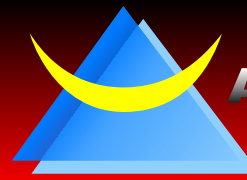


TFS1 SERIES

- 5.0 or 3.3 Volt TXCO
- HCMOS, Sinewave, Clipped Sine
- 1.000MHz to 160.000MHz
- Stability Down to ± 1 ppm



ASCEND

FREQUENCY DEVICES

Electrical Specifications

Frequency Range:	H Option = HCMOS Output C Option = Clipped Sine Output Z Option = Sinewave Output	1.000MHz to 160.000MHz 8.000MHz to 160.000MHz 8.600MHz to 160.000MHz
Frequency Tolerance:	at 25°C $\pm 2^\circ\text{C}$	± 1.0 ppm (without trimmer only)
Frequency Stability:	- vs. Aging vs. Voltage (with a 5% change) vs. Load (with a 10% change)	Select from part numbering guide below ± 1 ppm per year maximum ± 0.2 ppm ± 0.2 ppm
Output Load;	H Option or C Option Z Option	10K Ohms // 15pF 50 Ohms
Supply Current:	H Option C Option Z Option	35mA Maximum 3mA Maximum 5mA Maximum
Output:	H Option C Option Z Option	Logic "1" Level = 0.9Vdd Minimum; Logic "0" Level = 0.1Vdd Maximum 1.0V p-p Minimum 7dBm Minimum
Operating Temperature Range:	-	0°C to +50°C to -40°C to +85°C
Storage Temperature Range:	-	-40°C to +85°C
Supply Voltage (Vdd):	-	3.3Vdc $\pm 5\%$ or 5.0Vdc $\pm 5\%$
Internal Trim (Top of Can)	-	± 3 ppm Minimum
Control Voltage:	Vdd = 3.3V Vdd = 5.0V	1.65Vdc ± 1.5 Vdc (Positive Slope) 2.5Vdc ± 2.0 Vdc (Positive Slope)
Symmetry:	at 50% of waveform with HCMOS Load	40% / 60%
Pad 1 Connection:	-	No Connect (Blank Option); ± 10 ppm Minimum (V Option)

Mechanical Dimensions

ALL DIMENSIONS IN MILLIMETERS

Pin	FUNCTION
1	N/C or Control Voltage
7	Case Ground
8	Output
14	Supply Voltage

MARKING
Line 1: Ascend
Line 2: XX.XXXR
("R" Denotes RoHS Compliance)
Line 3: XXXXXX (Date Code)

Part Numbering Guide

TFS1 G 3 H 15 F V - 160.000M-P

Series
14 Pin Dip TCXO

Package Option
G = G Series (with trimmer)
F = F Series (without trimmer)

Supply Voltage
3 = 3.3V
5 = 5.0V

Output Type
H = HCMOS, C = Clipped Sinewave, or Z = Sinewave

Frequency Stability*
05 = ± 0.5 ppm
10 = ± 1.0 ppm
15 = ± 1.5 ppm
20 = ± 2.0 ppm
25 = ± 2.5 ppm
30 = ± 3.0 ppm
35 = ± 3.5 ppm
50 = ± 5.0 ppm

RoHS Designator
Blank = RoHS Compliant
P = Not RoHS Compliant

Frequency

Pin 1 Connection
Blank = No Connect
V = Voltage Control

Operating Temperature Range
A = 0°C to +50°C
B = -10°C to +60°C
C = -20°C to +70°C
D = -30°C to +70°C
E = -30°C to +80°C
F = -40°C to +85°C
G = 0°C to +70°C

* Check with factory for additional Stability vs. Temperature options
Cut Leads and Gull-Wing are available for this package.
See VA1 and VA3 for specs.