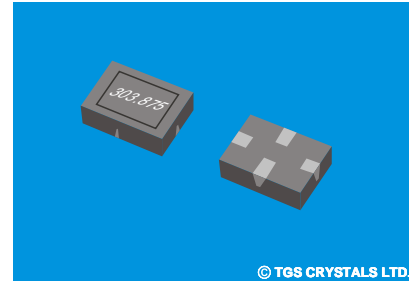


**FEATURES**

- The SR303.875-M2 is a true one-port, Surface-acoustic-wave(SAW) resonator in a surface-mount, ceramic M-2 case. It provides reliable, fundamental-mode, quartz frequency stabilization of fixed-frequency transmitters operating at 303.875MHz.

**APPLICATIONS**

- Remote Control



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**SPECIFICATION \***

Parameters		Product	Option Code
		SR	SR
Centre Frequency( $f_c$ ) :	303.875MHz	▲	303.875
Frequency Tolerance( $\Delta f_c$ ):	$\pm 75$ KHz	△	A
	$\pm 100$ KHz	△	B
	$\pm 150$ KHz	△	C
	$\pm 200$ KHz	△	D
Temp. Stability	Turnover Temp( $T_o$ ): $55^\circ\text{C}$ Max.	▲	
	Turnover Frequency( $f_o$ ): $f_c$ 303.875 MHz	▲	
	Frequency Temp. Coefficient (FTC): $0.037$ ppm/ $^\circ\text{C}^2$	▲	
Insertion Loss(IL):	1.8 dB Max.	▲	
Operating Temp. Range:	$-10^\circ\text{C} \sim +60^\circ\text{C}$	▲	
Storage Temp. Range:	$-40^\circ\text{C} \sim +85^\circ\text{C}$	▲	
Quality Factor	Unloaded Q( $Q_u$ ):	▲	13,800
	$50\ \Omega$ Loaded Q( $Q_L$ ):	▲	1,800
DC Insulation Resistance between Any Two Pins:		▲	$1.0\text{M}\ \Omega$ Min.
Frequency Aging Absolute Value During the First Year( $f_A$ ):		▲	$\leq 10$ ppm/year
RF Equivalent RLC Model	Motional Resistance( $R_m$ ): $23\ \Omega$ Max.	▲	
	Motional Inductance( $L_m$ ): $109.010\ \mu\text{H}$	▲	
	Motional Capacitance( $C_m$ ): $2.5319\ \text{fF}$	▲	
	Shunt Static Capacitance ( $C_o$ ): $3.0\ \text{pF}$	▲	
CW Therefore Power Dissipation:		▲	$+10\text{dBm}$
DC Voltage Between Any Two Pins:		▲	$\pm 30\text{V DC}$
Case Temperature:	$-40^\circ\text{C} \sim +85^\circ\text{C}$	▲	
Soldering Temperature:	$+235^\circ\text{C}$	▲	
Holder Type:	$6.3 \times 4.44 \times 2.0\text{mm}$	△	M2
Package:	Tape/Reel	△	T

▲ Standard \* Specifications Subject to Change Without Notice  
△ Optional: please specify required code when inquiring or ordering

**NOTE**

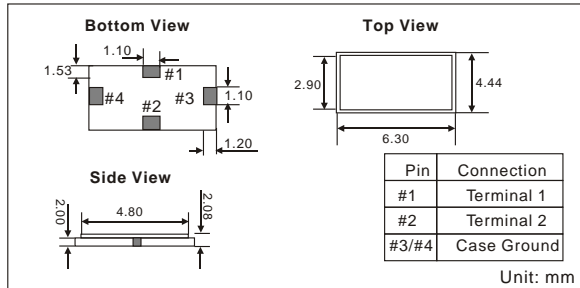
1. Electrostatic Sensitive Device. Observe precautions for handling
2. Freq. aging is the change in  $f_c$  with time and is specified at  $+65^\circ\text{C}$  or less. Aging may exceed the specification for prolonged temp. above  $+65^\circ\text{C}$ . Typically, aging is greatest the first year after manufacture, decreasing in subsequent years.
3. The center freq.,  $f_c$ , is measured at the minimum insertion loss point,  $IL_{min}$ , with the resonator in the  $50\ \Omega$  test system (VSWR  $\leq 1.2:1$ ). Typically,  $f_{oscillator}$  or  $f_{transmitter}$  is appr. equal to the resonator  $f_c$ .
4. Typically, equipment utilizing this device requires emissions approval, which is the responsibility of the equipment manufacturer.
5. Unless noted otherwise, case temperature  $T_c = +25^\circ\text{C} \pm 2^\circ\text{C}$ .
6. The design, manufacturing process, and specifications of this device are subject to change without notice.
7. Derived mathematically from one or more of the following directly measured parameters:  $f_c$ , IL, 3 dB bandwidth,  $f_c$  versus  $T_c$ , and  $C_o$
8. Turnover temperature,  $T_o$ , is the temperature of maximum (or turnover) freq.,  $f_o$ . The nominal center freq. at any case temp.,  $T_c$ , may be calculated from:  $f = f_o [1 - FTC (T_c - T_o)^2]$ . Typically, oscillator  $T_o$  is appr. equal to the specified resonator  $T_o$ .

**PART NUMBER GUIDE**

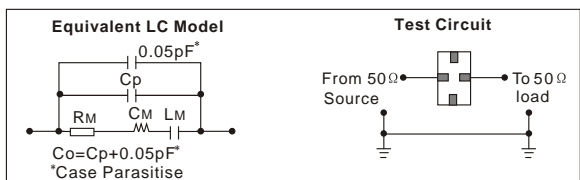
TGS	SR	303.875	A	M2	T
Mark	SAW Resonators One-Port	Centre Freq.	Frequency Tolerance	Holder Type	Package

e.g. TGS SR 303.875 A M2 T

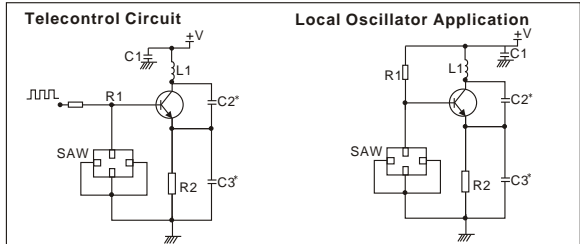
**DIMENSIONS**



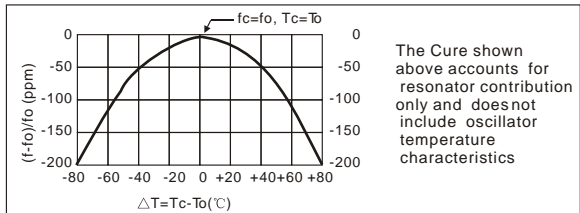
**EQUIVALENT LC MODEL AND TEST CIRCUIT**



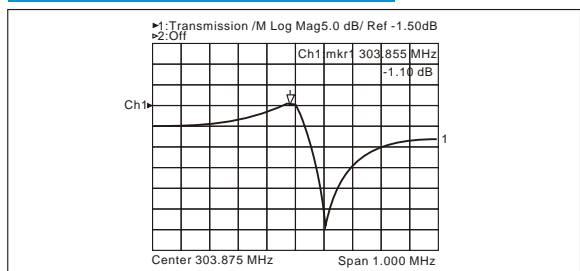
**TYPICAL APPLICATION CIRCUIT**



**TEMPERATURE CHARACTERISTICS**



**TYPICAL FREQUENCY RESPONSE**



**PACKAGE**

- Standard package in T/R: 3000pcs/Reel, 2Reel/box, 5box/Carton  
See page 182 for detail dimensions

