



- Custom voltage input options.
- Custom temperature options.
- Supports HC-18/U, HC-25/U, HC-42/U, HC-43/U, HC-49/U, and HC-50/U

Instrument Part Number: **MAJ43 VV**

MAJ43	VV
SERIES	VOLTAGE*
MAJ43	05 = 5V
	12 = 12V
	15 = 15V
	20 = 20V
	25 = 25V
	28 = 28V

Specifications:

* Any Voltage from 5V-28V Available

Description	Min	Typ	Max	Unit
Set Temperature: (T _S) (See table on page 2)	+35	-	+95	°C
Set Point Tolerance:	-5	-	+5	°C
Temperature Stability: (-30°C ~ (T _S - 10)°C)	-3	-	+3	°C
Voltage Stability:	-0.5	-	0.5	°C
Supply Voltage: (V _S)	5	-	28	V
Power: (@ Warm-Up) (Slope)	-	-	6	W
		-0.024**		W/°C
Voltage Tolerance:	0.9 * V _S	-	1.1 * V _S	V
Warm Up: (@ 2 Minutes, 25°C, Referenced to 15 Minutes)	-1	-	1	°C

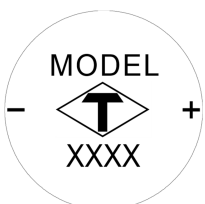
Supported Crystals/Semi-Conductors:

HC-18/U, HC-25/U, HC-42/U, HC-43/U, HC-49/U, and HC-50/U

* A 10°C buffer between ambient and the set temperature is required so the performance can be maintained.

** To calculate the typical steady state power use the following formula where T_A is the ambient temperature:

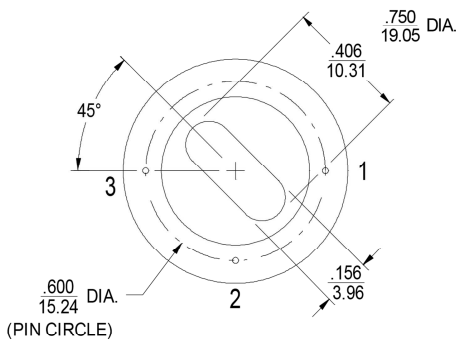
$$P_{SS} = (T_S - T_A) \times 0.024W$$



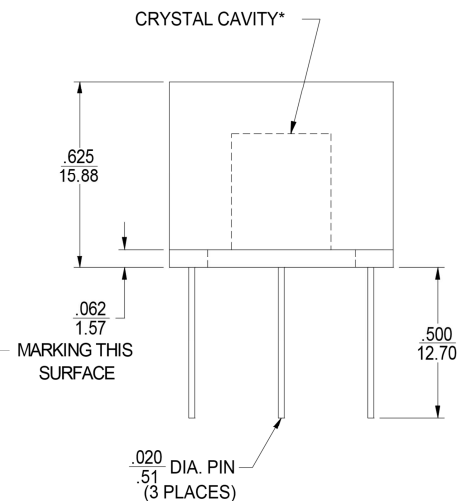
MARKING
XXXX = Date Code

Pin #	Function
1	+VDC
2	TEMPERATURE ADJUST
3	0 VDC

INCH
mm



* CRYSTAL CAVITY connected to 0 VDC.





An external resistor between the TEMPERATURE ADJUST pin and the GND is used to set the oven temperature. The following table outlines the resistor required:

Set Temperature (°C)	Supply Voltage (V)								
	5	8	10	12	15	18	20	24	28
35	298.12	349.86	349.86	399.67	399.67	441.80	503.99	503.99	622.30
40	232.49	254.77	280.53	298.12	317.56	349.86	399.67	399.67	503.99
45	186.93	204.07	210.75	232.49	254.77	280.53	298.12	317.56	349.86
50	149.90	163.76	175.27	186.93	204.07	232.49	232.49	254.77	298.12
55	115.64	127.71	139.97	149.90	149.90	175.27	186.93	204.07	232.49
60	92.01	104.92	104.92	115.64	127.71	139.97	149.90	158.69	186.93
65	70.06	80.44	82.74	92.01	97.85	115.64	115.64	127.71	149.90
70	56.36	62.84	70.06	72.56	80.44	92.01	92.01	104.92	115.64
75	44.64	52.25	52.25	60.60	60.60	70.06	72.56	80.44	92.01
80	31.69	37.86	42.88	44.64	48.38	56.36	60.60	62.84	80.44
85	26.20	28.89	31.69	37.86	37.86	44.64	44.64	52.25	60.60
90	17.78	22.35	22.35	26.20	28.89	31.69	37.86	37.86	48.38
95	9.87	13.55	15.66	17.78	21.18	26.20	26.20	31.69	37.86
Required external resistor (kΩ)									

To calculate resistor for temperature not on the chart use the following formula:

$$R = e^{(\ln(R_2/R_1) * (T_S - T_1) / (T_2 - T_1) + \ln(R_1))}$$

Where:

- R = resistor value required for temperature T_S .
- T_S = Temperature desired
- T_2 = Temperature just above T_S
- R_2 = Resistor value corresponding to T_2
- T_1 = Temperature just below T_S
- R_1 = Resistor value corresponding to T_1