



anderson electronics, llc

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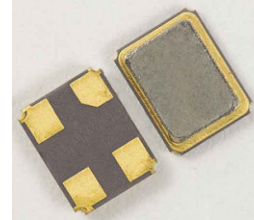
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AE 302 Series Surface Mount Temperature Compensated Crystal Oscillator

AE 302 Series has a Frequency Range of 6.40 MHz to 52.00 MHz

Part Numbering Definition Guide: 302-503-02-5-2070-1R8-12M800000

Product Example	302	503	02	5	2070	1R8	12M800000
Package (Sizes)	252						2.50 x 1.00 x 0.90
	322						3.20 x 2.50 x 1.00
	503						5.00 x 3.20 x 1.10
	705						5.00 x 3.20 x 1.10
Output Wave Form		02					Clipped Sinewave
Frequency Stability (Over Temperature Range)				0			+0.5 ppm
				1			+1.0 ppm
				2			+2.5 ppm
				3			+3.0 ppm
				5			+5.0 ppm
Operating Temperature						4085	-40 to +85°C
						3075	-30 to +75°C
						2070	-20 to +70°C
						1060	-10 to +60°C
Supply Voltage (±5%)						1R8	+1.8V ±5%
						2R5	+2.5V ±5%
						2R8	+2.8V ±5%
						3R3	+3.3V ±5%
						5R0	+5.0V ±5%
Current Consumption	1.5mA (10-15 MHz)		2.0mA max. (15.1-26.0 MHz)			2.5mA max. (26.1 -40 MHz)	
Output Load	10K Ohms//10pf ±10%						
Start-Up Time	2.0 mS typical, 5.0 mS maximum						
Phase Noise [dBc/Hz typical]	(Hz)	10 Hz	100 Hz	1 KHz	10 KHz	100 KHz	
	(dBc)	-80	-115	-135	-148	-148	



FEATURES:

Miniature Surface Mount Device Package, Specially manufactured to insure tight tolerances for frequency stability and long term aging.
Industry standard footprint layout
Operable Temperature Range -40°C to +85°C
ROHS Compliant/Pb-Free

Additional Standard Specifications:

Storage Temperature: -40°C to +85°C or -55°C to +125°C (Package Dependent)

Frequency Stability:

vs. Aging: ±1.0ppm/year maximum @25°C

vs. Voltage Change: ±0.2ppm maximum for a 5% input voltage change

vs. Load Change: ±0.2ppm for a 10% load condition change

vs. Reflow (SMD type): ±1.0ppm maximum, 1 reflow and measured 24 hours afterward

Output Voltage Level (peak to peak): 0.8V p-p (minimum)

Electrical Frequency Tuning:

Control Voltage Center:

+1.8 V = 0.9 V ±0.6 V +2.5 V = 1.4 V ±1.0 V

+3.3 V = 1.5 V ±1.0 V +5.0 V = 1.5 V ±1.0 V

Frequency Deviation Range:

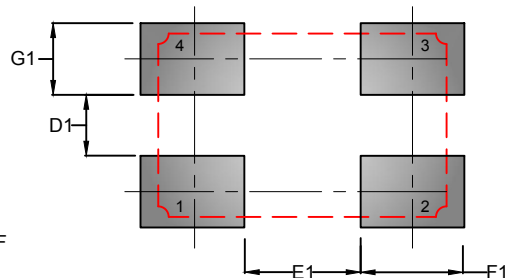
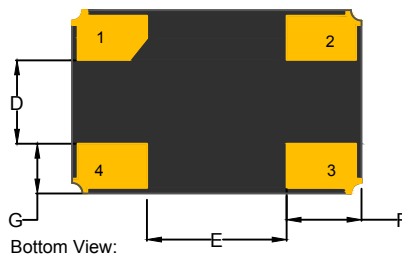
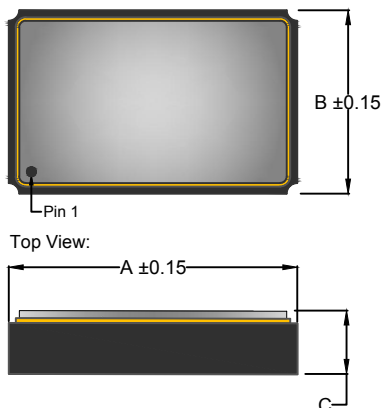
±5.0ppm minimum, Vcontrol ±1.5V ±1.0V

Slope Polarity (Transfer Function): Positive Slope

Input Impedance: 1.0 Megohms minimum

Modulation Bandwidth: 3.0 KHz minimum

Linearity: ±10%



	M22S	M32S	M53S	M57S		M22S	M32S	M53S	M57S
A	2.50	3.20	5.00	7.00	G	0.65	0.65	0.80	1.20
B	2.00	2.50	3.20	5.00	G1	0.80	1.10	1.20	1.60
C	0.90	1.10	1.30	2.00					
D	0.65	1.00	1.40	2.20	D1	0.65	0.80	1.20	3.00
E	0.95	1.20	2.60	2.70	E1	0.95	1.00	1.80	3.50
F	0.65	0.90	1.10	1.40	F1	0.90	1.30	1.50	2.20

Pin	Connection
1	N/C or V Control
2	Ground
3	Output
4	Vdd