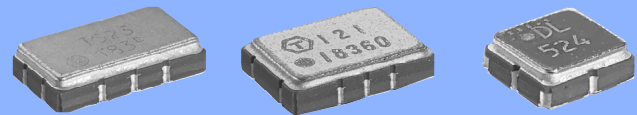


SAW FILTER FOR CELLULAR / IF

TQS-465AA-7R TQS-663AA-7R TQS-477AA-7R

- Excellent performance in small size with original design algorithm.
- Lead(Pb)-free : Lead free completely



Actual size

TQS-465AA-7R

TQS-663AA-7R

TQS-477AA-7R



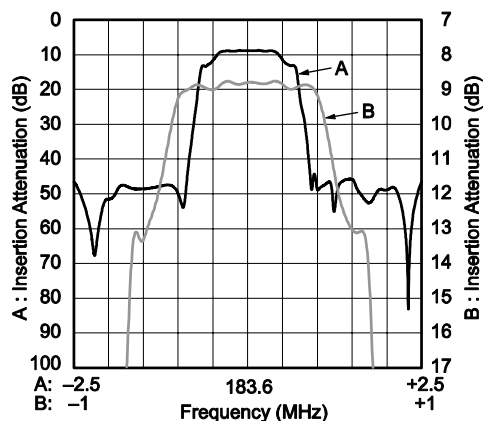
Specifications (characteristics)

Item	Symbol	TQS-465AA-7R	TQS-663AA-7R	TQS-477AA-7R
Nominal frequency	f_0	183.6 MHz	183.6 MHz	190 MHz
Storage temperature range	T_{stg}	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
Operating temperature range	T_{use}	-30 °C to +85 °C	-30 °C to +85 °C	-30 °C to +85 °C
Passband	BW	$f_0 \pm 615$ kHz Min. (5 dB relative to IL at f_0)	$f_0 \pm 11$ kHz Min. (5 dB relative to minimum IL)	$f_0 \pm 2.3$ MHz Min. (3 dB relative to IL at f_0)
Insertion loss	IL	11 dB Max. (at f_0)*	5 dB Max. (minimum IL)	7 dB Max. (at f_0)
Deviation in PB	DEV	1.2 dB Max.	—	—
Ripple	Ri	1.2 dB Max.	2 dB Max.	2 dB Max. ($f_0 - 2$ MHz to $f_0 + 2$ MHz)
Group delay distortion	GDD	—	10 μ s Max.	100 ns Max. ($f_0 - 2$ MHz to $f_0 + 2$ MHz)
Phase linearity	PHL	3.2 deg rms Max.	—	—
Stop band attenuation	—	$f_0 \pm 0.9$ MHz : 33 dB Min. $f_0 \pm 1.25$ MHz : 33 dB Min. $f_0 \pm 1.7$ MHz : 33 dB Min. $f_0 \pm 2.05$ MHz : 33 dB Min. 10 MHz to $f_0 - 9$ MHz : 40 dB Min. $f_0 + 9$ MHz to $f_0 + 15$ MHz : 35 dB Min. $f_0 + 15$ MHz to $f_0 + 100$ MHz : 45 dB Min. (relative to IL at f_0)	$f_0 \pm 60$ kHz : 8 dB Min. $f_0 \pm 120$ kHz : 35 dB Min. $f_0 \pm 1$ MHz : 60 dB Min. (relative to minimum IL)	$f_0 - 100$ MHz to $f_0 - 12.5$ MHz : 40 dB Min. $f_0 - 12.5$ MHz to $f_0 - 7.5$ MHz : 25 dB Min. $f_0 - 7.5$ MHz to $f_0 - 5$ MHz : 10 dB Min. $f_0 + 5$ MHz to $f_0 + 7.5$ MHz : 10 dB Min. $f_0 + 7.5$ MHz to $f_0 + 12.5$ MHz : 25 dB Min. $f_0 + 12.5$ MHz to $f_0 + 100$ MHz : 40 dB Min. (relative to IL at f_0)
Terminating impedance	Z	Input : 1020 Ω $\pm$ 2.5 pF (Balanced or Unbalanced) Output : 810 Ω $\pm$ 4.4 pF (Balanced or Unbalanced)	Input : 450 Ω $\pm$ 0.04 pF (Unbalanced) Output : 450 Ω $\pm$ 0.04 pF (Unbalanced)	Input : 1000 Ω $\pm$ 5.0 pF (Balanced or Unbalanced) Output : 1000 Ω $\pm$ 4.0 pF (Balanced or Unbalanced)
Package	—	SS-631(A)	SS-752(E)	SS-30S1(DE)

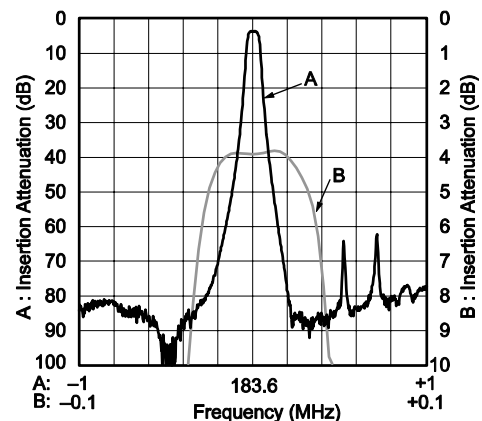
* Includes losses in matching circuit (Matching inductor size : 1.6 × 0.8 mm)

Electrical DATA

●TQS-465AA-7R

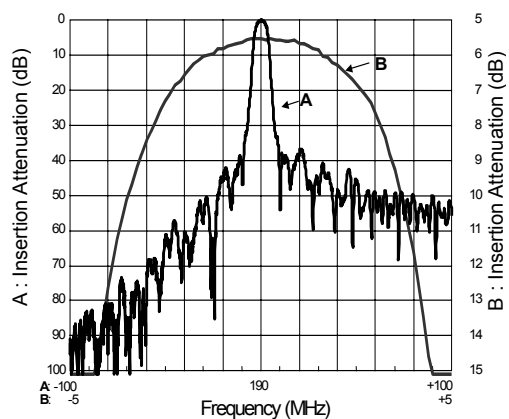


●TQS-663AA-7R



Electrical DATA

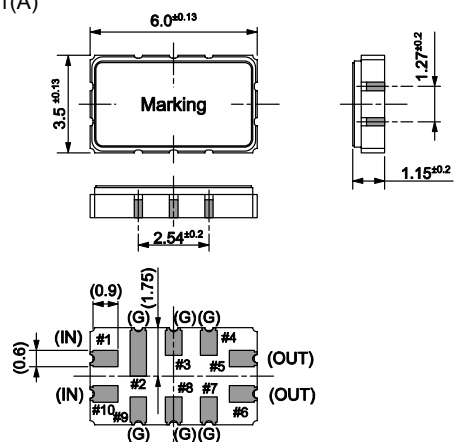
●TQS-477AA-7R



External dimensions

(Unit :mm)

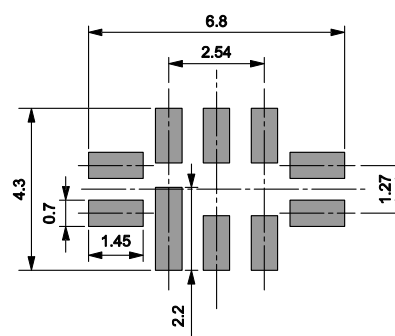
●SS-631(A)



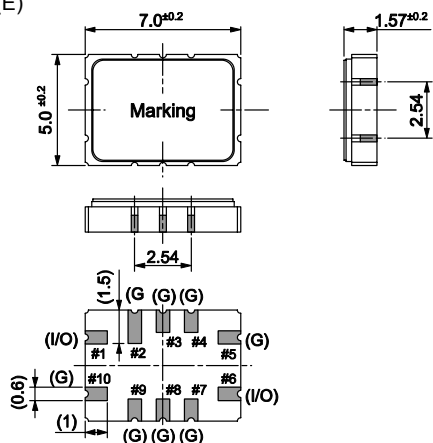
Footprint (Recommended)

(Unit :mm)

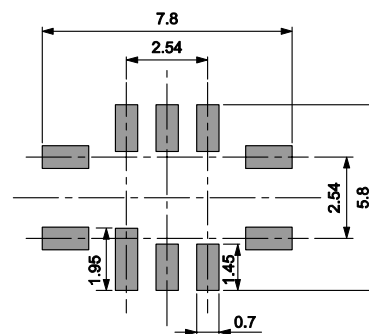
●SS-631(A)



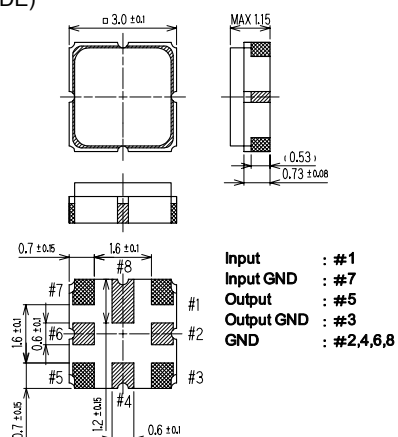
●SS-752(E)



●SS-752(E)



●SS-30S1(DE)



●SS-30S1(DE)

