

# Fox Part Number: 590A-16-1

**3225 HCMOS +-20 PPM -10 to +70C 3.3V, Low-Current**  
**MODEL: O3HLBEE** (Formerly F338A Series)

RoHS / REACH Compliant / Pb-Free

SPECIFICATIONS	
Parameter	Max (unless otherwise noted)
Frequency	16.000 MHz
Frequency Stability <sup>1</sup>	±20.0 ppm
Temperature Range	
Operating (T <sub>OPR</sub> )	-10°C ~ 70°C
Storage (T <sub>STG</sub> )	-55°C ~ 125°C
Supply Voltage (V <sub>DD</sub> )	3.3 V ±5%
Input Current (I <sub>DD</sub> )	2.5 Max
Output Symmetry (50% V <sub>DD</sub> )	45% ~ 55%
Rise Time (10% ~ 90% V <sub>DD</sub> ) (T <sub>R</sub> )	12 nS Max
Fall Time (90% ~ 10% V <sub>DD</sub> ) (T <sub>F</sub> )	12 nS Max
Output Voltage (V <sub>OL</sub> )	≤0.1 V <sub>DD</sub>
(V <sub>OH</sub> )	≥0.9 V <sub>DD</sub>
Output Load (HCMOS)	15 Max
Standby Current (See below for level)	10 µA Max
Start-up Time (T <sub>S</sub> )	5 Max
Output Disable Time <sup>2</sup>	150 nS Max
Output Enable Time <sup>2</sup>	5 mS Max
Maximum Soldering Temp / Time	260°C / 10 Seconds x2
Moisture Sensitivity Level (MSL) Per J-STD-033	N/A
Termination Finish:	Au (0.3~1µm) over Ni (1.27~8.89µm)
RoHS Compliant	Yes, no exemptions
Lead (Pb) Free	Yes
REACH Compliant (Latest Version)	Yes

ENABLE/DISABLE FUNCTION <sup>2</sup>	
E/D (PIN 1)	OUTPUT (PIN 3)
OPEN <sup>2</sup>	ACTIVE
'1' Level V <sub>IH</sub> ≥ ≥0.7 V <sub>DD</sub>	ACTIVE
'0' Level V <sub>IL</sub> ≤ ≤0.3 V <sub>DD</sub>	High Z

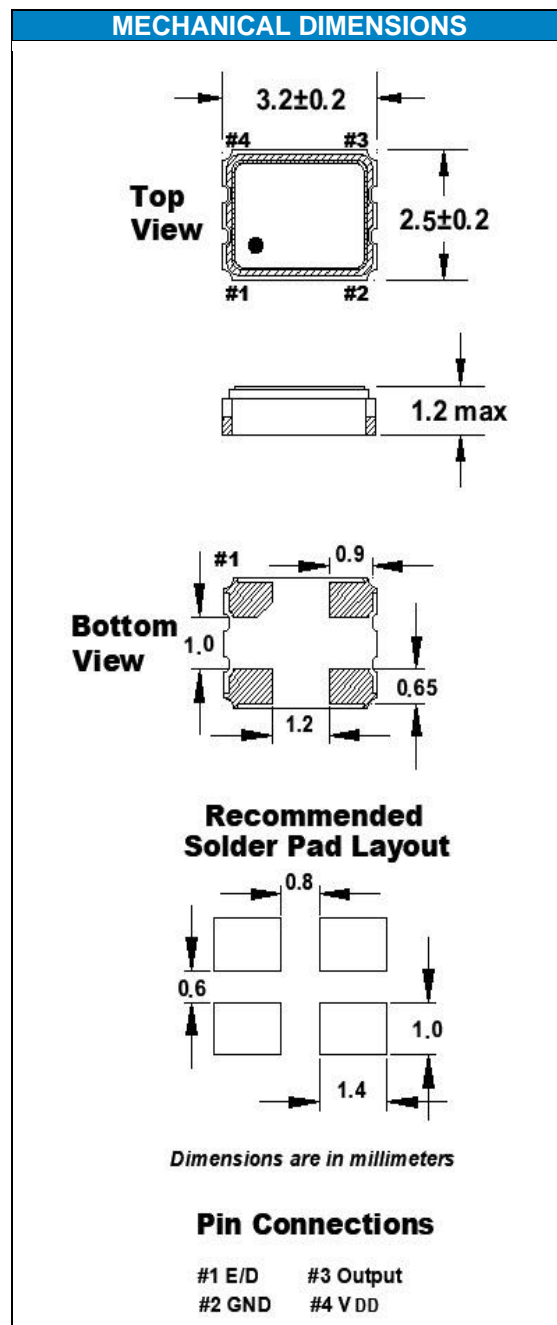
<sup>1</sup> Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, shock, and vibration.

<sup>2</sup> An internal pullup resistor from E/D to V<sub>DD</sub> allows active output if E/D is left open.

NOTE: A 0.01µF bypass capacitor should be placed between V<sub>DD</sub> and GND 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.*

NOTE: The above specifications, having been carefully prepared and checked, is believed to be accurate at the time of publication; however, no responsibility is assumed by Fox Electronics for inaccuracies.



Reference / Comments	Title / Description: Product Description / Specifications	
Initial release	Drawing Number: DWG-XX	Size: A
	Part Number: 590A-16-1	Cage: 61429
	Draftsperson: XX	Approved: XX
		Date: XX

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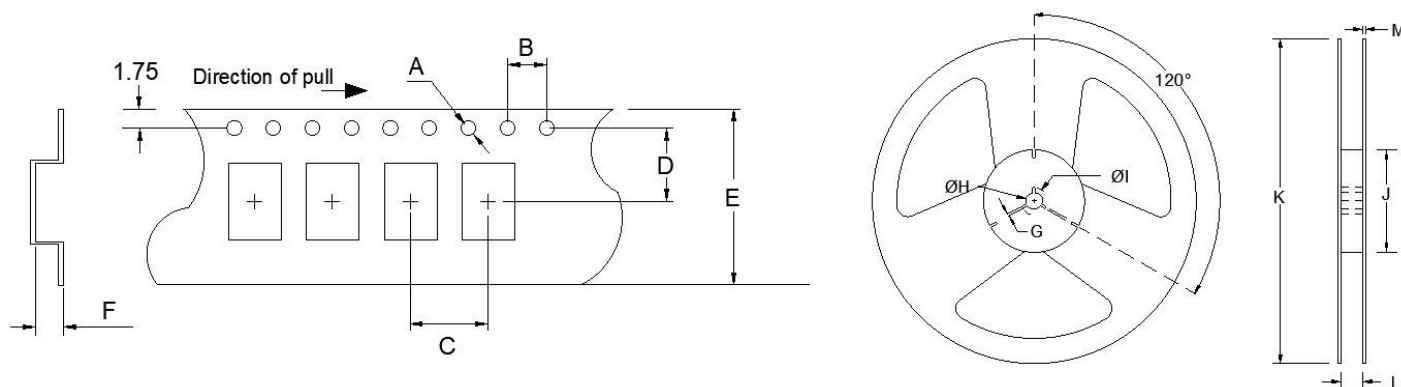
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## Tape & Reel Specification

**Tape Specifications (millimeters)**

A	B	C	D	E	F	Reel Options
Ø1.5	4.0	4.0	3.5	8.0	1.4	-T1 = 1,000 -T2 = 2,000 -T3 = 3,000



**Reel Specifications (millimeters)**

G	H	I	J	K	L	M
2.0	Ø13	Ø21	Ø60	Ø180	9.0	1.2

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