3AH-53.125MHz
45	OIO3952	VF3AH-1-70.6560MHz
46	OIO4004	VF3SH-1-25.000 MHz
47	OIO4005	VF3BH-1-85.995MHz
48	OIO4007	VF3BH-1-125.000MHz
49	OIO4849	VF3BH-1-28.6650MHz
50	OIO4850	VF3B-6.500MHz
51	OIO5813	VF3BH-1-18.4320MHz
52	OIO5826	VF3B-50.0000MHz-T/R
53	OIO5884	VF3BH-1-22.0000MHz
54	OIO5980	VF3BH-1-16.0000MHz
55	OIO5983	VF3B-1-44.236MHz-T/R
56	OIO6020	VF3S-19.44MHz-T/R
57	OIO6024	VF3BH-1-50.0000MHz
58	OIO6051	VF3BH-1-36.0000MHz
59	OIO6066	VF3-20.0000MHz
60	OIO6091	VF3B-1-12.0 MHz T&R
61	OIO6092	VF3B-1-30.0000MHz
62	OIO6094	VF3B-1-32.0000MHz
63	OIO6095	VF3B-1-40.0000MHz
64	OIO6096	VF3B-1-50.0000MHz
65	OIO6188	VF3BH-1-7.3728MHz
66	OIO6217	VF3AH-64.0000MHz
67	OIO6231	VF3BH-1-12.0000MHz
68	OIO6240	VF3AH-1-50.0000MHz
69	OIO6258	VF3B-1-44.2360MHz
70	OIO6265	VF3B-25.0000MHz-TR
71	OIO6285	VF3B-66.0000MHz
72	OIO6338	VF3B-1-12.5000MHz
73	OIO6339	VF3B-1-16.0000MHz
74	OIO6390	VF3BH-25.0000MHz-T/R
75	OIO6417	VF3BH-1-48.0000MHz
76	OIO6418	VF3BH-1-66.6660MHz
77	OIO6447	VF3BH-1-57.3300MHz
78	OIO6449	VF3SH-1-12.8000MHz
79	OIO6456	VF3B-1-33.3000MHz
80	OIO6457	VF3B-1-64.0000MHz

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SN	PART NUMBER	ORDERING CODE
81	OIO6496	VF3BH-100.0000MHZ-T/R
82	OIO6597	VF3BH-1-25.0000MHZ
83	OIO6690	VF3BH-1-42.0000MHZ
84	OIO6692	VF3AH-1-106.2500MHZ
85	OIO6723	VF3S-19.4400MHZ-T/R
86	OIO6725	VF3BH-1-32.0000MHZ
87	OIO6734	VF3BH-25.0000MHZ
88	OIO6758	VF3BH-1-40.0000MHZ
89	OIO6798	VF3B-1-25.0000MHZ
90	OIO6803	VF3BH-1-66.0000MHZ
91	OIO6805	VF3B-1-20.0000MHZ
92	OIO6818	VF3-50.0000MHZ
93	OIO6830	VF3BH-1-60.0000MHZ
94	OIO6831	VF3SH-2.0480MHZ
95	OIO6842	VF3AH-1-39.0000MHZ
96	OIO6893	VF3BH-83.33MHz
97	OIO6914	VF3B-1-5.0000MHZ
98	OIO6915	VF3B-1-22.1250MHz
99	OIO6916	VF3B-1-24.5500MHZ
100	OIO6917	VF3B-1-32.50000MHZ
101	OIO6939	VF3BH-1-20.0000MHZ
102	OIO6944	VF3BH-50.0000MHZ
103	OIO6954	VF3-33.0000MHZ
104	OIO6969	VF3BH-1-29.4912MHz
105	OIO7054	VF3S-1-19.4400MHZ
106	OIO7055	VF3SH-1-19.4400MHZ
107	OIO7141	VF3B-10.0000MHZ
108	OIO7153	VF3S-1-19.2000MHZ
109	OIO7168	VF3BH-1-87.000MHZ
110	OIO7169	VF3BH-1-29.000MHZ
111	OIO7191	VF3BH-1-1.920MHZ
112	OIO7286	VF3BH-1-78.125MHZ
113	OIO7288	VF3S-41.6660MHz
114	OIO7307	VF3AH-1-48.0MHZ
115	OIO7315	VF3BH-1-42.500MHZ
116	OIO7326	VF3AH-1-80.00MHZ
117	OIO7346	VF3-12.000MHZ
118	OIO7351	VF3SH-1-77.760MHz
119	OIO7420	VF3BH-1-65.000MHZ
120	OIO7421	VF3BH-1-26.000MHZ

SN	PART NUMBER	ORDERING CODE
121	OIO7422	VF3AH-1-27.000MHZ
122	OIO7423	VF3BH-1-28.800MHZ
123	OIO7445	VF3B-37.125MHz
124	OIO7565	VF3AH-1-24.576MHz
125	OIO7662	VF3B-1-66.50MHz
126	OIO7821	VF3BH-1-19.440MHZ-TR
127	OIO8008	VF3SH-1-12.288MHz
128	OIO8220	VF3B-72.0MHz
129	OIO8297	VF3AH-1-87.000MHz
130	OIO8333	VF3AH-1-40.5MHz
131	OIO8334	VF3AH-1-28.6363MHz
132	OIO8340	VF3AH-1-32.9800MHz
133	OIO8364	VF3BH-1-11.0592MHz
134	OIO8395	VF3SH-1-10.3680MHz
135	OIO8492	VF3SH-1-64.000MHz
136	OIO8565	VF3-1-80.000MHZ
137	OIO8648	VF3BH-1-24.576MHz
138	OIO8662	VF3B-1-2.5280MHz
139	OIO8682	VF3B-33.00MHz
140	OIO8737	VF3BH-1-16.5880MHz
141	OIO8747	VF3AH-1-125.000MHz
142	OIO8806	VF3AH-1-16.384MHz
143	OIO8807	VF3AH-1-34.368MHz
144	OIO8808	VF3AH-1-51.84MHz
145	OIO8842	VF3B-1-1.8432MHz
146	OIO8857	VF3S-50.00MHz
147	OIO8859	VF3BH-1-12.800MHz
148	OIO8889	VF3AH-1-12.00MHz
149	OIO8914	VF3AH-1-39.0625MHz
150	OIO8915	VF3AH-1-78.125MHz
151	OIO8973	VF3BH-1-120.000MHz
152	OIO8978	VF3-1-0.4MHz
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