

# Ceramic Filter kHz SMD Type 4/6 Element Series

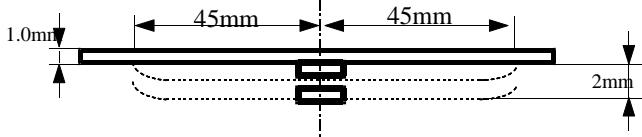
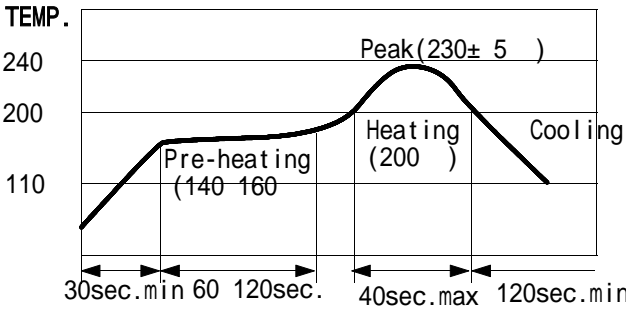
Test Item	Condition of Test	Requirements
1. PCB Bend Strength	<p>The Filter is soldered onto the center of PCB which is laid on the two small supporters spaced 90mm as show in below figure. PCB is deflected to 2mm below from horizontal level. Press with 9.8N(1kgf)</p> 	No mechanical damage and the measured values shall meet Table 1.
2. Vibration	The filter shall be measured after being applied vibration of amplitude to 1.5mm with 600 to 3,300 r.p.m band of vibration frequency to each of 3 perpendicular direction for 1 hour.	The measured values shall meet Table 1.
3. Dropping Shock	The filter shall be measured after total 6 times dropping in each direction of 6 faces on the concrete floor from the 30 cm height.	
4. Temperature Characteristics	The filter shall be measured within -20 to +80 temperature range.	
5. Humidity	After being placed in a chamber at 90 95% R. H.and $40 \pm 2$ for a period of min 100 hours and then being placed in room temperature for min. 24 hours,the filter shall be measured.	
6. Storage in High Temperature	The filter shall be measured after being placed in a chamber with 80 for 100 hours and then being placed in room temperature for min. 24 hours.	
7. Storage in Low Temperature	The filter shall be measured after being placed in a chamber with -30 for 100 hours and then being placed in room temperature for min. 24 hours.	
8. Heat Shock	After temperature cycle from -55 (30 minutes) to +85 (30 minutes) was performed 5 times and then being placed in room temperature for min. 24 hours.	
9. Resistance to Soldering heat Reflow Soldering	<p>The filter shall be measured after soldered once within the following temperature conditions and then being placed in room temperature for min 24 hours.</p> 	

TABLE 1

SMD4 Type				
Electrical Properties	A - Type	B - Type	C- Type	D - Type
Nominal Center Frequency(Fc)	450/455 KHz	450/455 KHz	450/455 KHz	450/455 KHz
6 dB Bandwidth	MIN. $\pm$ 14.0KHz	MIN. $\pm$ 13.0KHz	MIN. $\pm$ 11.0KHz	MIN. $\pm$ 9.0KHz
40 dB Bandwidth	MAX. $\pm$ 42.0KHz	MAX. $\pm$ 36.0KHz	MAX. $\pm$ 32.0KHz	MAX. $\pm$ 21.0KHz
Insertion Loss	MAX. 5 dB	MAX. 5 dB	MAX. 5 dB	MAX. 5 dB
Ripple	MAX. 3 dB	MAX. 3 dB	MAX. 3 dB	MAX. 4 dB
Electrical Properties	E - Type	F - Type	G - Type	H - Type
Nominal Center Frequency(Fc)	450/455 KHz	450/455 KHz	450/455 KHz	450/455 KHz
6 dB Bandwidth	MIN. $\pm$ 6.5KHz	MIN. $\pm$ 5.0KHz	MIN. $\pm$ 4.0KHz	MIN. $\pm$ 2.0KHz
40 dB Bandwidth	MAX. $\pm$ 16.0KHz	MAX. $\pm$ 14.0KHz	MAX. $\pm$ 12.0KHz	MAX. $\pm$ 10.0KHz
Insertion Loss	MAX. 5 dB	MAX. 5 dB	MAX. 5 dB	MAX. 7 dB
Ripple	MAX. 4 dB	MAX. 4 dB	MAX. 4 dB	MAX. 4 dB
SMD6 - Type				
Electrical Properties	B- Type	C - Type	D - Type	E - Type
Nominal Center Frequency(Fc)	450/455 KHz	450/455 KHz	450/455 KHz	450/455 KHz
6 dB Bandwidth	MIN. $\pm$ 11.5KHz	MIN. $\pm$ 11.0KHz	MIN. $\pm$ 9.0KHz	MIN. $\pm$ 6.5KHz
40 dB Bandwidth	MAX. $\pm$ 32.0KHz	MAX. $\pm$ 26.0KHz	MAX. $\pm$ 21.0KHz	MAX. $\pm$ 16.0KHz
Insertion Loss	MAX. 6 dB	MAX. 5 dB	MAX. 5 dB	MAX. 5 dB
Ripple	MAX. 3 dB	MAX. 4 dB	MAX. 4 dB	MAX. 4 dB
Electrical Properties	F - Type	G - Type	H - Type	
Nominal Center Frequency(Fc)	450/455 KHz	450/455 KHz	450/455 KHz	
6 dB Bandwidth	MIN. $\pm$ 5.0KHz	MIN. $\pm$ 4.0KHz	MIN. $\pm$ 2.5KHz	
40 dB Bandwidth	MAX. $\pm$ 14.0KHz	MAX. $\pm$ 11.0KHz	MAX. $\pm$ 10.0KHz	
Insertion Loss	MAX. 5 dB	MAX. 5 dB	MAX. 7 dB	
Ripple	MAX. 4 dB	MAX. 4 dB	MAX. 4 dB	