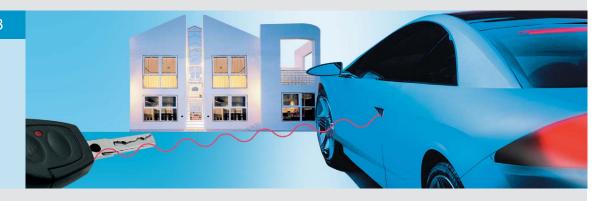


Product Brief 2008





Surface Acoustic Wave Components

for RF Control Systems

What are SAW components used for?

In remote control applications, SAW resonators provide stable frequencies for the RF carrier signal to transmit data over a range of 10 to 300 m or for the local oscillators of superhet receivers. The front-end filter in the receiver eliminates interference from the incoming RF signal, thus increasing selectivity and sensitivity in short-range devices.

Benefits

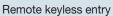
- SAW resonators with tight frequency tolerances: ±75/±50 kHz
- Identical pinning for all standard frequencies in each package size
- Hermetically sealed SMD packages
- Extended operating temperature range from −40 °C up to +125 °C

- Improved shock and vibration strength thanks to stress-free cold seam-welding of the metal lid
- Patented passivation technologies for enhanced reliability
- 100% final examination
- All EPCOS factories are certified to automotive standard ISO/TS 16949
- Component qualification to automotive test procedure AEC-Q200
- Full level 3 PPAP available
- Unique production know-how and volume benefits from the world market leader in SAW components
- Compliant to EU RoHS Directive (2002/95/EC)
- Lead-free soldering compatible with J-STD 20C
- Helps to fulfill ETSI EN 300 220 and FCC Part 15

Applications

Automotive







Tire-pressure monitoring



Automotive telematics / navigation

Security and access



Fire alarm, burglar alarm



Automotive toll systems



Container tagging

Home convenience



Wireless switches



Advanced metering infrastructure



Garage-door openers

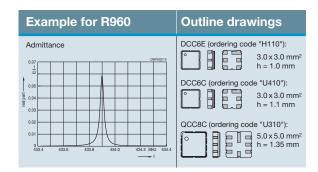


Wireless audio



Remote controls

Resonators



General characteristics

■ Center frequency tolerance: ±50 kHz; ±75 kHz

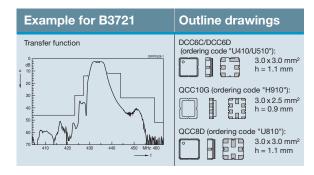
■ Insertion loss: < 1.5 dB (typ.)</p>

■ Substrate: Quartz

■ Package: DCC6E, QCC8C

Main representatives				
f _c [MHz]	f _c tolerance [kHz]	Ordering code	Remark	
315.00	±75	B39321 R0901 H110	USA, China	
315.00	±50	B39321 R0961 H110	USA, China (RKE)	
315.04	±50	B39321 R0963 H110	USA (TPM)	
433.42	±75	B39431 R0904 U410	Europe	
433.92	±75	B39431 R0920 H110	Europe, China	
433.92	±50	B39431 R0960 H110	Europe, China (RKE)	
433.95	±50	B39431 R0962 H110	Europe (TPM)	
915.00	±350	B39921 R2906 H110	USA 2 port	
314.875/ 315.125	±50	B39311 R0771 U310	USA (RKE) 2 in 1	
433.795/ 434.045	±50	B39431 R0770 U310	Europe (RKE) 2 in 1	
868.35	±100	B39871 R0958 H110	Europe	
1176.00	±300	B39122 R0959 H110	World	

Wideband Filters



General characteristics

■ Usable bandwidth: Typically 1 to 3 MHz

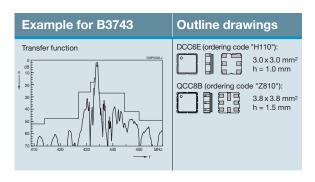
Substrate: Lithium tantalate
Input/output impedance: 50 Ω
Selectivity: High ultimate rejection

Remarks: Excellent for fixed frequency and channelized systems, low insertion attenuation
Package: DCC6C, DCC6D, QCC8D, QCC10G

Main representatives				
f _c [MHz]	Usable bandwidth [MHz]	Ordering code	Remark	
312.20	0.6	B39311 B3712 U410	Japan	
315.00	1.0	B39321 B3722 U410	USA, China	
433.92	1.6	B39431 B3721 U410	Europe, China	
864.00	3.0	B39861 B3563 U410	Europe	
866.50	7.0	B39871 B3717 U410	Europe (RFID)	
869.00	2.0	B39871 B3716 U410	Europe	
915.00	26.0	B39921 B3588 U410	USA (Meter Reading)	
881.50/ 942.50	25.0/ 35.0	B39941 B3514 H910	Telematics Dual band	
1575.00	2.0	B39162 B3521 U410	GPS unb./unb., high selectivity	
1575.00	2.4	B39162 B3520 U410	GPS unb./unb., low IA*	
1575.00	2.4	B39162 B4060 U810	GPS unb./bal., low IA*	
1575.00	2.4	B39162 B4050 U510	GPS unb./bal., high selectivity	
1575.42/ 2326.25	2.046/ 12.5	B39232 B3526 U510	GPS/SDARS Diplexer	
1601.50	17.0	B39162 B3529 U410	Russia (Glonass)	
1842.50/ 1960.00	75.0/ 60.0	B39202 B3515 H910	Telematics Dual band	
2450.00	97.0	B39252 B4041 U410	World (ISM)	

^{*} Insertion attenuation

Narrowband Filters

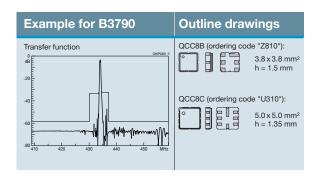


General characteristics

- Usable bandwidth: Approximately 0.3 to 0.6 MHz
- Substrate: Quartz
- Input/output impedance: $> 50 \Omega$ Selectivity: Excellent nearby rejection
- Package: DCC6E, QCC8B

Main representatives				
f _c [MHz]	Usable bandwidth [MHz]	Ordering code	Remark	
315.00	0.36	B39321 B3741 H110	USA, China	
315.00	0.36	B39321 B3761 Z810	USA, China	
315.00	0.55	B39321 B3781 Z810	USA, China (multi channel)	
315.00	1.1	B39321 B3783 Z810	USA, China (multi channel)	
433.42	0.24	B39431 B3735 H110	Europe	
433.92	0.34	B39431 B3743 H110	Europe, China	
433.92	0.36	B39431 B3760 Z810	Europe, China	
433.92	0.36	B39431 B3732 H110	Europe, China	
433.92	0.55	B39431 B3780 Z810	Europe, China (multi channel)	
433.92	1.1	B39431 B3782 Z810	Europe, China (multi channel)	
447.725	0.29	B39451 B3737 H110	Korea	
868.30	0.30	B39871 B3734 H110	Europe	
868.30	0.60	B39871 B3744 H110	Europe	

Ultra-Narrowband Filters



Main representatives					
f _c [MHz]	Usable bandwidth [MHz]	Ordering code	Remark		
315.00	0.10	B39321 B3792 Z810	USA, China		
433.42	0.24	B39431 B3791 Z810	Europe		
433.92	0.12	B39431 B3790 Z810	Europe, China		
868.30	0.28	B39971 B3574 U310	Europe		
868.45	0.30	B39871 B3793 Z810	Europe		

General characteristics

- Usable bandwidth: Approximately 0.1 to 0.3 MHz
- Substrate: Quartz
- Input/output impedance: $> 50~\Omega$
- Selectivity: Very steep skirts

- Remarks: Excellent image-frequency rejection;
 - external coupling coil required
- Package: QCC8B, QCC8C

Important information: Some parts of this publication contain statements about the suitability of our products for certain areas of application. These statements are based on our knowledge of typical requirements that are often placed on our products. We expressly point out that these statements cannot be regarded as binding statements about the suitability of our products for a particular customer application. It is incumbent on the customer to check and decide whether a product is suitable for use in a particular application. This publication is only a brief product survey which may be changed from time to time. Our products are described in detail in our data sheets. The Important Notes (www.epcos.com/ImportantNotes) and the product-specific warnings and cautions must be observed. All relevant information is available through our sales offices.