

规格书编号

SPEC NO :

# 产品规格书

# SPECIFICATION

CUSTOMER 客户: \_\_\_\_\_  
PRODUCT 产品: \_\_\_\_\_ CERAMIC FILTER \_\_\_\_\_  
MODEL NO 型号: \_\_\_\_\_ LTWC450E \_\_\_\_\_  
PREPARED 编制: \_\_\_\_\_ fengyu \_\_\_\_\_ CHECKED 审核: \_\_\_\_\_ york \_\_\_\_\_  
APPROVED 批准: \_\_\_\_\_ lijiating \_\_\_\_\_ DATE 日期: \_\_\_\_\_ 2008-6-28 \_\_\_\_\_

客户确认 CUSTOMER RECEIVED:		
审核 CHECKED	批准 APPROVED	日期 DATE

无锡市好达电子有限公司  
Shoulder Electronics Limited



1. THIS SPECIFICATION SHALL COVER THE CHARACTERISTICS OF SMD TYPE CERAMIC FILTER WITH 450KHz ,INTENED FOR USE IN TRANSCEIVERS,ETC.

2. PART NUMBER:LTWC450E

3. ELECTRONICAL SPECIFICATIONS

- A. CENTRE FREQUENCY( $f_0$ ) : 450KHz $\pm$ 1.0KHz.Max.
- B. BAND WIDTH AT 3dB :  $\pm$ 6.5KHzMin(TO 450KHz)
- C. BAND WIDTH AT 50dB :  $\pm$ 15KHzMin(TO 450KHz)
- D. STOP BAND ATTENUATION : 55dBMin(AT  $f_0 \pm 18$  to  $\pm 33$ KHz)
- E. STOP BAND ATTENUATION : 50dBMin.(AT  $f_0 \pm 100$ KHz)
- F: STOP BAND ATTENUATION : 20dBMin(AT  $f_0 \pm 0.1$  to  $\pm 1$  MHz)
- G: RIPPLE : 3.0dBMax.(AT  $f_0 \pm 6.5$ KHz)
- H: INSERTION LOSS : 4.0dBMax.(AT THE SMALLEST LOSS)
- I: TEMPRATURE COEFFICIENT OF CENTER FRENQUENCY :  $\pm 5$  PM/ $^{\circ}$ C MAX.(-20 TO +80  $^{\circ}$ C)
- J: INPUT/OUPUT IMPEDANCE : 1.5K $\Omega$

NOTE : A) CENTER FREQUENCY SHALL BE DEFIED AS THE CENTRAL VALUE OF THE BAND WITH AT 6dB

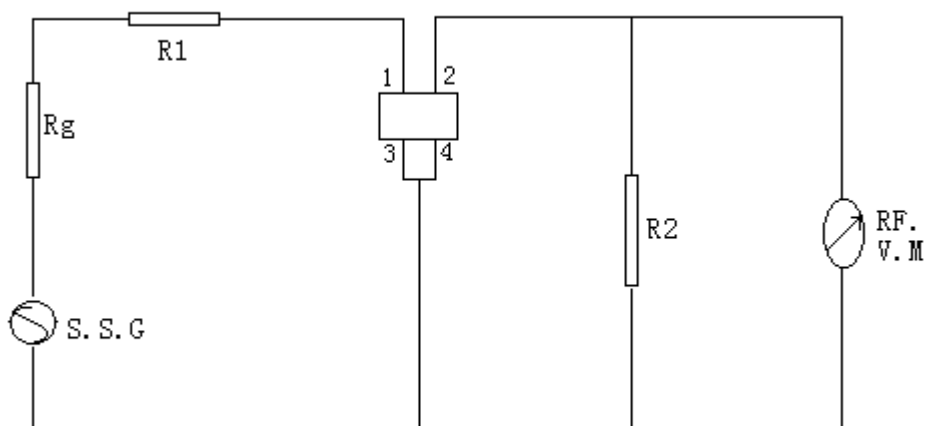
B) TEMPRATURE COEFFICIENT OF CENTER FREQUENCY SHALL BE DEFINED AS THE AVERAGE OF THE CENTRAL FREQUECY .

4. MEASUREMENT

A. ENVIRONMENTAL CONDITION

MEASUREMENT SHALL BE CARRIED OUT AT THE REFERENCE TEMPERATURE OF 25 $^{\circ}$ C $\pm$ 2 $^{\circ}$ C. IT SHALL BE POSSIBLY DONE AT 5 $^{\circ}$ CTO 35 $^{\circ}$ C UNLESS IT IS QUESTIONABLE.

B. MEASURING CIRCUIT



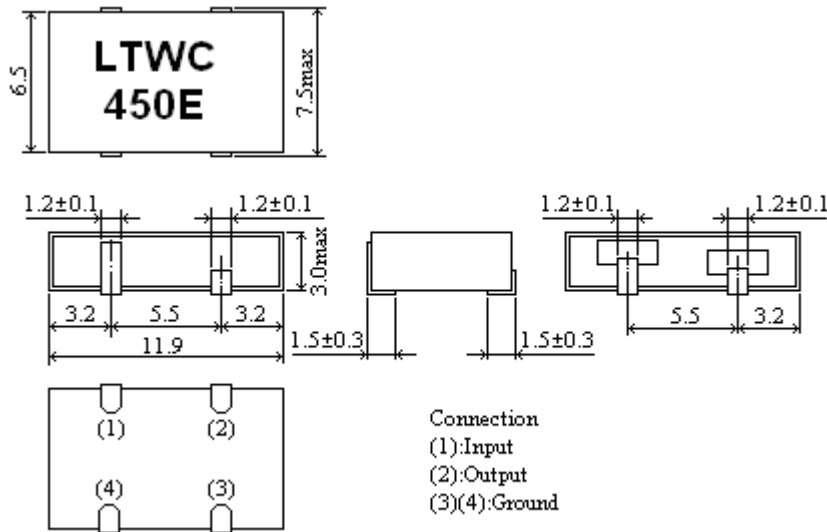
$$R_g + R_1 = R_2 = \text{Input/output Impedance}$$

#S.S.G (STANDARD SIGNAL GENEATION)

R.F.V.M. (RADIO FREQUENCY VOLTAGE METER)

$R_g + R_1 = R_2 = 1.5K\Omega$

$C \leq 50$  PF

**5.DIMENSIONS(mm)**

**6.ENVIRONMENTAL CHARACTERISTICS**
**6-1 HIGH TEMPERATURE EXPOSURE**

SUBJECT THE FILTER TO +80°C FOR 96 HOURS. THEN RELEASE THE FILTER INTO THE ROOM CONDITIONS FOR 1 TO 2 HOURS PRIOR TO THE MEASUREMENT. IT SHALL FULFILL THE SPECIFICATIONS IN TABLE 1.

**6-2 MOISURE**

KEEP THE FILTER AT 40°C AND 95%RH FOR 96 HOURS. THEN RELEASE THE FILTER INTO THE ROOM CONDITIONS FOR 1 TO 2 HOURS PRIOR TO THE MEASUREMENT. IT SHALL FULFILL THE SPECIFICATIONS IN TABLES 1.

**6-3 LOW TEMPERATURE EXPOSURE**

SUBJECT THE FILTER TO -20°C FOR 96 HOURS. THEN RELEASE THE FILTER INTO THE ROOM CONDITIONS FOR 1 TO 2 HOURS PRIOR TO THE MEASUREMENT. IT SHALL FULFILL THE SPECIFICATIONS IN TABLE 1.

**6-4 TEMPERATURE CYCLING**

SUBJECT THE FILTER TO A LOW TEMPERATURE OF -55°C FOR 30 MINUTES. FOLLOWING BY A HIGH TEMPERATURE OF +85°C FOR 30 MINUTES. THEN RELEASE THE FILTER INTO THE ROOM CONDITIONS FOR 1 TO 2 HOURS PRIOR TO THE MEASUREMENT. IT SHALL MEET THE SPECIFICATIONS IN TABLE 1.

**6-5 RESISTANCE TO SOLDER HEAT**

DIP THE FILTER TERMINALS NO CLOSER THAN 1.5mm INTO THE SOLDER BATH AT 270°C ± 10°C FOR 10 ± 1 SEC. THEN RELEASE THE FILTER INTO THE ROOM CONDITIONS FOR 1 TO 2 HOURS. THE FILTER SHALL MEET THE SPECIFICATIONS IN TABLE 1

**6-6 MECHANICAL SHOCK**

DROP THE FILTER RANDOMLY ONTO THE CONCRETE FLOOR FROM THE HEIGHT OF 30cm 3 TIMES. THE FILTER SHALL FULFILL THE SPECIFICATIONS IN TABLE 1.

**6-7 VIBATION**

SUBJECT THE FILTER TO THE VIBRATION FOR 1 HOUR EACH IN X,Y AND ZAXES WITH THE AMPLITUDE OF 1.5mm AT 10 TO 55 Hz.THE FILTER SHALL FULFILL THE SPECIFICATIONS IN TABLE 1.

**6-8 LEAD FATIGUE**
**6-8-1 PULLING TEST**

WEIGHT ALONG WITH THE DIRECTION OF LEAD WITHOUT AN SHOCK 3 KG.THE FILTER SHALL SATISFY ALL THE INITIAL CHARACTERISTICS.

**6-8-2 BENDING TEST**

LEAD SHALLBE SUBJECT TO WITHSTAND AGAINST 90°C BENDING IN THE DERECTION OF THICKNESS.THIS OPERATION SHALL BE DONE TOWARD BOTH DIRECTION.THE FILTER SHALL SHOW NO EVIDENCE OF DAMAGE AND SHALL SATISFY ALL THE INITIAL ELECTRICAL CHARACTERISTICS.

TABLE 1

ITEM	SPECIFICATION
CENTRE FREQUENCY( $f_0$ )	450±1.0KhzMax
BAND WIDTH(6dB)	±6.5KHzMin
SELECTIVITY(50dB)	±15KhzMax
STOP BAND ATTENUATION	55dBMin( $f_0 \pm 18$ to $\pm 33$ Khz)
STOP BAND ATTENUATION	50dBMin( $f_0 \pm 100$ Khz)
STOP BAND ATTENUATION	20dBMin( $f_0 \pm 0.1$ to $\pm 1$ Mhz)
RIPPLE	3.0dBMax
INSERTION LOSS	4.0dBMax