



# 深圳市帝国科技有限公司

SHENZHEN DIGUO TECHNOLOGY CO., LTD

## 规格书

### Specification

**CUSTOMER** 客户: \_\_\_\_\_  
**Name** 名称: 声表面谐振器  
**Model** 型号: R418M  
**Package** 封装: TO-39-DIP

审核结果 Audit results	客户签名 SIGNATURE	日期 DATE	备注 REMARK
合格 ACCEPT			
不合格 REJECT			

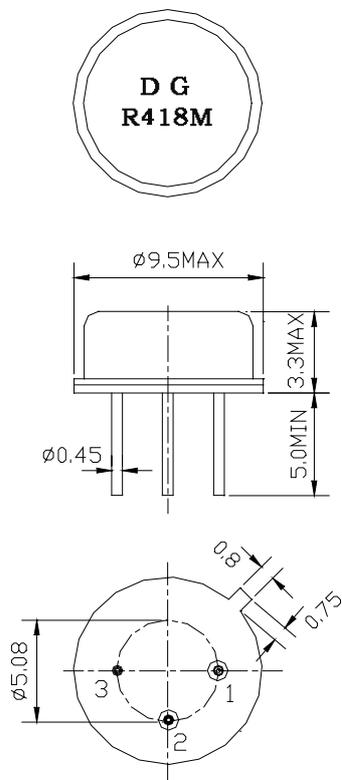
工程: 刘玖武 \_\_\_\_\_

审核: \_\_\_\_\_

(公章)

### 1. Package Dimension ( TO-39/3A )

Unit: mm



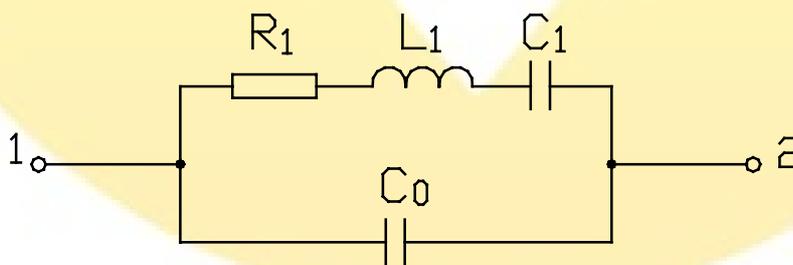
Pin No.	Function
1.	Input
2.	Output
3.	Ground

### 2. Marking

FI  
"T418.00

1. Color: Black or Blue
2. DR: Manufacture's logo
3. 1: One-port SAW Resonator
4. 418.00: Center Frequency ( MHz)

### 3. Equivalent LC Model



### 4. Performance

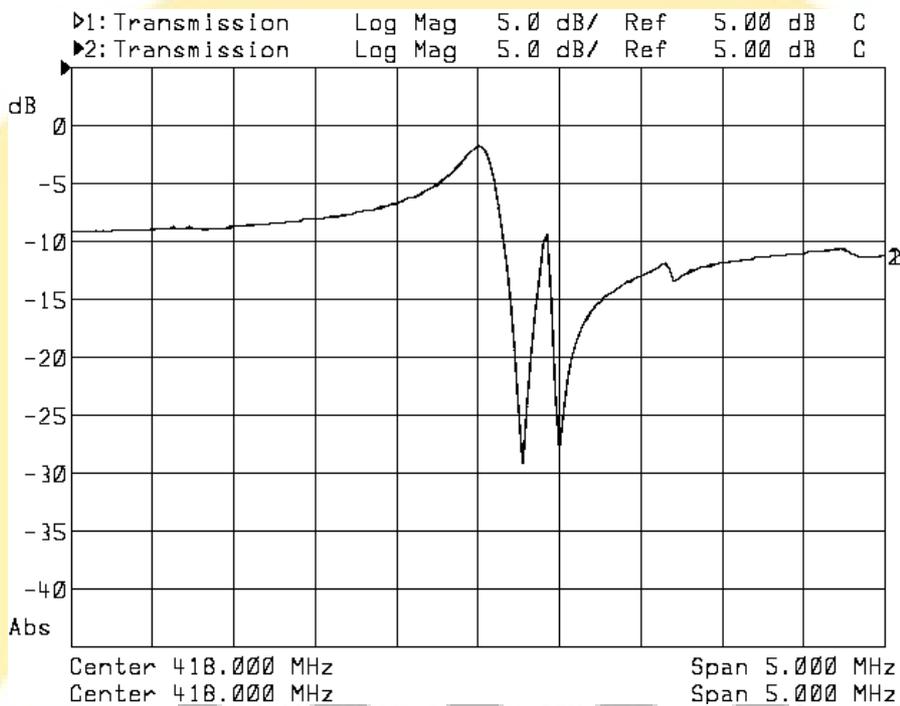
#### 4.1 Maximum Rating

DC Voltage $V_{DC}$	10V
AC Voltage $V_{PP}$	10V (50Hz/60Hz)
Operation Temperature	-40 to +85
Storage Temperature	-45 to +85
RF Power Dissipation	0dBm

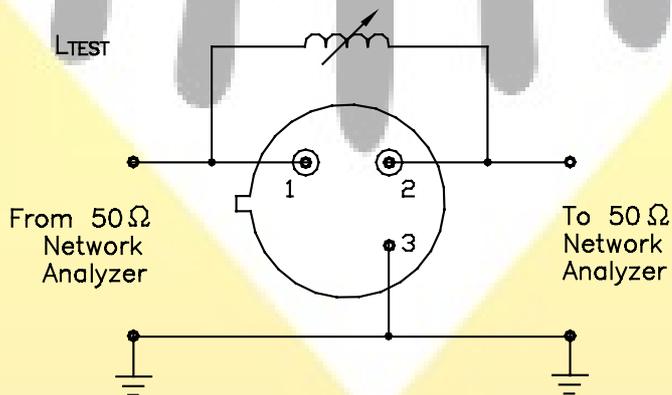
#### 4.2 Electronic Characteristics

Item		Units	Minimum	Typical	Maximum
Center Frequency		MHz	417.925	418.00	418.075
Insertion Loss		dB	—	1.2	2.5
Quality Factor	Unloaded Q	—	—	12,100	—
	50 Loaded Q	—	—	2,000	—
Temperature	Turnover Temperature		20	35	50
Stability	Turnover Frequency	KHz	—	$f_0$	—
	Freq. Temp. Coefficient	ppm/ $^{\circ}C$	—	0.032	—
Frequency Aging		ppm/yr	—	$<\pm 10$	—
DC Insulation Resistance		M	1.0	—	—
RF Equivalent RLC Model	Motional Resistance $R_1$		—	20	26
	Motional Inductance $L_1$	$\mu H$	—	91	—
	Motional Capacitance $C_1$	fF	—	1.6	—
	Shunt Static Capacitance $C_0$	pF	—	2.0	2.3

### 4.3 Frequency Characteristics



### 4.4 Test Circuit



Note: Reference temperature shall be  $25 \pm 2$  . However, the measurement may be carried out at 5 to 35 unless there is a dispute.

## 5. Reliability

5.1 Mechanical Shock: The components shall remain within the electrical specifications after 1000 shocks, acceleration  $392 \text{ m/s}^2$ , duration 6 milliseconds.

5.2 Vibration Fatigue: The components shall remain within the electrical specifications after loaded vibration at 20 Hz, amplitude 1.5 mm, for 2 hours.

5.3 Terminal Strength: The components shall remain within the electrical specifications after pulled 2 kgs weight for 10 seconds towards an axis of each terminal.

5.4 High Temperature Storage: The components shall remain within the electrical specifications after being kept at the  $85 \pm 2$  for 48 hours, then kept at room temperature for 2 hours.

5.5 Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the  $-25 \pm 2$  for 48 hours, then kept at room temperature for 2 hours.

5.6 Temperature Cycle: The components shall remain within the electrical specifications after 5 cycles of high and low temperature testing ( one cycle:  $80$  for 30 minutes  $25$  for 5 minutes  $-25$  for 30 minutes )than kept at room temperature for 2 hours.

5.7 Solder-heat Resistance: The components shall remain within the electrical specifications after dipped in the solder at  $260$  for  $10 \pm 1$  seconds, then kept at room temperature for 2 hours. (Terminal must be dipped leaving 1.5 mm from the case).

5.8 Solder Ability: Solder ability of terminal shall be kept at more than 80% after dipped in the solder flux at  $230 \pm 5$  for  $5 \pm 1$  seconds.

## 6. Remarks

### 6.1 Static voltage

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage.

### 6.2 Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning.

### 6.3 Soldering

Only leads of component may be soldered. Please avoid soldering another part of component.