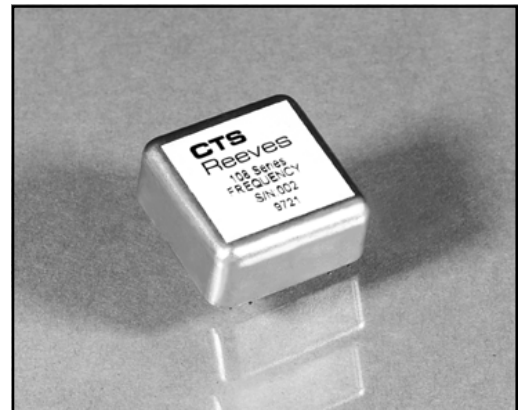


**Features:**

- Frequency Range: 5 to 50 MHz  
Surface Mount or Thru Hole Options
- Miniature Package Size
- Low Cost Options Available
- Able to Withstand 240°C Reflow Soldering
- Electronic Frequency Adjust Standard
- Wide Range of Performance Options

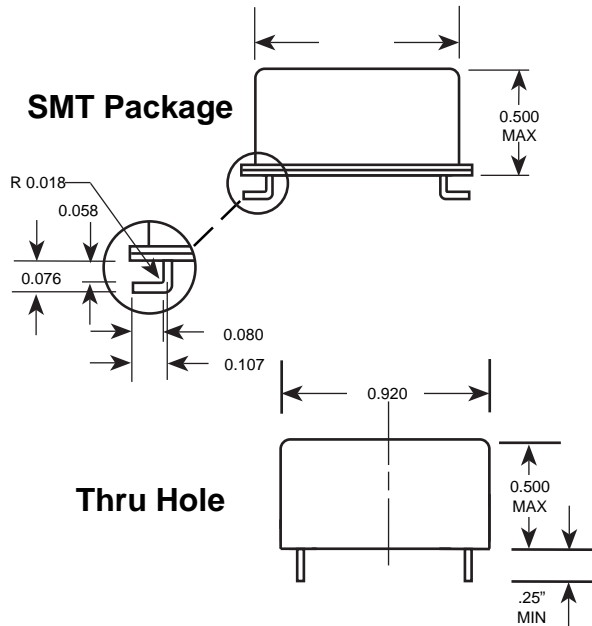
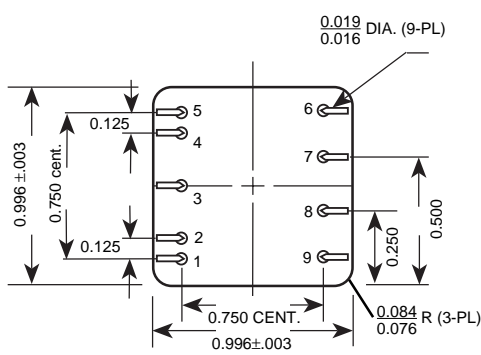


Weighing in at less than 15 grams and less than two thirds of a cubic inch, the Model 108 is capable of covering a wide range of performance through the use of precision AT crystals and newer SC cut crystals. The 108 series is able to meet the requirements of GSM systems, Private Branch Exchange (PBX) and Central Office Switch (COS) applications. Its size and performance also make it ideal for Microwave and Synthesizer applications that require more economy while maintaining a high level of performance.

**Electrical Specifications:**

<i>Parameter</i>	<i>Frequency Range (MHz)</i>		
	5 to 50 MHz		
Supply Voltage (Vdd) Operating	12 Vdc $\pm$ 5% (+5 Vdc Optional)		
Supply Current (@ 25°C) Warm-up Steady State	350 ma. Max. 120 ma. Typ.		
Output H S	HCMOS Compatible Sinewave 0 dBm Min.		
Load H / S	15 pf / 50 $\Omega$		
Harmonics S	-25 dBc Max.		
Warm-up (@ 25°C) Ref. to Freq. at 1 hr.	$\pm 1 \times 10^{-7}$ / 5 Min. $\pm 1 \times 10^{-8}$ / 30 Min.		
Phase Noise (1 Hz Bandwidth) (Typical @ 10 MHz)	Offset	Level (dBc)	Standard
	10 Hz	-100	-115
	100 Hz	-120	-135
	1 kHz	-140	-150
	10 kHz	-150	-155
Electrical freq. adjust (negative slope)	Sufficient for 10 years Aging (Range is Option Dependent) 0 to 5 Vdc		

**Outline Drawing and Pin Connections:**



**Pin Connections**

PIN	FUNCTION
1	RF OUT
2	N/C
3	GND/CASE
4	N/C
5	EFC
6	REF VOLT OUT
7	N/C
8	N/C
9	5V SUPPLY

**Mechanical Specifications:**

**Case:**

CRS, Hot Tin Dipped

**Leads:**

Nickel plated with solder coating

**Seal:**

Solder seal

**Leak Test:**

Leak rate less than  $5 \times 10^{-5}$  atmosphere-cc/sec of helium

**Solderability:**

95% solder coverage, using RMA flux 63 SN / 37 Pb solder at  $+245^{\circ}\text{C} \pm 5^{\circ}\text{C}$

**Temperature:**

Operating: See chart

Storage:  $-55^{\circ}$  to  $85^{\circ}\text{C}$

Reflow:  $240^{\circ}\text{C}$ , 10 Sec

**Vibration:**

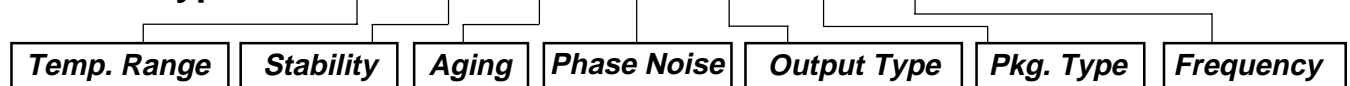
10 G's rms, 20 to 500 Hz

**Mechanical Shock:**

100 G's 5ms pulse (3 shock/plane)

**Ordering Information:**

**Model Type 108**



Temp Stability		$\pm 5 \times 10^{-9}$	$\pm 1 \times 10^{-8}$	$\pm 2 \times 10^{-8}$	$\pm 5 \times 10^{-8}$	$\pm 1 \times 10^{-7}$
Temp Range	Code	A	B	C	D	E
$0^{\circ}$ to $50^{\circ}\text{C}$	A	X	X	X	X	
$0^{\circ}$ to $70^{\circ}\text{C}$	B		X	X	X	X
$-30^{\circ}$ to $70^{\circ}\text{C}$	C			X	X	X
$-40^{\circ}$ to $+85^{\circ}\text{C}$	D			X	X	X

1 <sup>st</sup> Year Aging Code	
$\pm 0.5$ ppm	A
$\pm 0.3$ ppm	B
$\pm 0.1$ ppm	C
$\pm 0.05$ ppm	D

Output	Code
HCMOS	H
Sinewave	S

Pkg. Type	
T	Thru Hole
S	SMT

Phase Noise Code	
Std	A
Low Noise	B

Note: Not all Options are Available at all Frequencies. Consult Factory for Details.