

# DATA SHEET

DS0201\_01  
15.05.01

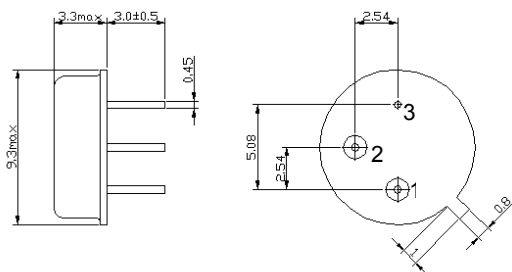
Part Number

**433.92 MHz SAW Resonator**

**TSR0433-L1**

## SPECIFICATION

### PACKAGE TO-39



All Dimensions in mm

Input: 1

Output: 2

Ground: 3

### PRODUCT FEATURES :

- **HIGH STABILITY**
- **LOW LOSS**
- **SMALL SIZE**

### CONTACT :

**TEMEX S.A.W.**

PUITS-GODET 8,

2000 NEUCHÂTEL

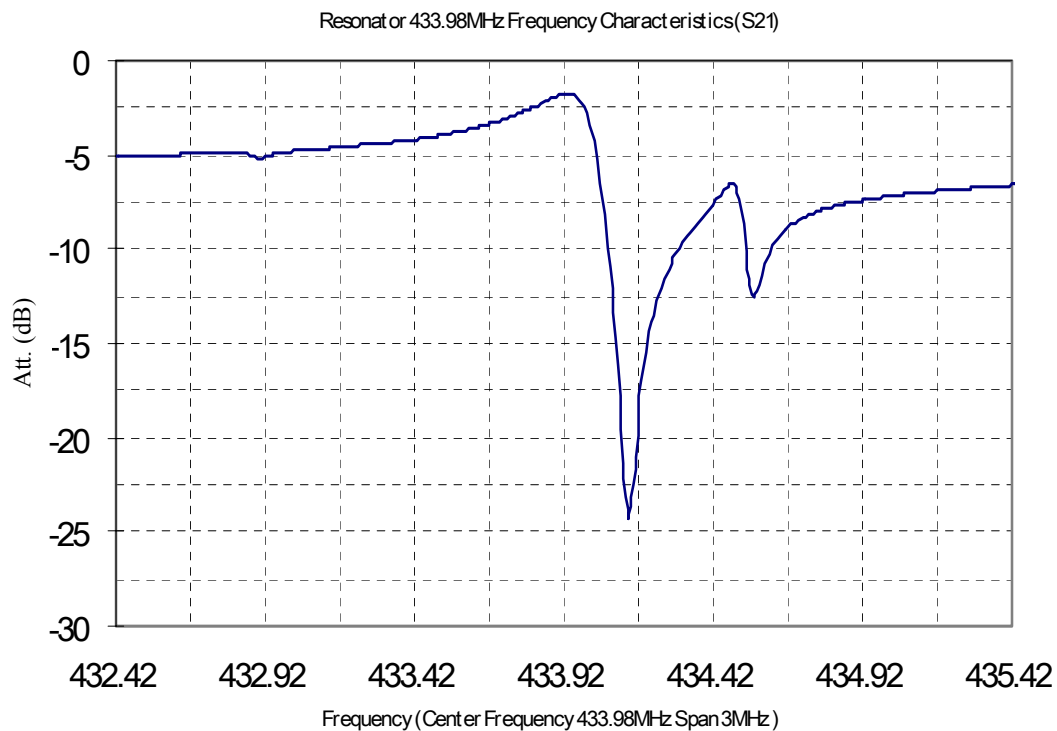
SWITZERLAND

TEL. : ++41 32 722 18 20

FAX : ++41 32 722 18 29

- OR CONTACT YOUR TEKELEC TEMEX SALES REPRESENTATIVE

## TYPICAL PERFORMANCE (Measurement)



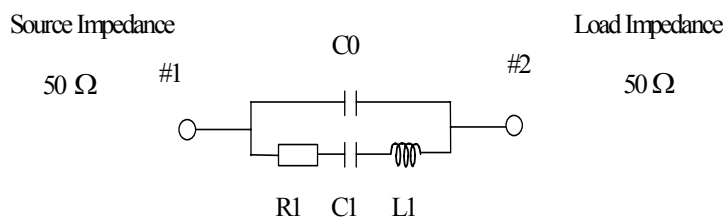
### ELECTRICAL SPECIFICATIONS

| Parameter        | Symbol | Conditions | Min     | Typ | Max     | Unit |
|------------------|--------|------------|---------|-----|---------|------|
| Center Frequency | $f_o$  | Nominal    | 433.845 |     | 433.995 | MHz  |
| Insertion Loss   | IL     | $f_o$      |         | 1.5 | 2       | dB   |

### EQUIVALENT CIRCUIT ELEMENTS

| Parameter            | Symbol | Min | Typical | Max  | Unit    |
|----------------------|--------|-----|---------|------|---------|
| Parallel capacitance | $C_0$  | 1.7 | 2       | 2.25 | pF      |
| Motional resistance  | $R_1$  |     | 20      | 26   | Ohm     |
| Motional inductance  | $L_1$  |     | 91      |      | $\mu$ H |
| Motional capacitance | $C_1$  |     | 1.4785  |      | fF      |

Equivalent circuit

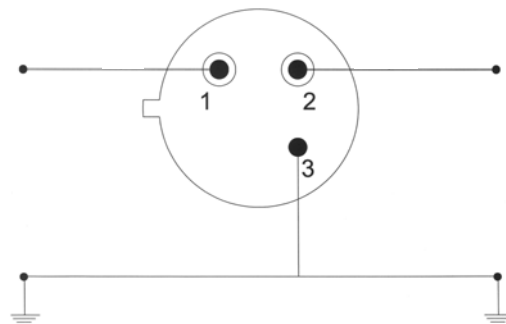


### OPERATIONAL ENVIRONMENT

| Parameter                         | Conditions  | Min | Typ   | Max | Unit                           |
|-----------------------------------|-------------|-----|-------|-----|--------------------------------|
| Power Dissipation                 | Maximum     |     |       | 10  | dBm                            |
| DC Voltage                        | Maximum     |     |       | 12  | V                              |
| Storage Temperature               |             | -40 |       | +85 | $^{\circ}$ C                   |
| Operating Temperature             | Operational | -20 |       | +85 | $^{\circ}$ C                   |
| Turnover temperature              | $T_t$       |     | 35    |     | $^{\circ}$ C                   |
| Frequency temperature coefficient | $T_c$       |     | 0.032 |     | ppm/ $^{\circ}$ C <sup>2</sup> |

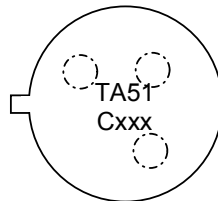
| Test Item                   | Condition of Test                                                                                                                                                                    | Requirements                                                      |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Shock (Drop Test)           | Random free drops 3 times from height of 1.0 meter onto concrete floor.                                                                                                              | The specimens shall meet the electrical specifications.           |
| Vibration                   | Total peak amplitude : 1.5 mm<br>Vibration frequency : 10 to 55 Hz<br>Sweep period : 1.0 minute<br>Vibration directions : 3 mutually perpendicular<br>Duration : 2 hours / direction |                                                                   |
| Solderability (Solder Heat) | Immersed pad in soldering bath at $245 \pm 5^{\circ}\text{C}$ for $5 \pm 0.5$ seconds.                                                                                               | 75% or more of the immersed surface shall be covered with solder. |
| Temperature Characteristics | Specimens shall be measured within $-10^{\circ}\text{C}$ to $+50^{\circ}\text{C}$ temperature range.                                                                                 | The specimen shall meet the electrical specifications.            |
| Dry Heat (Aging Test)       | Temperature : $125 \pm 2^{\circ}\text{C}$<br>Duration : 250 hours                                                                                                                    |                                                                   |
| Cold Resistance             | Temperature : $-40 \pm 3^{\circ}\text{C}$<br>Duration : 96 hours                                                                                                                     |                                                                   |
| Thermal Shock               | Heat cycle conditions<br>$-55^{\circ}\text{C}$ $25^{\circ}\text{C}$ $85^{\circ}\text{C}$<br>(30 min) (5 min) (30 min)<br>Cycle time : 5 times                                        |                                                                   |
| TEST CIRCUIT                |                                                                                                                                                                                      |                                                                   |

From 50Ω  
Network  
Analyzer



To 50Ω  
Network  
Analyzer

### MARKING SPECIFICATION



Where xxx is the lot number