

Fox Part Number: FO9HLAAE48.0



HCMOS, CERAMIC, SMD, CRYSTAL
MODEL: O9HS (Formerly F3160 Series)

RoHS / REACH Compliant / Pb-Free

A. Specifications

Parameter	
Frequency	48.000 MHz
Frequency Stability ¹	±100 PPM
Temperature Range	
Operating (T _{OPR})	-10°C ~ +70°C
Storage (T _{STG})	-55°C ~ +125°C
Supply Voltage (V _{DD})	5.0V ± 10%
Input Current (I _{DD})	35 mA Max
Output Symmetry (50% V _{DD})	45% ~ 55%
Rise Time (0.5V ~ 4.5V) (TR)	7 nS Max
Fall Time (4.5V ~ 0.5V) (TF)	7 nS Max
Output Voltage (V _{OL})	0.5V Max
(V _{OH})	4.5V Min
Output Load (TTL)	10TTL Max
(HCMOS)	50 pF Max
Start-up Time (T _S)	10 mS Max
Enable/Disable Time ²	100 nS Max
Maximum Soldering Temp / Time	260°C / 10 Seconds
Moisture Sensitivity Level (MSL) Per J-STD-033	Not Applicable
Termination Finish:	Au

ENABLE/DISABLE FUNCTION²

Pin 1	OUTPUT (Pin 3)
OPEN ***	ACTIVE
'1' Level V _{IH} ≥ 2.2V	ACTIVE
'0' Level V _{IL} ≤ 0.8V	High Z

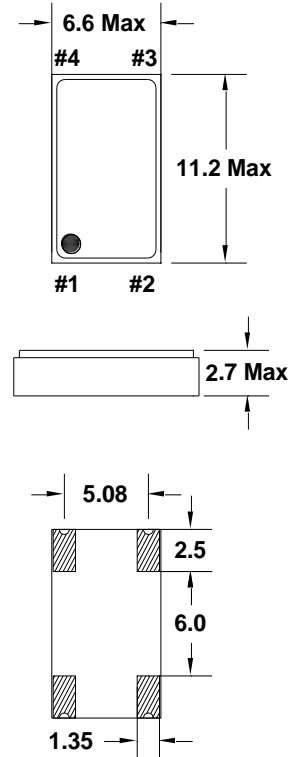
¹ Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging, shock, and vibration.

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

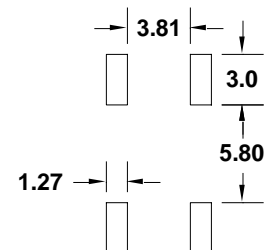
NOTE: A 0.01μF bypass capacitor should be placed between V_{DD} (Pin 4) and GND (Pin 2) to minimize power supply line noise.

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.

B. Mechanical / Dimensions (mm):



Recommended Solder Pad Layout



Pin Connections

#1 E/D #3 Output
#2 GND #4 V_{DD}

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 Specification		
	Drawing Number: DWG-101473	Rev: 1	Size: A
	Part Number: FO9HLAAE48.0	Cage: 61429	
	Draftsperson: MAJ	Approved: DG	Date: 06/29/2020

Fox Part Number: FO9HLAAE48.0



HCMOS, CERAMIC, SMD, CRYSTAL

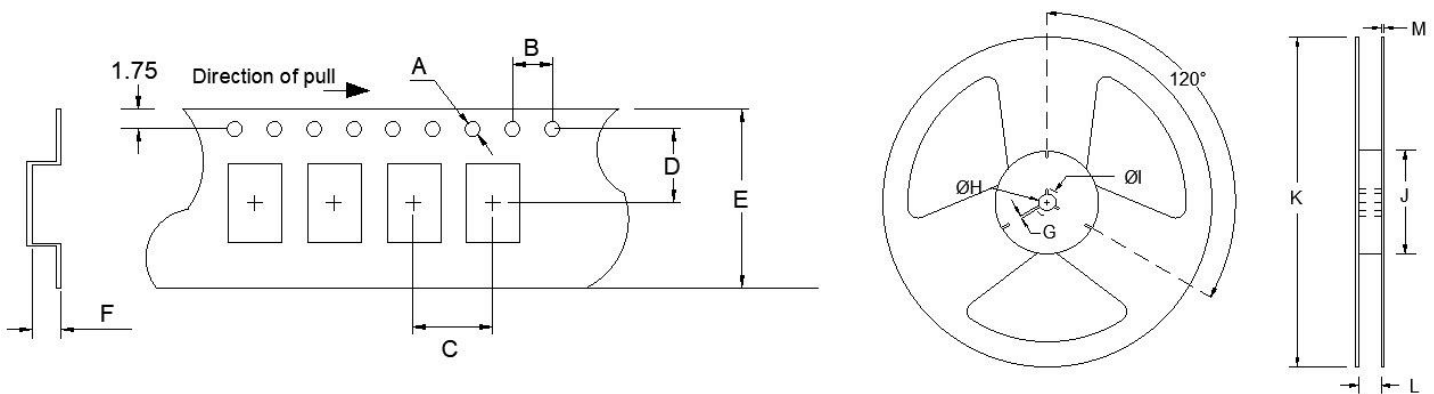
MODEL: O9HS (Formerly F3160 Series)

RoHS / REACH Compliant / Pb-Free

Tape & Reel Specification

Tape Specifications (millimeters)

A	B	C	D	E	F	Reel Options
Ø1.5	4.0	8.0	7.5	16.0	2.15	-T1 = 1,000



Reel Specifications (millimeters)

G	H	I	J	K	L	M
2.0	Ø13	Ø21	Ø80	Ø255	17.5	2.0

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 Specification		
	Drawing Number: DWG-101473	Rev: 1	Size: A
	Part Number: FO9HLAAE48.0		Cage: 61429
	Draftsperson: MAJ	Approved: DG	Date: 06/29/2020