

Specification	AXLE195B	Rev.: 1	Date: 2018-09-05
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Oscillator type: SMD (VC)TCXO in 18.8x12.2 mm low profile package

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	6		190	MHz	Clipped Sine wave
	6		190	MHz	Sine wave
	1		800	MHz	HCMOS
Frequency stability				ppm	
vs. operating temperature range	±0.5 to ±5 See tables 1 & 2			ppm	Option 4 & 5
vs. supply voltage variation		±0.1	±0.3	ppm	V _S ±5 %
vs. load change			±0.2	ppm	Load ±10 %
Long term (aging) per year			±1	ppm	@+40°C
Frequency adjustment range					
Mechanical (internal trimmer)	±3			ppm	Option 1 = blank
Electronic Frequency Control (EFC)	±5			ppm	Option 1 = "V"
EFC voltage V _C	0.15	1.65	3.15	V	Option 2 = "3"
	0.5	2.5	4.5	V	Option 2 = "5"
EFC slope (Δf / ΔV _C)	Positive				
EFC input impedance	100			kΩ	
RF output					
Signal waveform	Clipped Sine wave Sine wave HCMOS				Option 3 = "C" Option 3 = "S" Option 3 = "H"
Load	10 kΩ 10 pF 50 Ω 15 pF				Option 3 = "C" Option 3 = "S" Option 3 = "H"
Amplitude	0.8			V p-p	Option 3 = "C" / 3.3 V
	1.0			V p-p	Option 3 = "C" / 5.0 V
		0		dBm	Option 3 = "S" / 3.3 V
		+10		dBm	Option 3 = "S" / 5.0 V
	According to relevant Logic Standard				Option 3 = "H"
Supply voltage V_S	3.15	3.3	3.45	V	Option 2 = "3"
	4.75	5.0	5.25	V	Option 2 = "5"
Current consumption (Note 2)	2 ~ 30			mA	Option 3 = "C"
	12 ~ 100			mA	Option 3 = "S"
	15 ~ 100			mA	Option 3 = "H"
Enclosure (see drawing) (LxWxH)	18.8x12.2x2.8 max.			mm	Similar to IEC 61837 CO 30
Weight			3	g	
Packing	Tape & Reel				IEC 60286-3

Notes:

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Depending on frequency and supply voltage
3. All combinations of options might not be available. Please consult factory

Absolute Maximum Ratings

Parameter	min.	max.	Unit	Condition
Supply Voltage V_S	-0.5	$V_S + 10\%$	V	V_S to GND
Control Voltage V_C	-0.5	6	V	V_C to GND
Storage Temperature	-55	+105	°C	

Frequency stability vs. temperature

Option 4	Stability [ppm]
05	±0.5
10	±1.0
15	±1.5
20	±2.0
25	±2.5
30	±3.0
35	±3.5
50	±5.0

Table 1

Lower Temperature		Upper Temperature	
Option 5	T [°C]	Option 5	T [°C]
0	0	A	+50
1	-10	B	+60
2	-20	C	+70
3	-30	D	+75
4	-40	E	+80
		F	+85

Table 2

Ordering Code

Model	Option 1 [EFC]*	Option 2 [Supply Voltage]	Option 3 [RF output]	Option 4 [Stability]	Option 5 [Temperature range]	Revision	Frequency [MHz]
AXLE195B	_ or "V"	3 or 5	C, S, H	Table 1	Table 2	Rev.1	10.000

Example: AXLE195B-V-5-S-10-3D_Rev.1 – 10.000 MHz

Handling and Testing

Parameter	Procedure		Source
Handling and Testing	Application Note AXAN-011		www.axtal.com
Processing	Application Note AXAN-012		www.axtal.com
Parameter	Procedure		Condition
Electrostatic discharge (ESD)			
THD devices	IEC60749-26	HBM	2000 V
SMD devices	IEC60749-27	MM	200 V
Washable	☐ Yes ☒ No		
RoHS compliant	☒ Yes ☐ No		

Revision History

Rev.	Drawing	Date [dd.mm.yyyy]	Remarks	Author	Checked
1	D0	05.09.2018	First issue	BN	BN