

Product Specification

Abundance Enterprise Co.

Original Date

05/07/2008

PN:

SR433.92-75-DCC6C



# AEC<sup>®</sup>

Abundance Enterprise Co.

## PRODUCT SPECIFICATION

### SAW RESONATOR

**AEC PART NUMBER / SPEC. NO** SR433.92-75-DCC6C

**CUSTOMER:** Schukat electronic Vertriebs GmbH



This model is ROHS/PB-free compliance according to the ROHS directive 2002/95/EC

<b>Customer's Name</b>	Schukat electronic Vertriebs GmbH
<b>Production Name</b>	SAW RESONATOR
<b>Frequency</b>	433.92MHz
<b>Model No</b>	SR433.92-75-DCC6C
<b>Issue Date</b>	15 <sup>th</sup> Oct, 2013

Address: Room 602-603, Java Commercial Centre,

128 Java Road,

North Point, Hong Kong

Homepage: <http://www.aeccrystal.com/>

Email: sales@aeccrystal.com

Telephone: (852)-28560000

Fax (852) 2561 2161

Prepared	Inspection	Approved
<i>Nathan</i>	<i>Andy</i>	<i>Henkie</i>

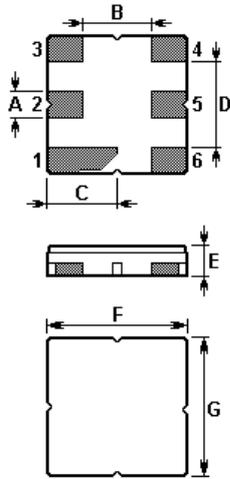
### 1. GENERAL PROVISION

1-1 Production Name: SMD Saw Resonator

1-2 Holder Type: SR433.92-75-DCC6C

1-3 This specification relates to the SAW resonator to be supplied by Abundance Enterprise Co. ( AEC ).

### 2. DIMENSION

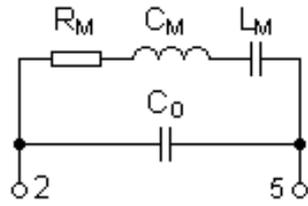


Pin	Configuration
2	Input / Output
5	Output / Input
1,3,4,6	Ground

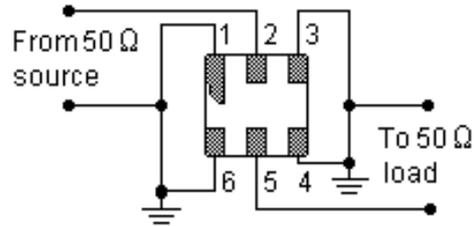
Sign	Data (unit: mm)	Sign	Data (unit: mm)
A	0.6	E	1.1
B	1.5	F	3.0
C	1.5	G	3.0

 Abundance Enterprise Co.	NO.	Revised DATE	MODIFY CONTENTS	
	1	2006.1.4	NEW UPDATE	
DIMENTION	mm			
SCALE		MODEL	SAW Resonator	
TOLERANCE	±0.2	PART NAME	SRM433.92-75-DCC6C	
DRAWING NO. <b>433.92-SRM</b>		APPV'D BY Henkie	CHECK BY Andy	DRAWN BY Nathan

### 3. Equivalent LC Model and Test Circuit

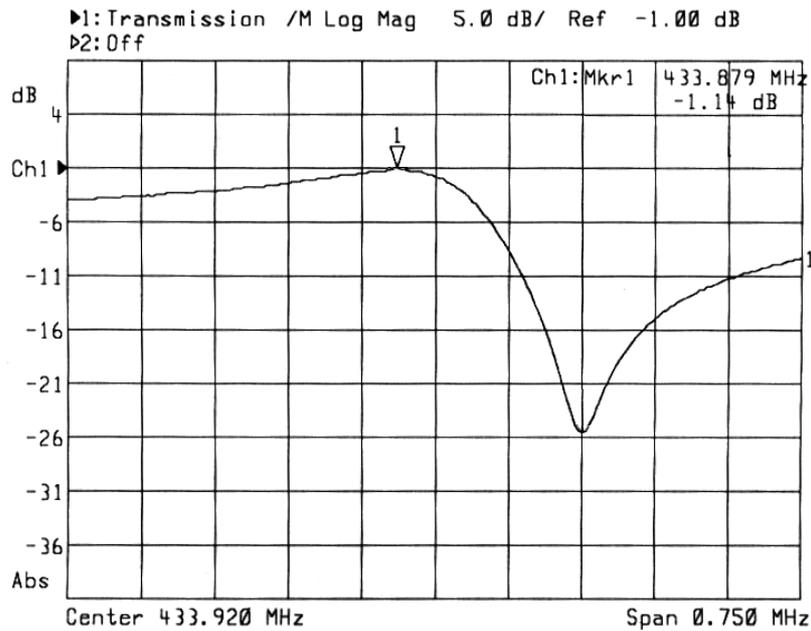


Equivalent LC Model



Test Circuit

### 4. FREQUENCY RESPONSE



## 5. ELECTRICAL SPECIFICATION

### 5-1. Maximum Ratings

Rating		Value	Unit
CW RF Power Dissipation	$P$	0	dBm
DC Voltage Between Terminals	$V_{DC}$	$\pm 30$	V
Storage Temperature Range	$T_{stg}$	-40 to +85	$^{\circ}\text{C}$
Operating Temperature Range	$T_A$	-10 to +60	$^{\circ}\text{C}$

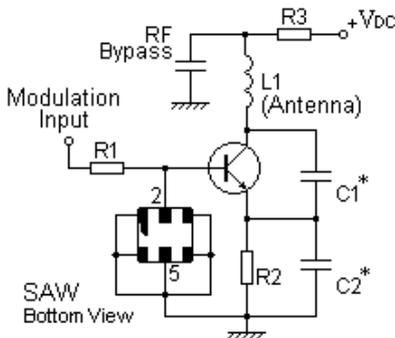
### 5-2. Electronic Characteristics

Characteristic		Sym	Minimum	Typical	Maximum	Unit
Center Frequency (+25 $^{\circ}\text{C}$ )	Absolute Frequency	$f_c$	433.845		433.995	MHz
	Tolerance from 433.920 MHz	$\Delta f_c$		$\pm 75$		kHz
Insertion Loss		$I_L$		1.6	2.0	dB
Quality Factor	Unloaded Q	$Q_U$		10,200		
	50 $\Omega$ Loaded Q	$Q_L$		1,700		
Temperature Stability	Turnover Temperature	$T_0$	25		55	$^{\circ}\text{C}$
	Turnover Frequency	$f_0$		$f_c$		kHz
	Frequency Temperature Coefficient	FTC		0.032		ppm/ $^{\circ}\text{C}^2$
Frequency Aging	Absolute Value during the First Year	$ f_A $		$\leq 10$		ppm/yr
DC Insulation Resistance Between Any Two Terminals			1.0			M $\Omega$
RF Equivalent RLC Model	Motional Resistance	$R_M$		20	26	$\Omega$
	Motional Inductance	$L_M$		74.8619		$\mu\text{H}$
	Motional Capacitance	$C_M$		1.7989		fF
	Shunt Static Capacitance	$C_0$	1.65	1.95	2.25	pF

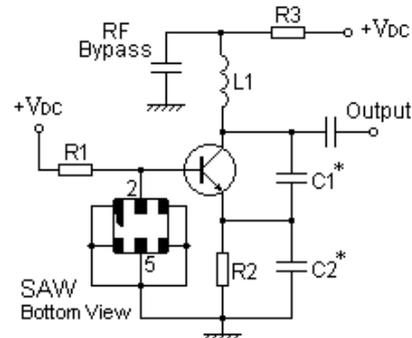
**ⓘ CAUTION: Electrostatic Sensitive Device. Observe precautions for handling!**

## 6. Typical Application Circuit

### 1) Low-Power Transmitter Application



### 2) Local Oscillator Application



## 7. Notes

1. The center frequency,  $f_c$ , is measured at the minimum IL point with the resonator in the 50 $\Omega$  test system.
2. Unless noted otherwise, case temperature  $T_C = +25^\circ\text{C} \pm 2^\circ\text{C}$ .
3. Frequency 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 temperatures above  $+65^\circ\text{C}$ . Typically, aging is greatest the first year after manufacture, decreasing in subsequent years.
4. Turnover temperature,  $T_0$ , is the temperature of maximum (or turnover) frequency,  $f_0$ . The nominal frequency at any case temperature,  $T_C$ , may be calculated from:  $f = f_0 [1 - \text{FTC} (T_0 - T_C)^2]$ .
5. This equivalent RLC model approximates resonator performance near the resonant frequency and is provided for reference only. The capacitance  $C_0$  is the measured static (nonmotional) capacitance between the two terminals. The measurement includes case parasitic capacitance.
6. Derived mathematically from one or more of the following directly measured parameters:  $f_c$ , IL, 3 dB bandwidth,  $f_c$  versus  $T_C$ , and  $C_0$ .
7. The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
8. Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.

Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.

For questions on technology, prices and delivery, please contact our sales offices or e-mail [sales@aecrcrystal.com](mailto:sales@aecrcrystal.com)