

Spec.No. KSD-523-0026-02

# APPROVAL SHEET

(KYOCERA CORPORATION SAW FILTER SPECIFICATION)

Part No.: SF25-1960M5UB01

21th.Aug.'01

KYOCERA CORPORATION

Approved

Prepared

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### 1.Scope

This specification shall cover the characteristics of the RF SAW filter for PCS.

### 2.Customer's Part No.

3.KYOCERA's Part No. : SF25-1960M5UB01

### 4.Electrical Characteristics

Table 1

Terminating Source Impedance: 50 ohms , Single-ended

Terminating Load Impedance: 100 ohms , Differential

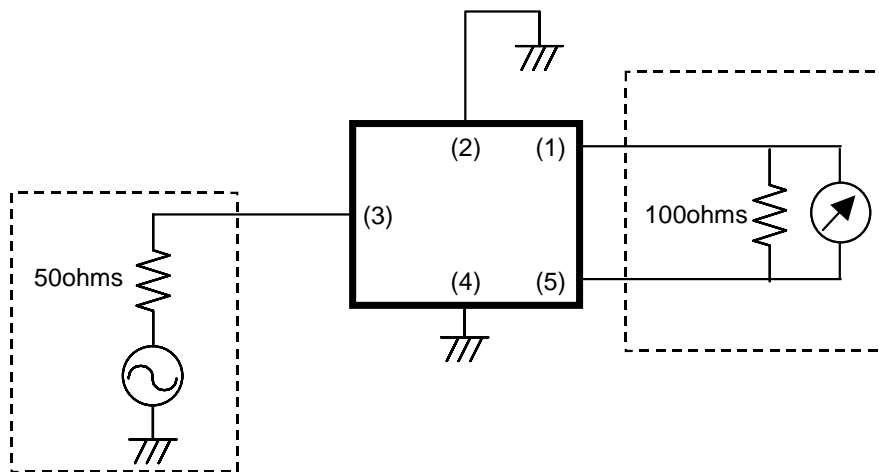
Items	Frequency Range	Unit	Spec.
4-01	Center Frequency	-----	MHz 1960
4-02	Maximum Insertion Attenuation	1930 to 1990MHz	dB 4.1 max.
4-03	Amplitude Ripple (p-p)	1930 to 1990MHz	dB 2.0 max.
4-04	Input/Output VSWR	1930 to 1990MHz	2.5 max.
4-05	Absolute Attenuation	0 to 1850MHz	dB 30 min.
		1850 to 1910MHz	dB 15 min.
		2040 to 3860MHz	dB 25 min.
		3860 to 3980MHz	dB 20 min.
		39800 to 6000MHz	dB 15 min.
4-06	Amplitude Imbalance: -1.0dB min. / +1.0dB max.		
4-07	Phase Imbalance: -15deg. min. / +15deg. Max.		
4-08	Operating Temperature: -30 to +85 deg.C		
4-09	Storage Temperature: -40 to +85 deg.C		

### 5.Measurement Condition

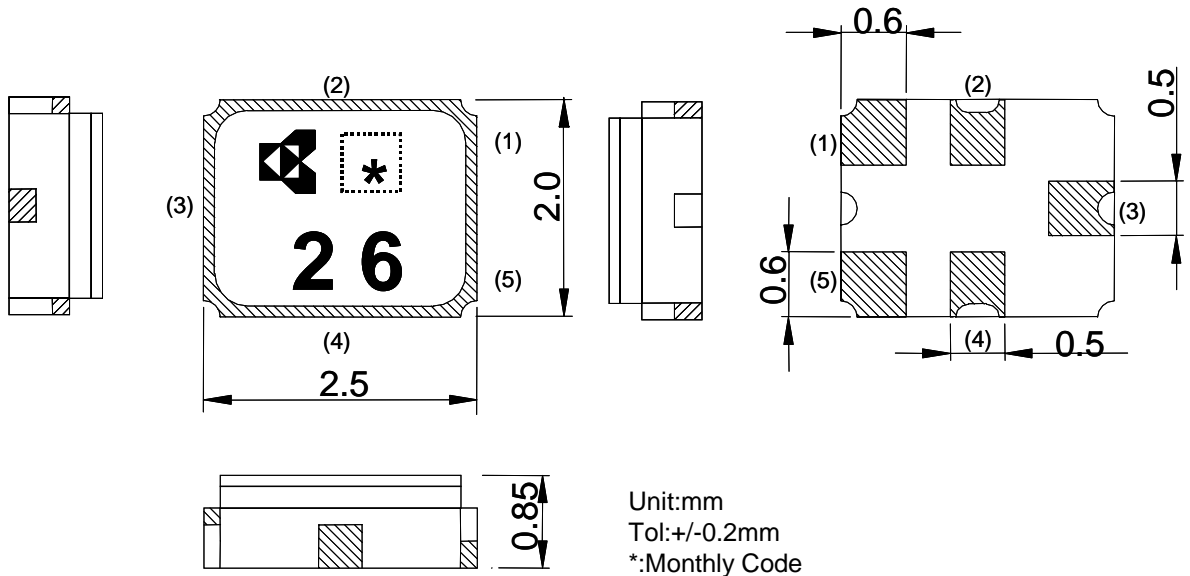
Set the temperature at 25 deg C as room temperature,  
and measure it within the operating temperature range.

### 6.Measurement Circuit

- (3): Input
- (1), (5): Differential Output
- (2), (4): Ground



7.Dimension



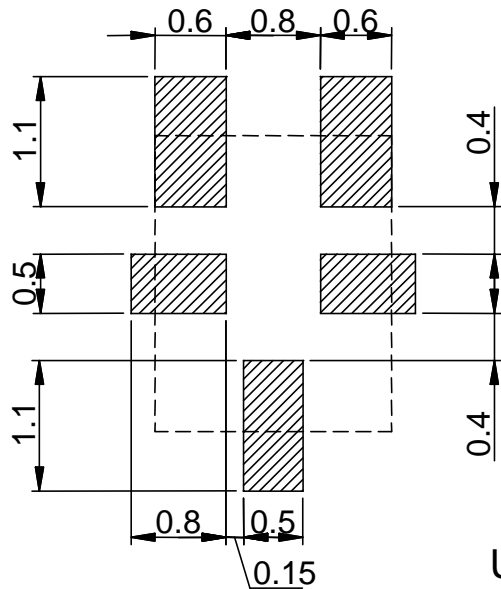
- \* : MONTHLY CODE
- (1) : OUTPUT
- (2) : GROUND
- (3) : INPPUT
- (4) : GROUND
- (5) : OUTPUT

Monthly code of production

Year	Month	Code	Year	Month	Code
2001	1	A	2003	1	a
2005	2	B	2007	2	b
	3	C		3	c
	4	D		4	d
	5	E		5	e
	6	F		6	f
	7	G		7	g
	8	H		8	h
	9	J		9	j
	10	K		10	k
	11	L		11	l
	12	M		12	m
	Year	Month		Code	Year
2002	1	N	2004	1	n
2006	2	P	2008	2	p
	3	Q		3	q
	4	R		4	r
	5	S		5	s
	6	T		6	t
	7	U		7	u
	8	V		8	v
	9	W		9	w
	10	X		10	x
	11	Y		11	y
	12	Z		12	z

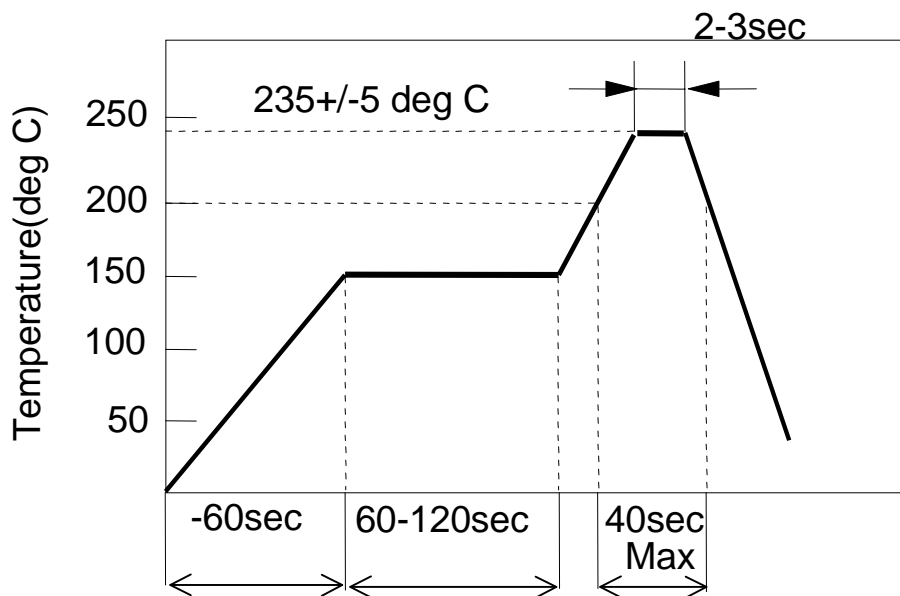
### 8.Recommendable Land Pattern

(Top view)



UNIT : mm  
□ : Land Pattern

### 9.Recommendable Reflow Soldering Profile



IR REFLOW SOLDERING

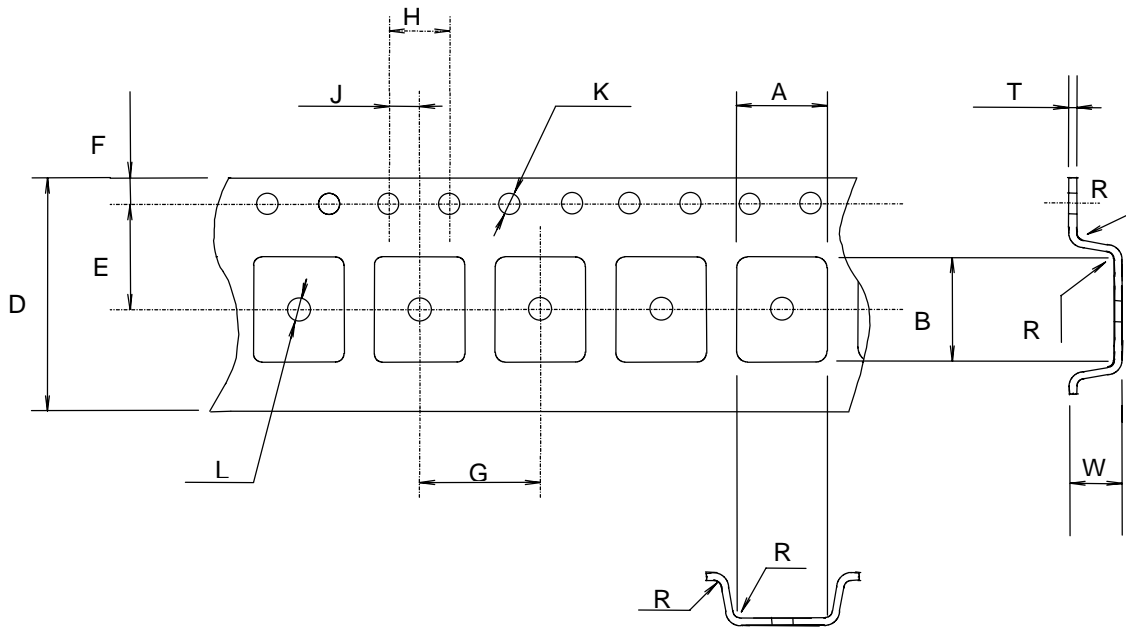
Temperature measurement point is surface of glass epoxy circuit board of 0.8mm thickness.

## 10.Environmental Characteristics

Item	Condition
Humidity	Keep the filter at 40+/-2 deg C and 90%RH to 95%RH for 500 hours. Then, release the filter into the room conditions for 2 hours minimum to the measurement. It shall fulfill the specifications in Table 1.
High Temperature Storage	Subject the filter to 85+/-5 deg C for 500 Hours. Then, release the filter into the room conditions for 2 hours minimum to the measurement. It shall fulfill the specifications in Table 1.
Low Temperature Storage	Subject the filter to -40+/-5 deg C for 500Hours. then, release the filter into the room conditions for 2 hours minimum to the measurement. It shall fulfill the specifications in Table 1.
Resistance to Reflow Solder Heat	Expose filter to increasing temperature with a minimum total exposure above 200 deg C of 40 seconds and must include 2-3 seconds at peak temperature of 235+/-5 deg C, twice. then, release the filter into the room conditions for 2 hours minimum to the measurement. It shall fulfill the specifications in Table 1.
Temperature Cycle	5 Cycles (1 cycles:-20 deg C for 0.5 hours then 60 deg C for 0.5 hours.) then, release the filter into the room conditions for 2 hours minimum to the measurement. It shall fulfill the specifications in Table 1.
Vibration	Subject the filter to vibration for 2hour each In the X,Y and Z axes with the amplitude of 1.5mm, 10 to 55 Hz/min. It shall fulfill the specifications in Table 1.
Mechanical Shock1	Subject the filter to 3 shocks in each direction Of six mutually perpendicular planes (a total of 18 shocks). Each shock shall be a sine wave shaped with a magnitude of 100 G and a duration of 6 m seconds. It shall fulfill the specifications in Table 1.
Mechanical Shock2	Drop the filter randomly onto a concrete floor from the Height of 1m, 3 times. It shall fulfill the specifications in Table 1.

### 11.Taping Specification

#### 11-1.Tape Dimensions



	A	B	D	E	F
Dimensions	2.4+/-0.1	2.9+/-0.1	12.0+/-0.2	5.5+/-0.05	1.75+/-0.1
	G	H	J	K	L
Dimensions	4.0+/-0.1	4.0+/-0.1	2.0+/-0.05	1.5+0.1/-0.0	1.1+/-0.1
	R	W	T		
Dimensions	0.3 MAX	1.2+/-0.1	0.3+/-0.05		

(UNIT:mm)

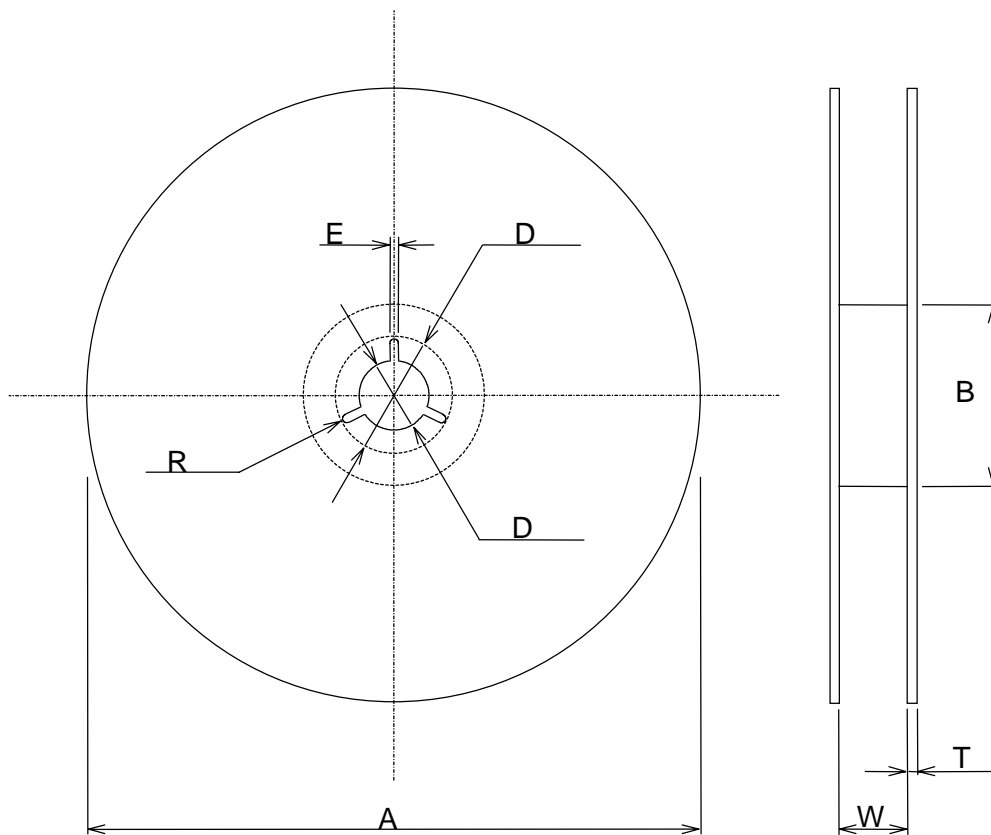


11-2 Taping

11-2-1 Taping Quantity

One reel of tape shall pack 3,000 filters maximum.  
No filter shall be missing and contained continuously in pocket.

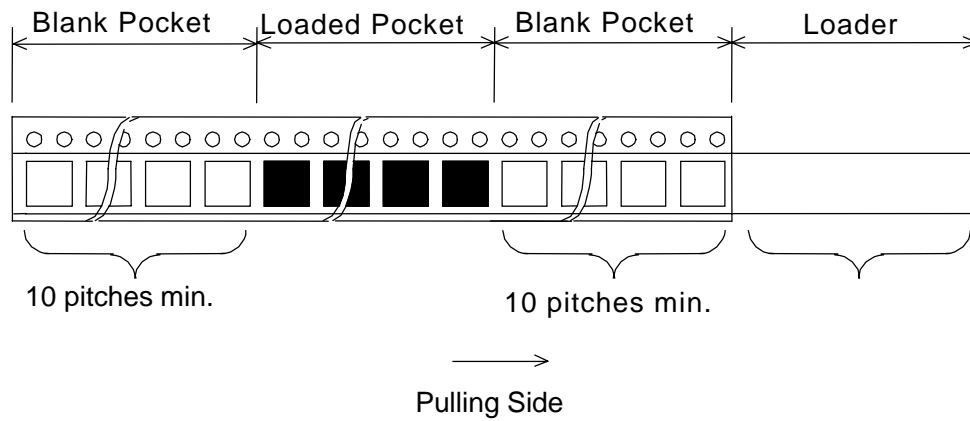
11-2-2 Reel Dimensions



	A	B	C	D
Dimensions	330+/-2	80+/-2	13+/-0.2	21+/-0.8
	E	R	W	T
Dimensions	2+/-0.5	1	13.5+/-1	2.0+/-0.2

( UNIT : mm )

### 11-2-3 Leader and Blank Pocket



Parts Direction



### 11-2-4 Reel Label

Reel label shall be written the followings.

- Parts name
- Lot number
- Quantity
- Shipping date

### 11-2-5 Case Label

Case label shall be written the followings.

- Parts name
- Lot number
- Quantity
- Shipping date

## 12. Precautions in Handling

Static electricity may cause damage.

Care should be taken that such charges are not present in the vicinity.