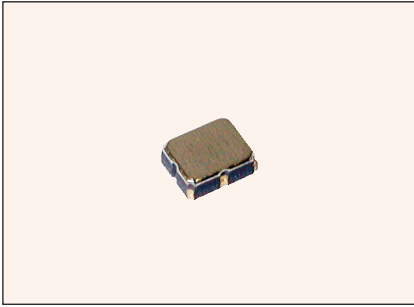


Surface Acoustic Wave Filter (SAW Filter)



TQS-507A-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- High selectivity

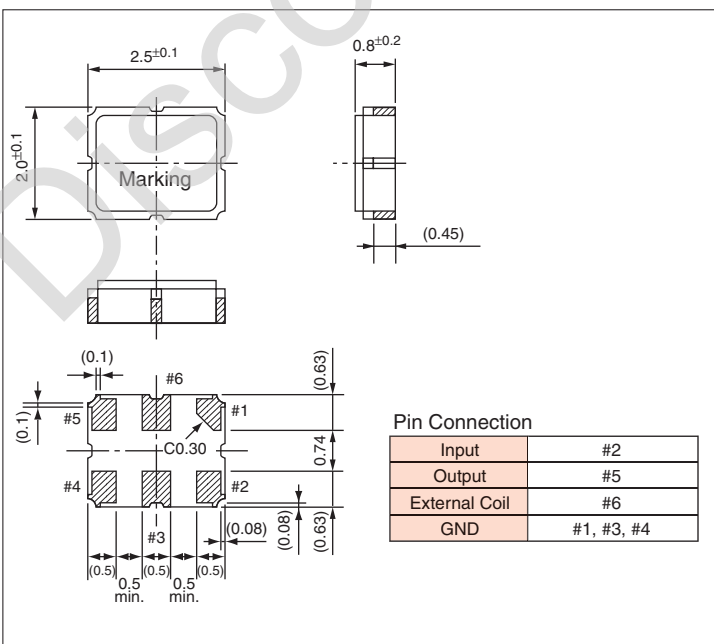
Application

- RF filter for Cellular Phone N-CDMA system (Rx)

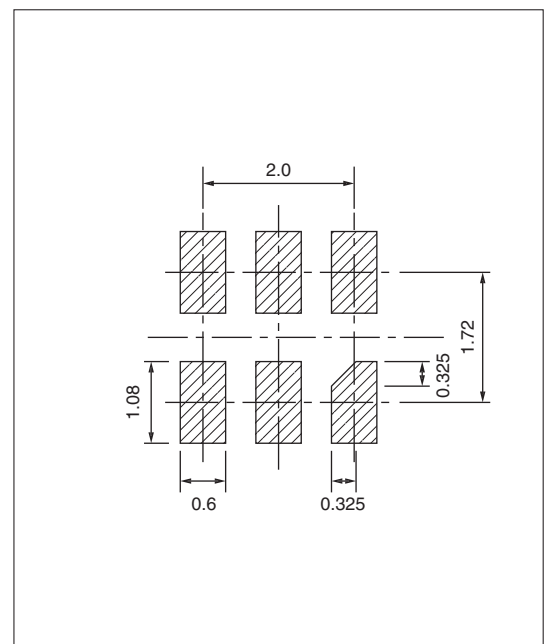
Specifications

Type	TQS-507A-7G
Nominal frequency	851 MHz
Pass band	832 to 870 MHz
Insertion loss	4.0 dB max.
Pass band ripple	2.0 dB max.
VSWR	3.0 max.
Stop band attenuation (Referred to through Level)	
608 to 651 MHz	48 dB min.
702 to 761 MHz	45 dB min.
887 to 925 MHz	18 dB min.
Terminating impedance	Input : 50 Ω , Output : 50 Ω External coil : 8.2nH
Operating temperature range)	-20 °C to +75 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]

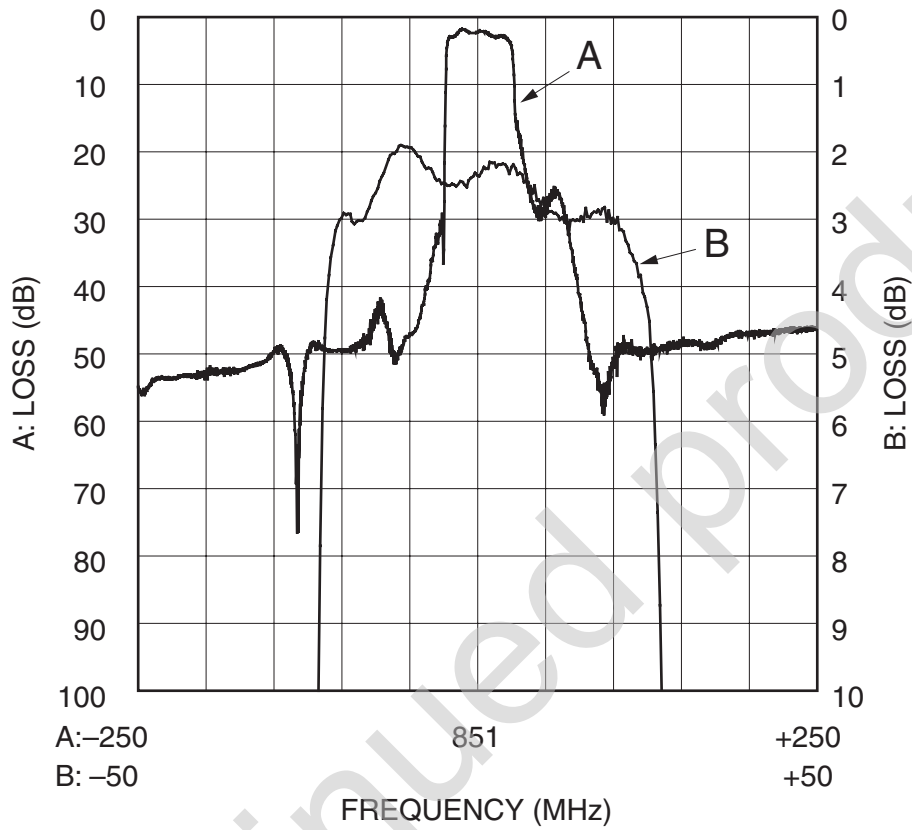


Surface Acoustic Wave Filter (SAW Filter)

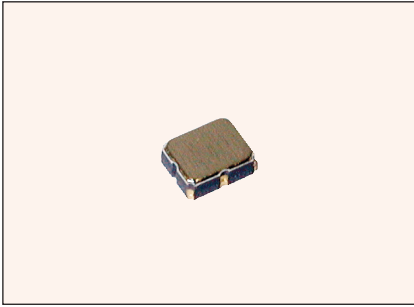
RF Filter for Cellular Phone
N-CDMA system (Rx)

TQS-507A-7G
851 MHz

■ Electrical Data



Surface Acoustic Wave Filter (SAW Filter)



TQS-508A-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- High selectivity

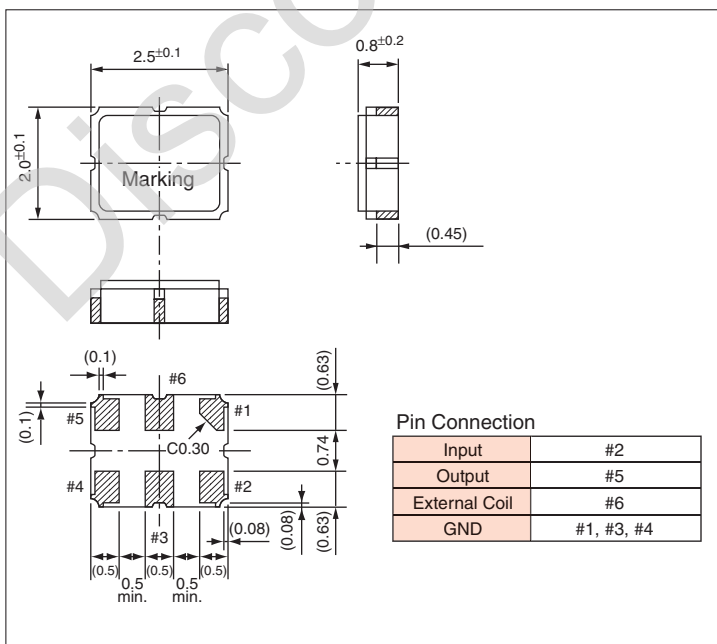
Application

- RF filter for Cellular Phone N-CDMA system (Tx)

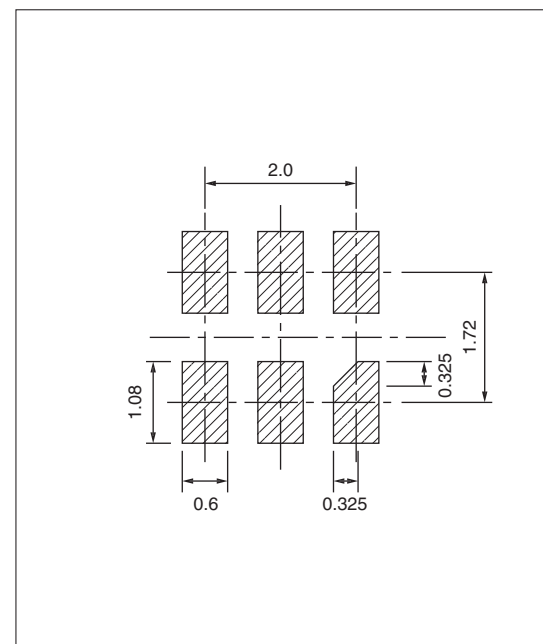
Specifications

Type	TQS-508A-7G
Nominal frequency	906 MHz
Pass band	887 to 925 MHz
Insertion loss	4.0 dB max.
Pass band ripple	2.0 dB max.
VSWR	3.0 max.
Stop band attenuation (Referred to through Level)	
DC to 761 MHz	45 dB min.
761 to 870 MHz	38 dB min.
1051 to 1092 MHz	40 dB min.
1092 to 3000 MHz	25 dB min.
Terminating impedance	Input : 50 Ω , Output : 50 Ω External coil : 8.2nH
Operating temperature range)	-20 °C to +75 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]

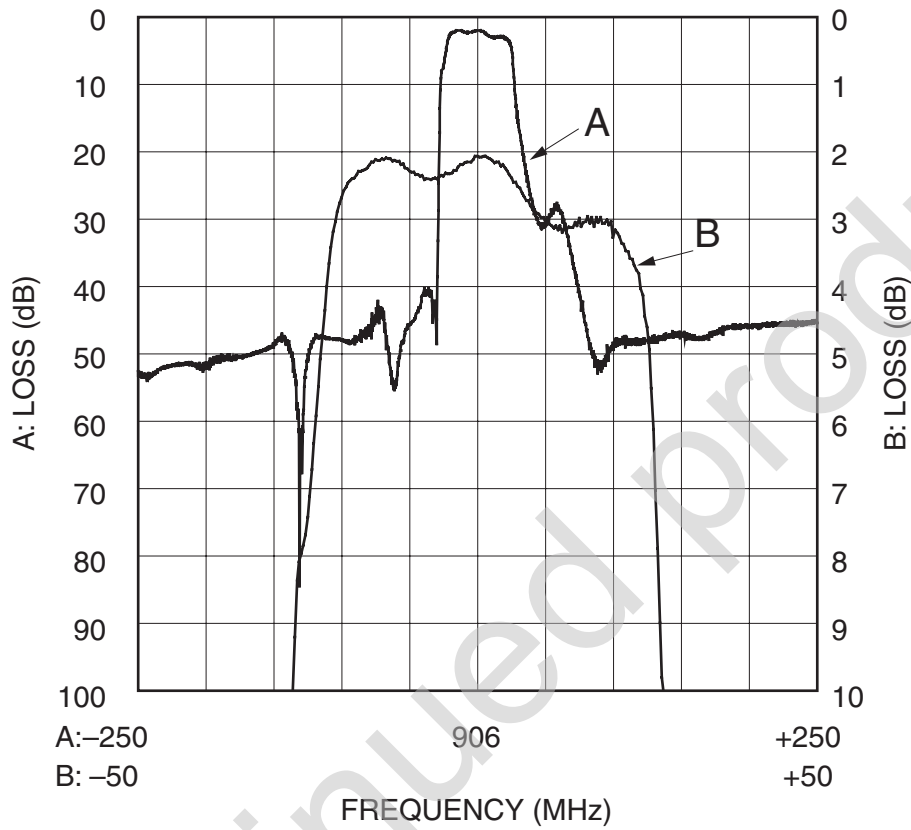


Surface Acoustic Wave Filter (SAW Filter)

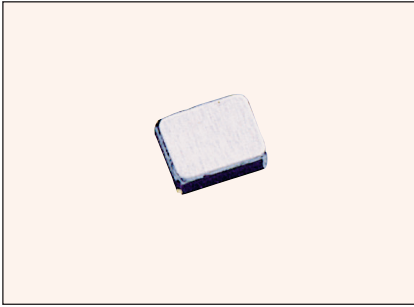
RF Filter for Cellular Phone
N-CDMA system (Tx)

TQS-508A-7G
906 MHz

■ Electrical Data



Surface Acoustic Wave Filter (SAW Filter)



TQS-509A-7G

■ Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- High selectivity

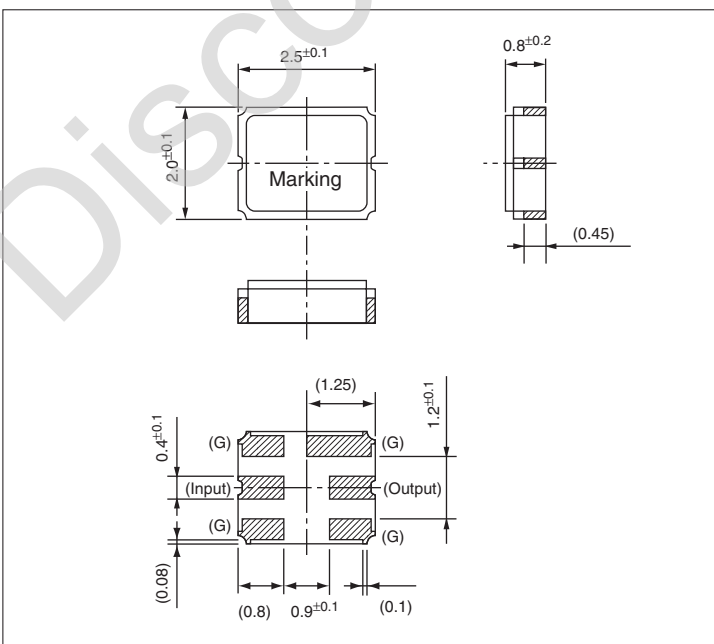
■ Application

- RF filter for Cellular Phone N-CDMA system (Rx)

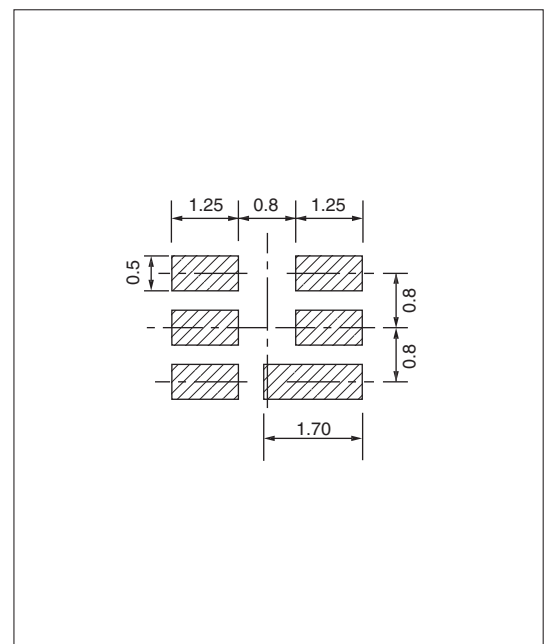
■ Specifications

Type	TQS-509A-7G
Nominal frequency	851 MHz
Pass band	832 to 870 MHz
Insertion loss	3.0 dB max.
Pass band ripple	2.0 dB max.
VSWR	2.5 max.
Stop band attenuation (Referred to through Level)	
608 to 651 MHz	40 dB min.
720 to 761 MHz	30 dB min.
887 to 925 MHz	18 dB min.
Terminating impedance	Input : 50 Ω/12nH , Output : 50 Ω
Operating temperature range	-20 °C to +75 °C

■ Package Outlines [Dimensions in mm]



■ Footprint [Dimensions in mm]

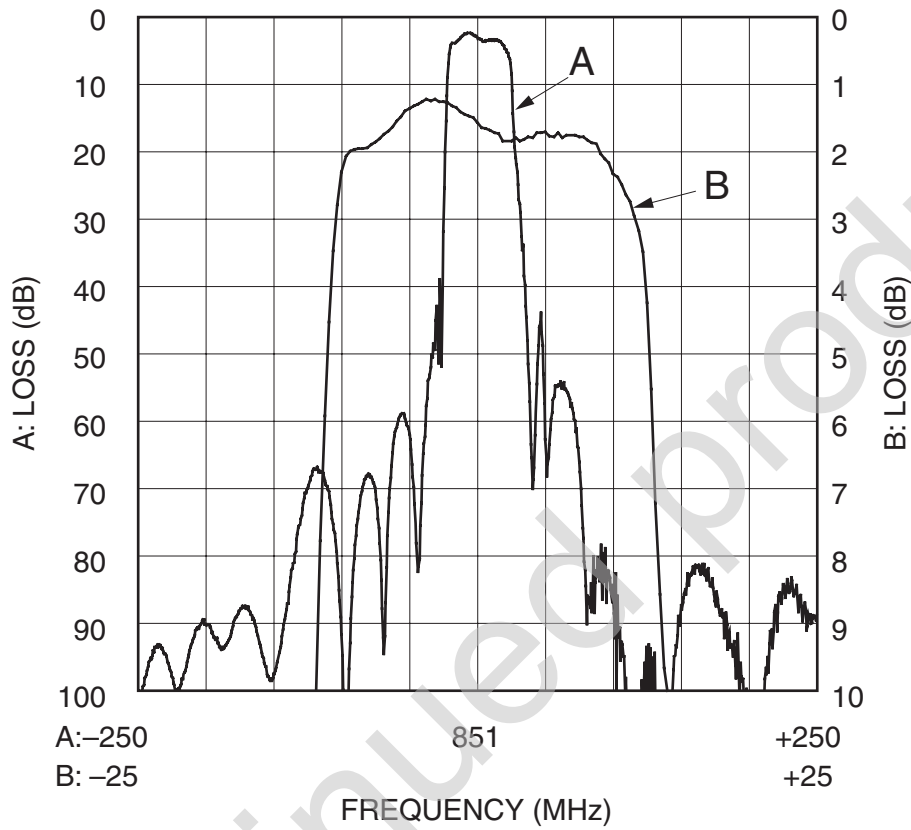


Surface Acoustic Wave Filter (SAW Filter)

RF Filter for Cellular Phone
N-CDMA system (Rx)

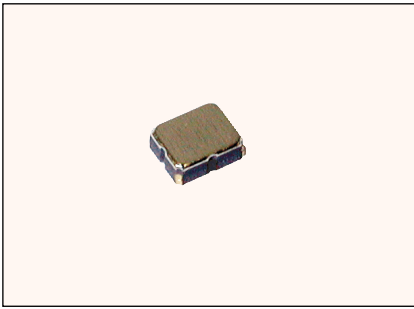
TQS-509A-7G
851 MHz

■ Electrical Data



Discontinued Product

Surface Acoustic Wave Filter (SAW Filter)



TQS-513A-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- High attenuation

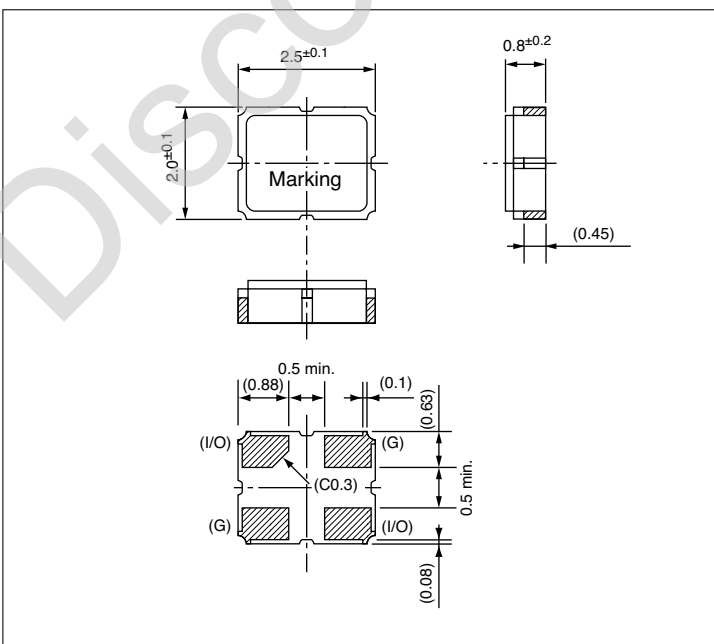
Application

- RF filter for Cellular Phone E-GSM system (Rx)

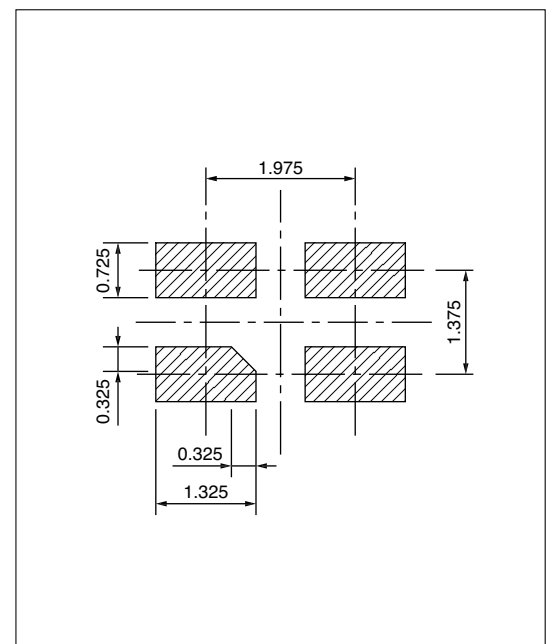
Specifications

Type	TQS-513A-7G
Nominal frequency	942.5 MHz
Pass band	925 to 960 MHz
Insertion loss	2.7 dB max.
Pass band ripple	1.5 dB max.
VSWR	2.3 max.
Stop band attenuation (Referred to through Level)	
DC to 880 MHz	45 dB min.
880 to 915 MHz	20 dB min.
980 to 1100 MHz	25 dB min.
1100 to 1500 MHz	45 dB min.
1500 to 2000 MHz	35 dB min.
Terminating impedance	50 Ω
Operating temperature range	-20 °C to +75 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]

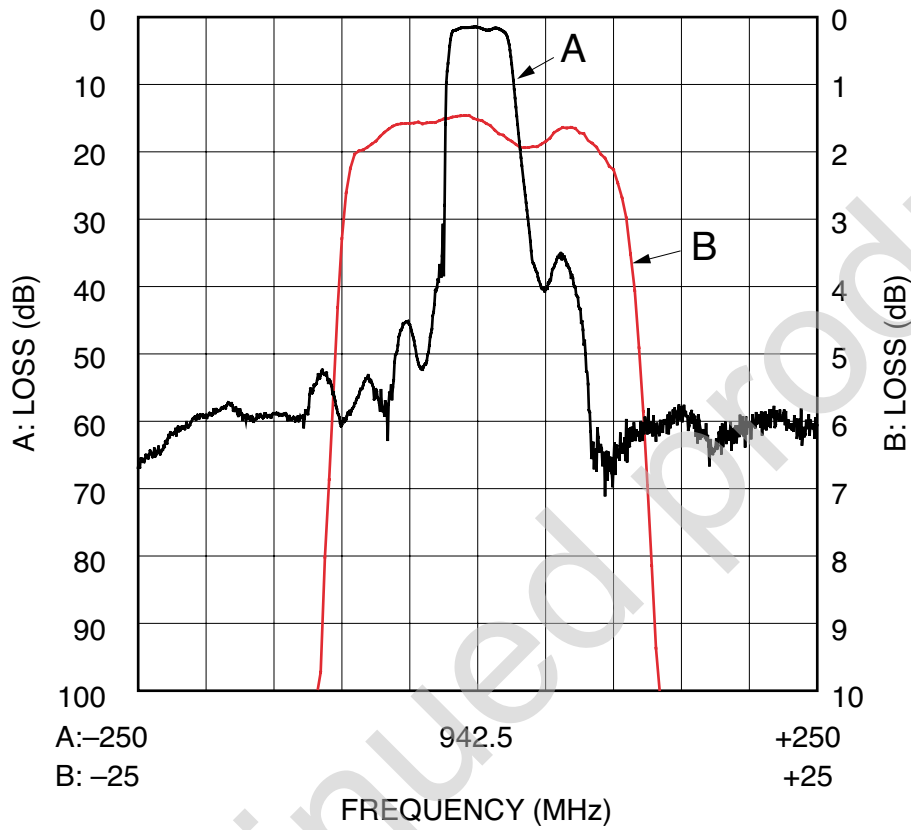


Surface Acoustic Wave Filter (SAW Filter)

RF Filter for Cellular Phone
E-GSM system (Rx)

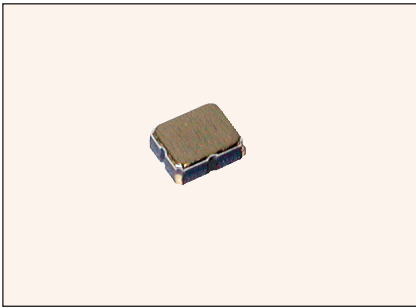
TQS-513A-7G
942.5 MHz

■ Electrical Data



Discontinued Product

Surface Acoustic Wave Filter (SAW Filter)



TQS-515A-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- High attenuation

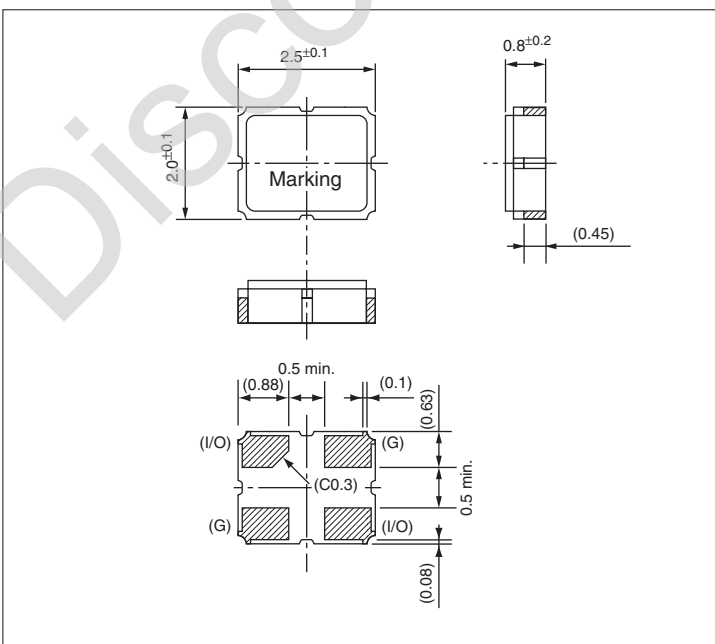
Application

- RF filter for Cellular Phone
AMPS / TDMA / CDMA (Tx)

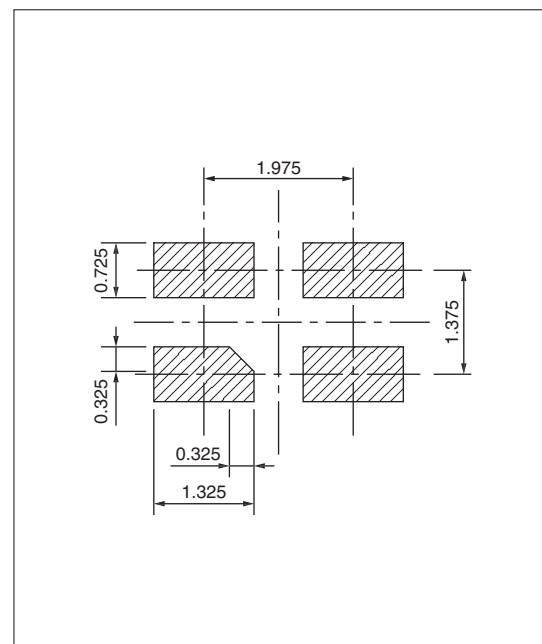
Specifications

Type	TQS-515A-7G
Nominal frequency	836.5 MHz
Pass band	824 to 849 MHz
Insertion loss	3.3 dB max.
Pass band ripple	1.8 dB max.
VSWR	2.2 max.
Stop band attenuation (Referred to through Level)	
DC to 800 MHz	45 dB min.
869 to 910 MHz	27 dB min.
910 to 2000 MHz	40 dB min.
2000 to 3000 MHz	20 dB min.
Terminating impedance	50 Ω
Operating temperature range	-30 °C to +85 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]

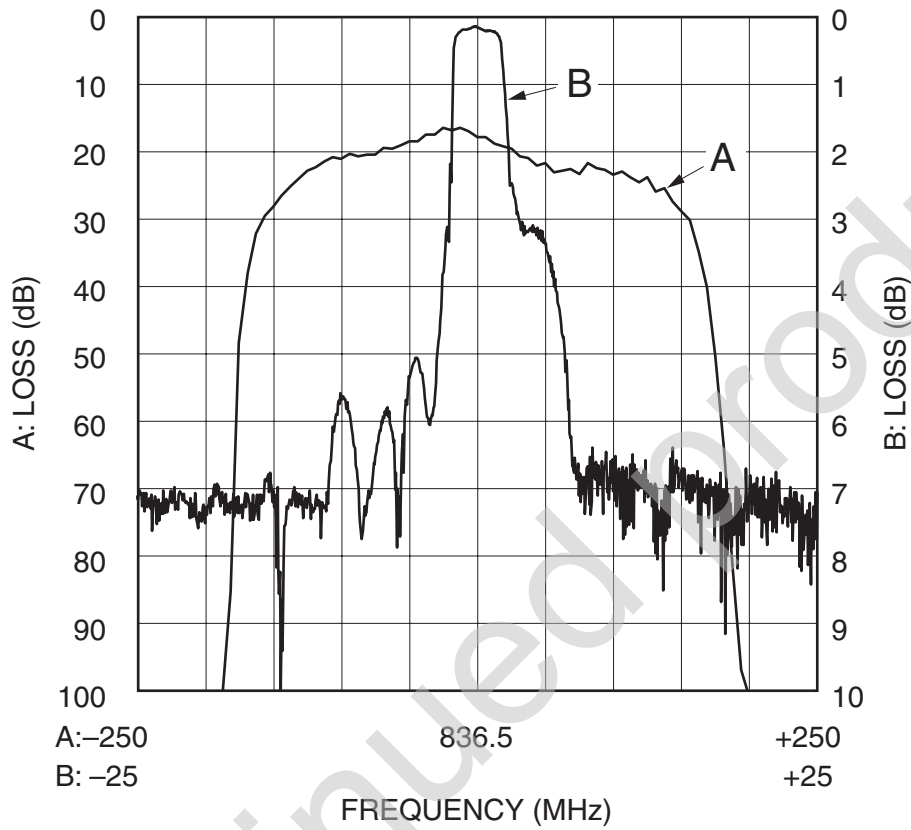


Surface Acoustic Wave Filter (SAW Filter)

RF Filter for Cellular Phone
 AMPS / TDMA / CDMA system (Tx)

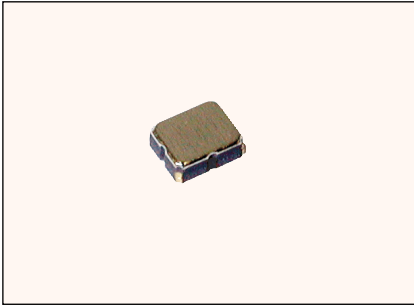
TQS-515A-7G
 836.5 MHz

■ Electrical Data



Discontinued Product

Surface Acoustic Wave Filter (SAW Filter)



TQS-516C-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- High attenuation

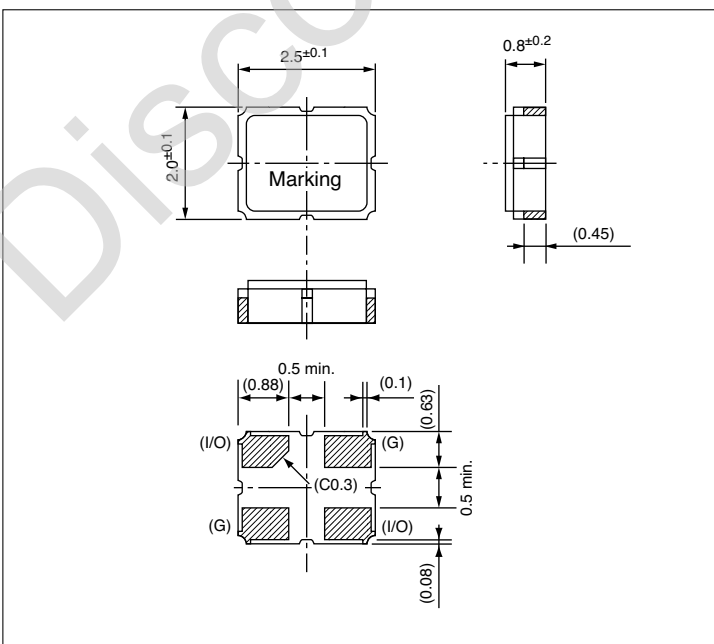
Application

- RF filter for Cellular Phone
AMPS / TDMA / CDMA (Rx)

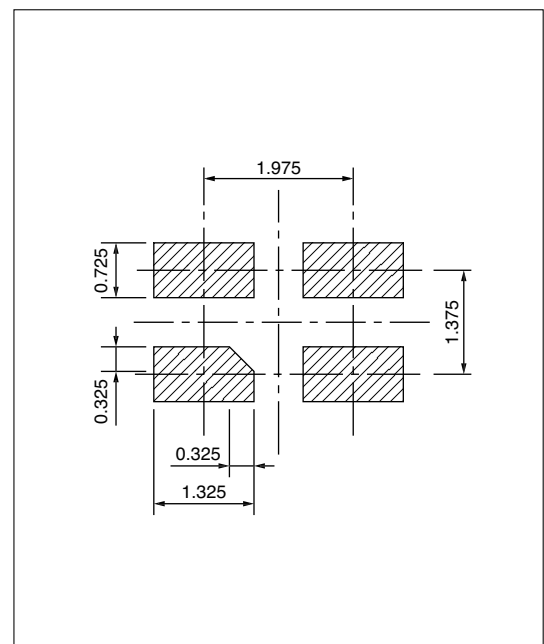
Specifications

Type	TQS-516C-7G
Nominal frequency	881.5 MHz
Pass band	869 to 894 MHz
Insertion loss	2.5 dB max.
Pass band ripple	1.5 dB max.
VSWR	2.0 max.
Stop band attenuation (Referred to through Level)	
DC to 849 MHz	40 dB min.
914 to 954 MHz	24 dB min.
954 to 1200 MHz	50 dB min.
1200 to 2000 MHz	40 dB min.
2000 to 3000 MHz	20 dB min.
Terminating impedance	50 Ω
Operating temperature range	-30 °C to +85 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]

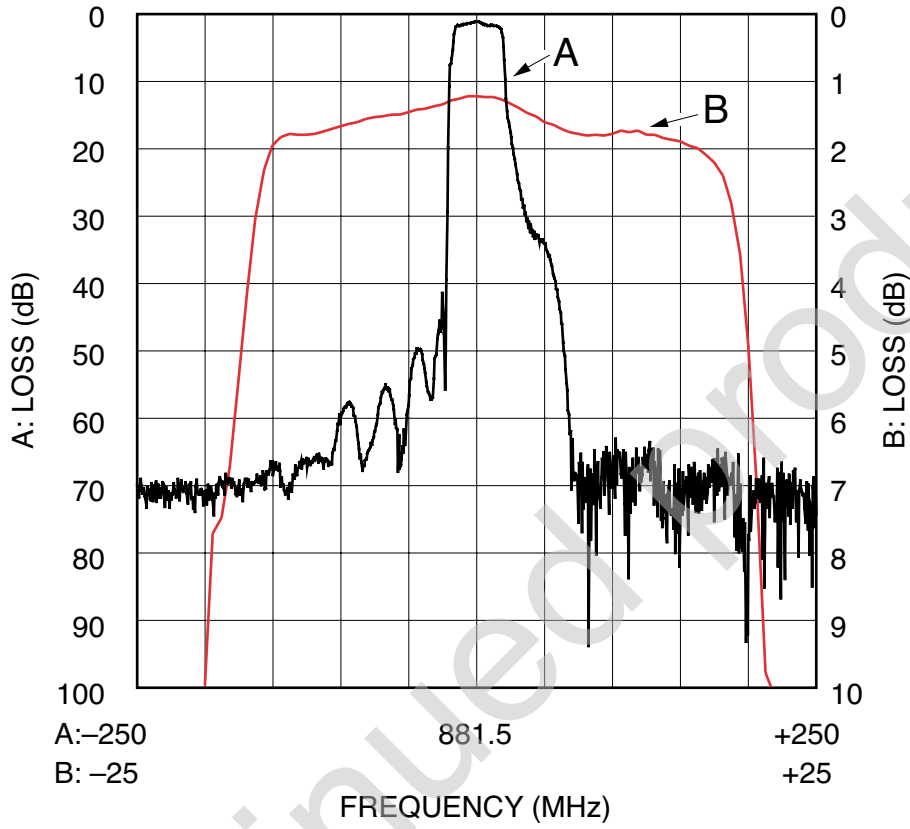


Surface Acoustic Wave Filter (SAW Filter)

RF Filter for Cellular Phone
 AMPS / TDMA / CDMA system (Rx)

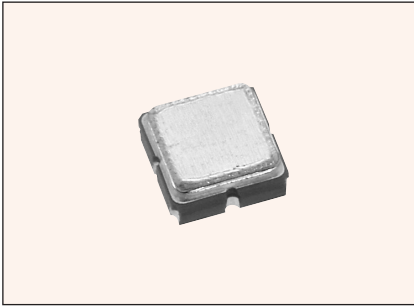
TQS-516C-7G
 881.5 MHz

■ Electrical Data



Discontinued Product

Surface Acoustic Wave Filter (SAW Filter)



TQS-517A-7R

■ Features

- Miniature size : 3.0(W) x 3.0(D) x 1.1(H)mm
- High selectivity
- Dual Filter

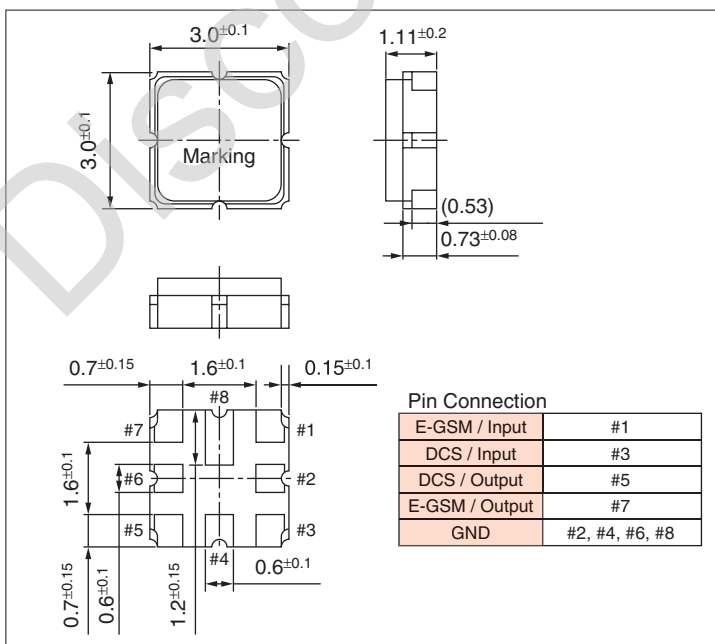
■ Application

- RF Dual Filter for Cellular Phone E-GSM and DCS system (Rx)

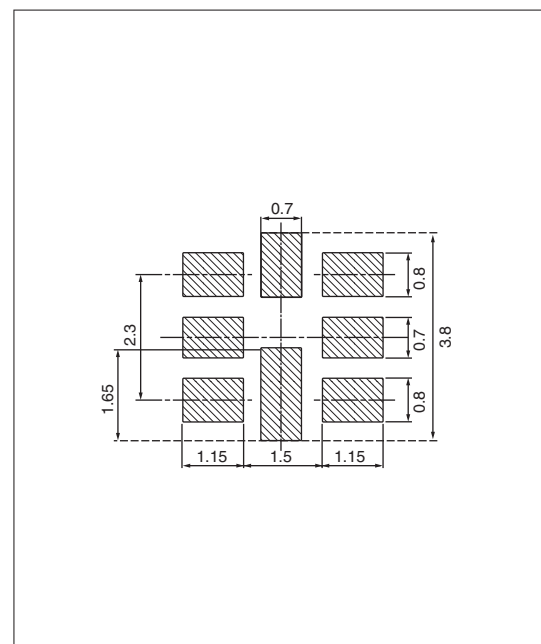
■ Specifications

Type	TQS-517A-7R	
Nominal frequency	942.5 MHz : E-GSM	1842.5 MHz : DCS
Pass band	925 to 960 MHz	1,805 to 1,880 MHz
Insertion loss	3.0 dB max.	4.0 dB max.
Pass band ripple	2.0 dB max.	2.0 dB max.
Stop band attenuation (Referred to through Level)	DC to 905 MHz : 22 dB min. 905 to 915 MHz : 10 dB min. 980 to 1,050 MHz : 13 dB min. 1,050 to 2,500 MHz : 25 dB min. 2,500 to 3,000 MHz : 15 dB min.	DC to 1,710 MHz : 25 dB min. 1,710 to 1,785 MHz : 12 dB min. 1,920 to 1,980 MHz : 14 dB min. 1,980 to 3,000 MHz : 15 dB min.
Terminating impedance	Input : 50 Ω , Output : 50 Ω	Input : 50 Ω , Output : 50 Ω
Operating temperature range)	-20 °C to +75 °C	

■ Package Outlines [Dimensions in mm]



■ Footprint [Dimensions in mm]

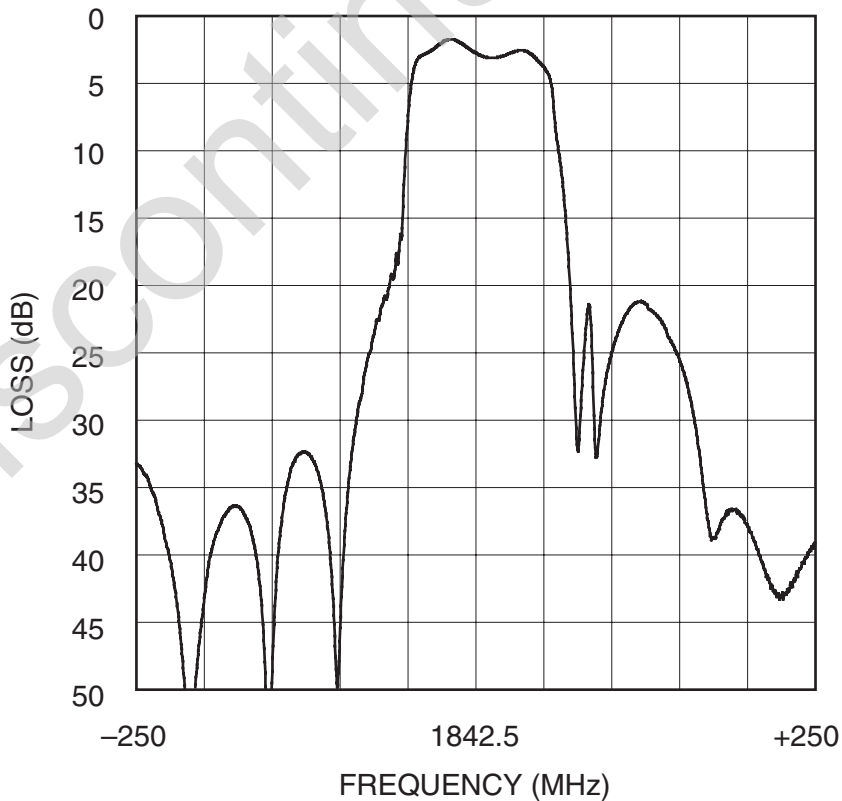
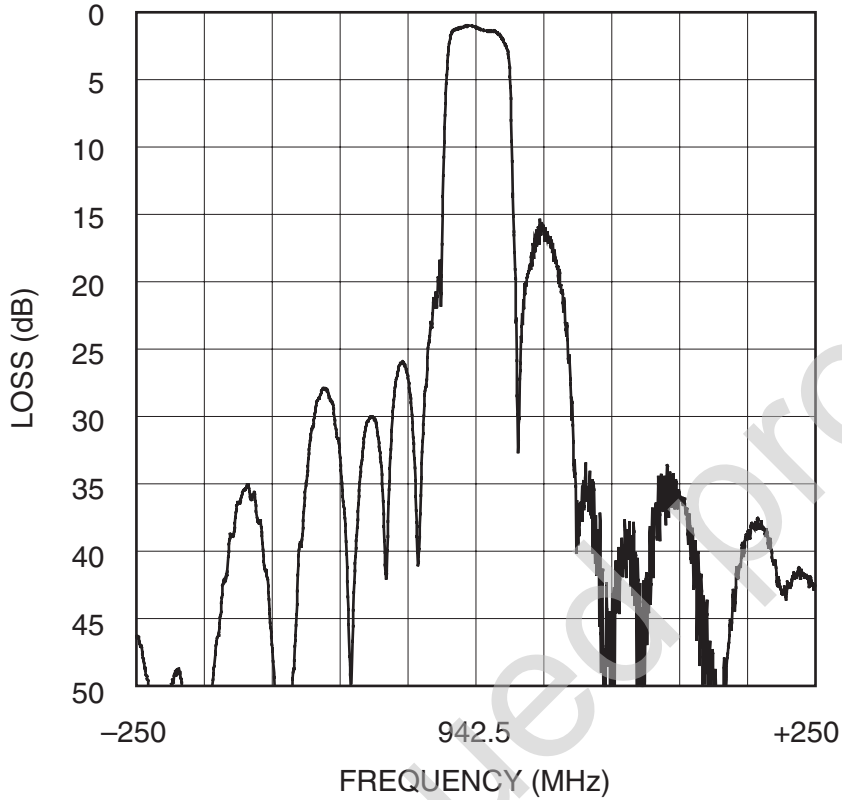


Surface Acoustic Wave Filter (SAW Filter)

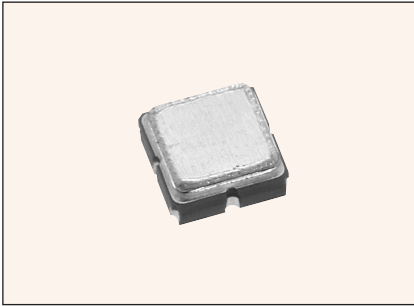
RF Dual Filter for Cellular Phone
E-GSM and DCS system (Rx)

TQS-517A-7R
942.5 and 1842.5 MHz

■ Electrical Data



Surface Acoustic Wave Filter (SAW Filter)



TQS-520A-7R

Features

- Miniature size : 3.0(W) x 3.0(D) x 1.1(H)mm
- High selectivity
- Dual Filter

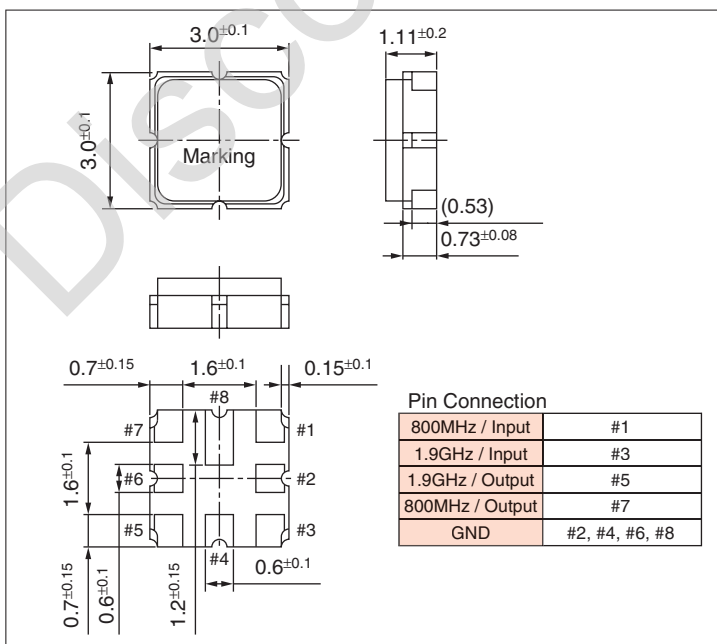
Application

- RF Dual Filter for Cellular Phone
AMPS / CDMA / TDMA / GSM system (Rx)

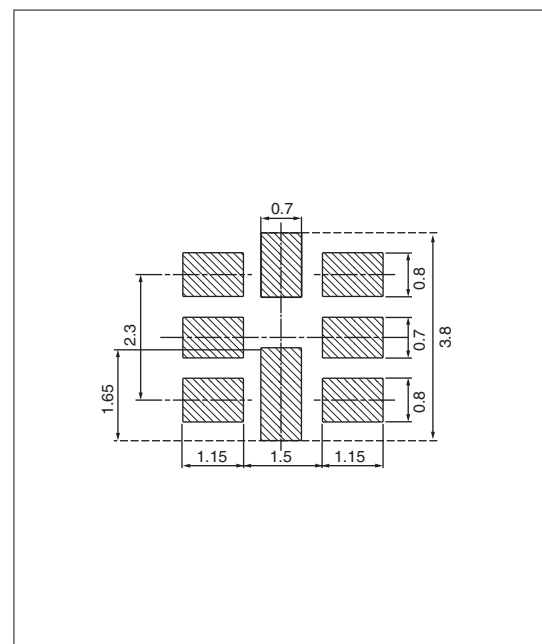
Specifications

Type	TQS-520A-7R	
Frequency range	800 MHz	1.9 GHz
Pass band	869 to 894 MHz	1,930 to 1,990 MHz
Insertion loss	3.3 dB max.	3.5 dB max.
Pass band ripple	2.0 dB max.	2.0 dB max.
VSWR in pass band	2.0 dB max.	3.0 dB max.
Stop band attenuation (Referred to through Level)	DC to 849 MHz : 40 dB min. 914 to 954 MHz : 27 dB min. 954 to 1,500 MHz : 40 dB min. 1,500 to 3,000 MHz : 10 dB min.	DC to 1,850 MHz : 20 dB min. 1,850 to 1,910 MHz : 10 dB min. 2,070 to 2,130 MHz : 15 dB min. 2,130 to 3,000 MHz : 20 dB min. 3,000 to 6,000 MHz : 5 dB min.
Terminating impedance	Input : 50 Ω , Output : 50 Ω	Input : 50 Ω , Output : 50 Ω
Operating temperature range)	-30 °C to +85 °C	

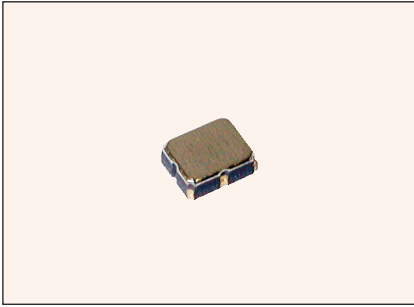
Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]



Surface Acoustic Wave Filter (SAW Filter)



TQS-521A-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- Low Insertion Loss
- Balanced Output

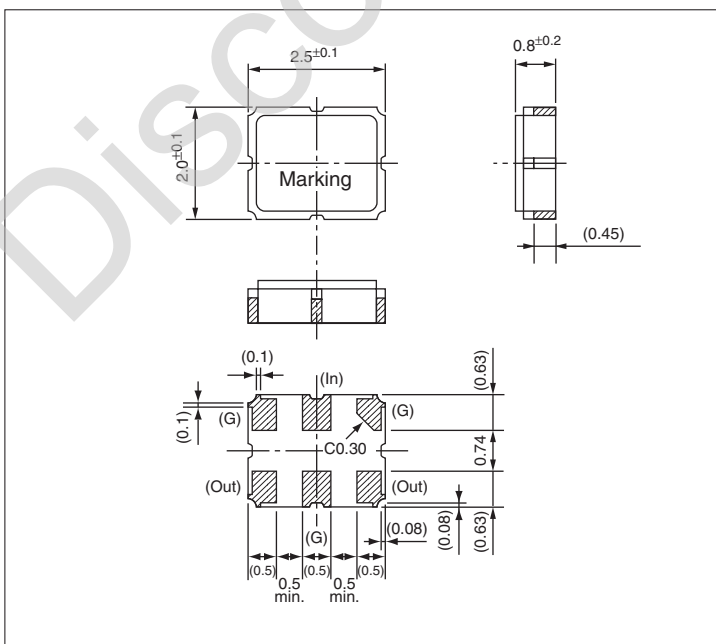
Application

- RF filter for Cellular Phone E-GSM system (Rx)

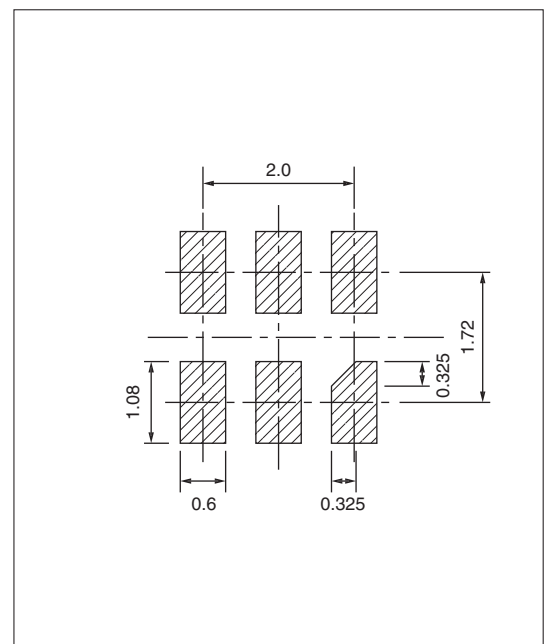
Specifications

Type	TQS-521A-7G
Nominal frequency	942.5 MHz
Pass band	925 to 960 MHz
Insertion loss	4.0 dB max.
Pass band ripple	2.0 dB max.
VSWR	2.5 max.
Stop band attenuation (Referred to through Level)	
DC to 880 MHz	50 dB min.
880 to 915 MHz	20 dB min.
980 to 1100 MHz	25 dB min.
1100 to 2000 MHz	50 dB min.
2000 to 3000 MHz	40 dB min.
Terminating impedance	Input : Unbalanced 50 Ω Output : Balanced 200 Ω // 39nH
Operating temperature range	-20 °C to +75 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]

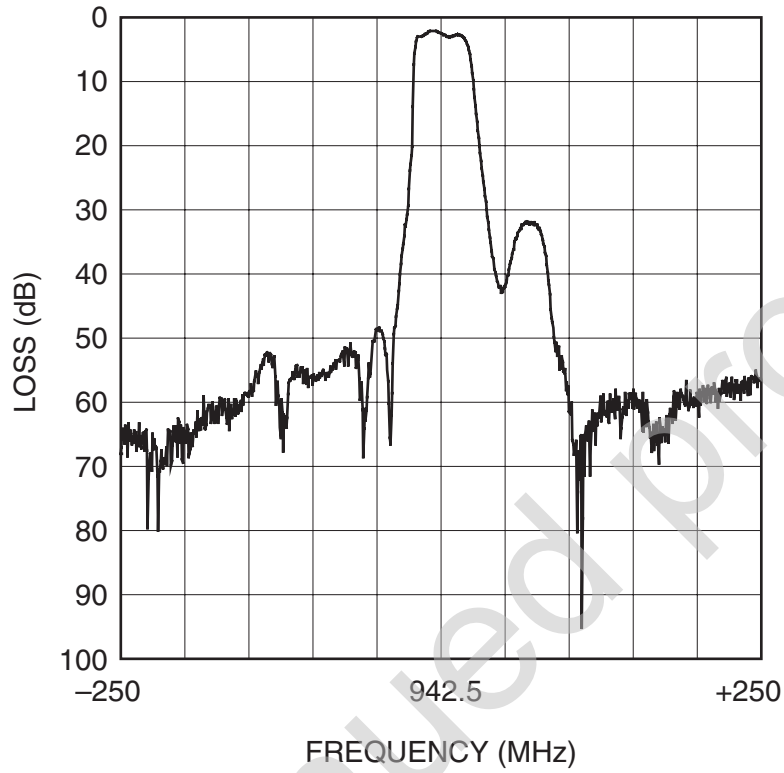


Surface Acoustic Wave Filter (SAW Filter)

RF Filter (Balanced Output) for Cellular Phone
E-GSM system (Rx)

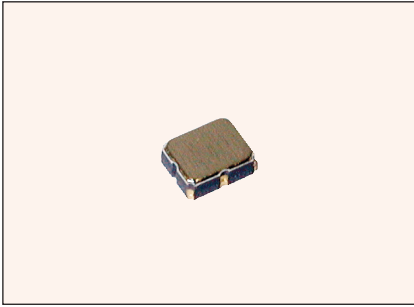
TQS-521A-7G
942.5 MHz

■ Electrical Data



Discontinued Product

Surface Acoustic Wave Filter (SAW Filter)



TQS-525A-7G

■ Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- Low Insertion Loss
- Balanced Output

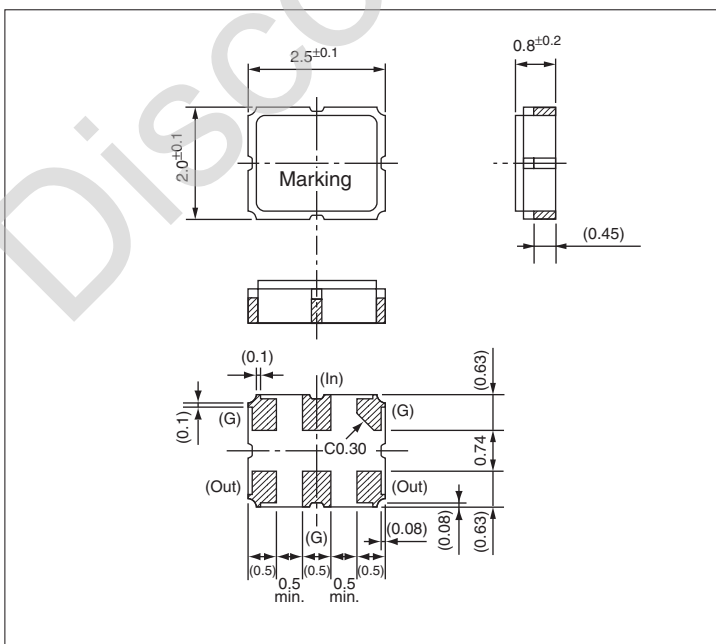
■ Application

- RF filter for Cellular Phone
AMPS / TDMA / CDMA / GSM system (Rx)

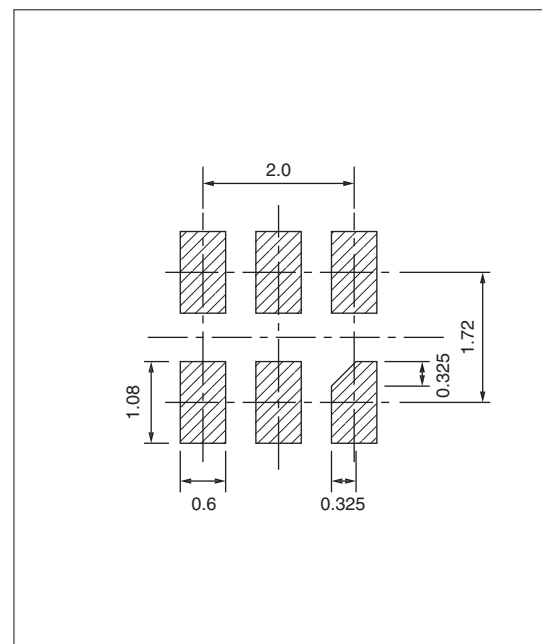
■ Specifications

Type	TQS-525A-7G
Nominal frequency	881.5 MHz
Pass band	869 to 894 MHz
Insertion loss	3.0 dB max.
Pass band ripple	1.3 dB max.
VSWR	2.0 max.
Stop band attenuation (Referred to through Level)	
DC to 849 MHz	40 dB min.
914 to 954 MHz	23 dB min.
954 to 1500 MHz	40 dB min.
1500 to 3000 MHz	30 dB min.
Terminating impedance	Input : Unbalanced 50 Ω Output : Balanced 50 Ω
Operating temperature range	-30 °C to +85 °C

■ Package Outlines [Dimensions in mm]



■ Footprint [Dimensions in mm]

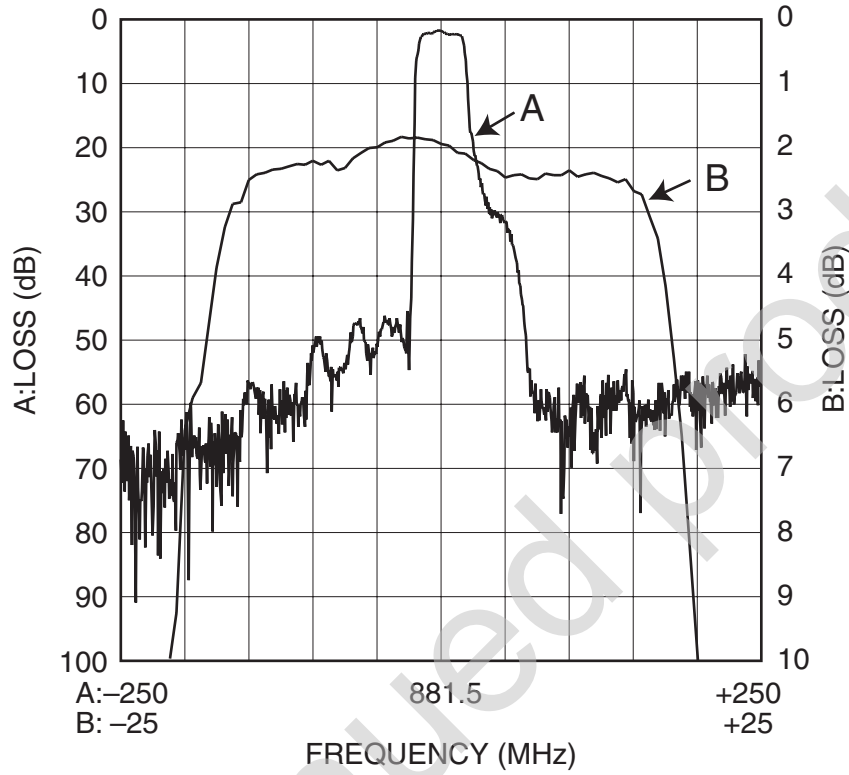


Surface Acoustic Wave Filter (SAW Filter)

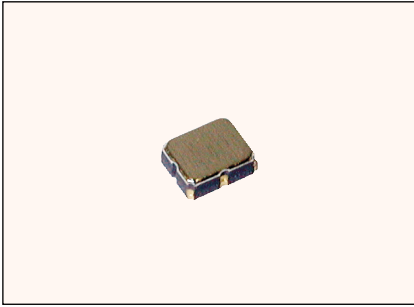
RF Filter (Balanced Output) for Cellular Phone
 AMPS / TDMA / CDMA / GSM system (Rx)

TQS-525A-7G
 881.5 MHz

■ Electrical Data



Surface Acoustic Wave Filter (SAW Filter)



TQS-527A-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- High attenuation
- Balanced Output

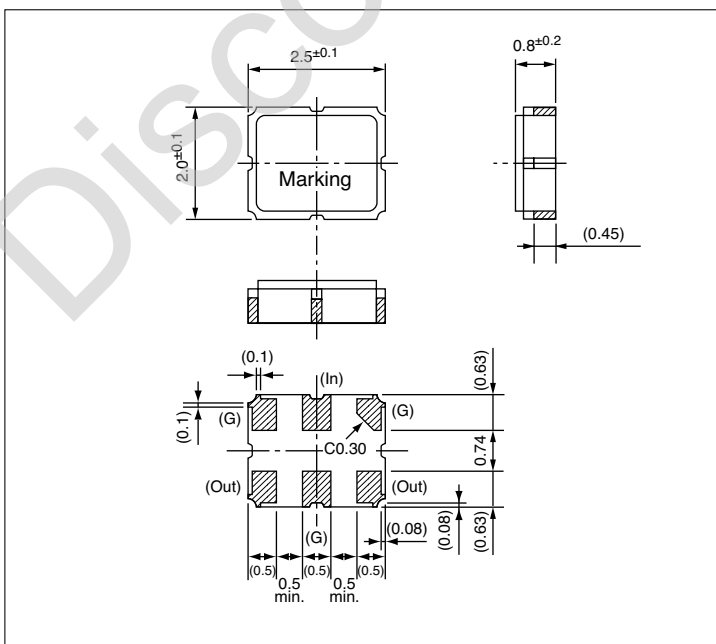
Application

- RF filter for Cellular Phone for E-GSM system (Rx)

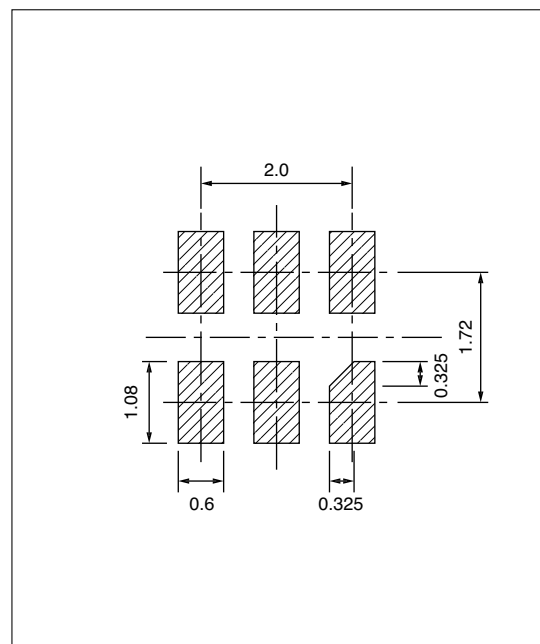
Specifications

Type	TQS-527A-7G
Nominal frequency	942.5 MHz
Pass band	925 to 960 MHz
Insertion loss	3.0 dB max.
Pass band ripple	1.5 dB max.
VSWR	2.5 max.
Phase imbalance	±10° max.
Amplitude imbalance	±1.0dB max.
Stop band attenuation (Referred to through Level)	
DC to 880 MHz	45 dB min.
880 to 915 MHz	20 dB min.
980 to 1100 MHz	20 dB min.
1100 to 2000 MHz	40 dB min.
2000 to 3000 MHz	30 dB min.
Terminating impedance	Input : Unbalanced 50 Ω Output : Balanced 50 Ω
Operating temperature range	-20 °C to +75 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]

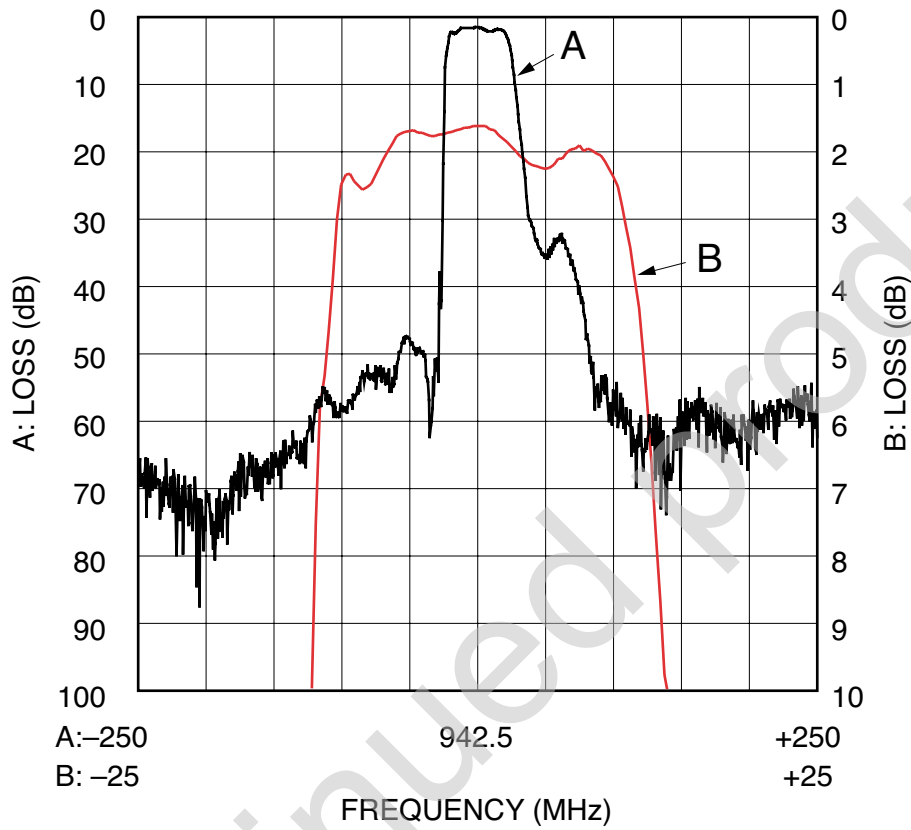


Surface Acoustic Wave Filter (SAW Filter)

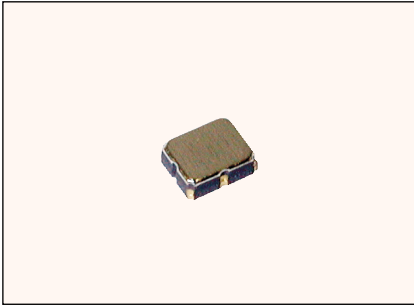
RF Filter (Balanced Output) for Cellular Phone
E-GSM system (Rx)

TQS-527A-7G
942.5 MHz

■ Electrical Data



Surface Acoustic Wave Filter (SAW Filter)



TQS-528A-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- High attenuation
- Balanced Output

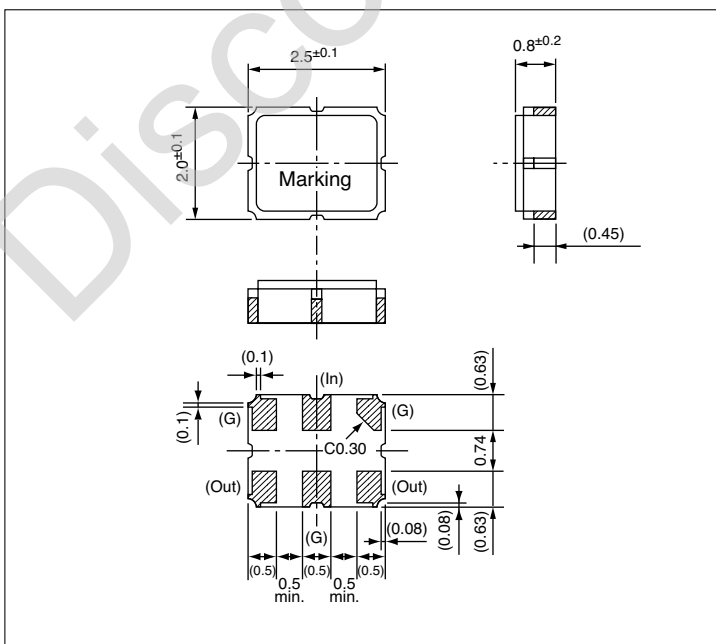
Application

- RF filter for Cellular Phone for E-GSM system (Rx)

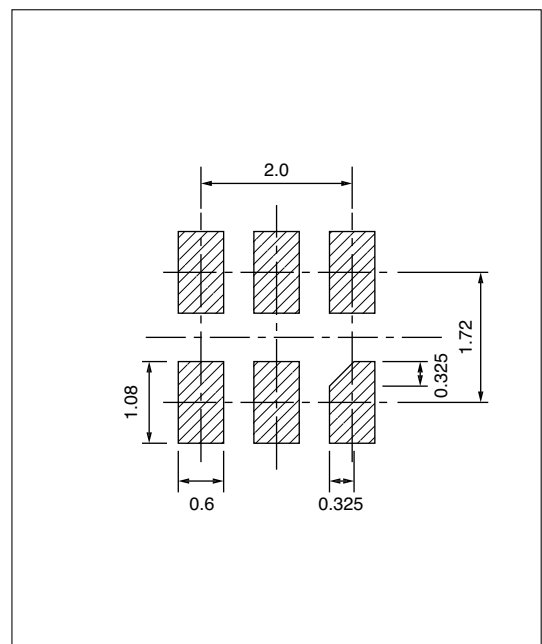
Specifications

Type	TQS-528A-7G
Nominal frequency	942.5 MHz
Pass band	925 to 960 MHz
Insertion loss	3.0 dB max.
Pass band ripple	1.5 dB max.
VSWR	2.5 max.
Phase imbalance	±10° max.
Amplitude imbalance	±1.0dB max.
Stop band attenuation (Referred to through Level)	
DC to 880 MHz	45 dB min.
880 to 915 MHz	20 dB min.
980 to 1100 MHz	20 dB min.
1100 to 2000 MHz	40 dB min.
2000 to 3000 MHz	20 dB min.
Terminating impedance	Input : Unbalanced 50 Ω Output : Balanced 100 Ω
Operating temperature range	-20 °C to +75 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]

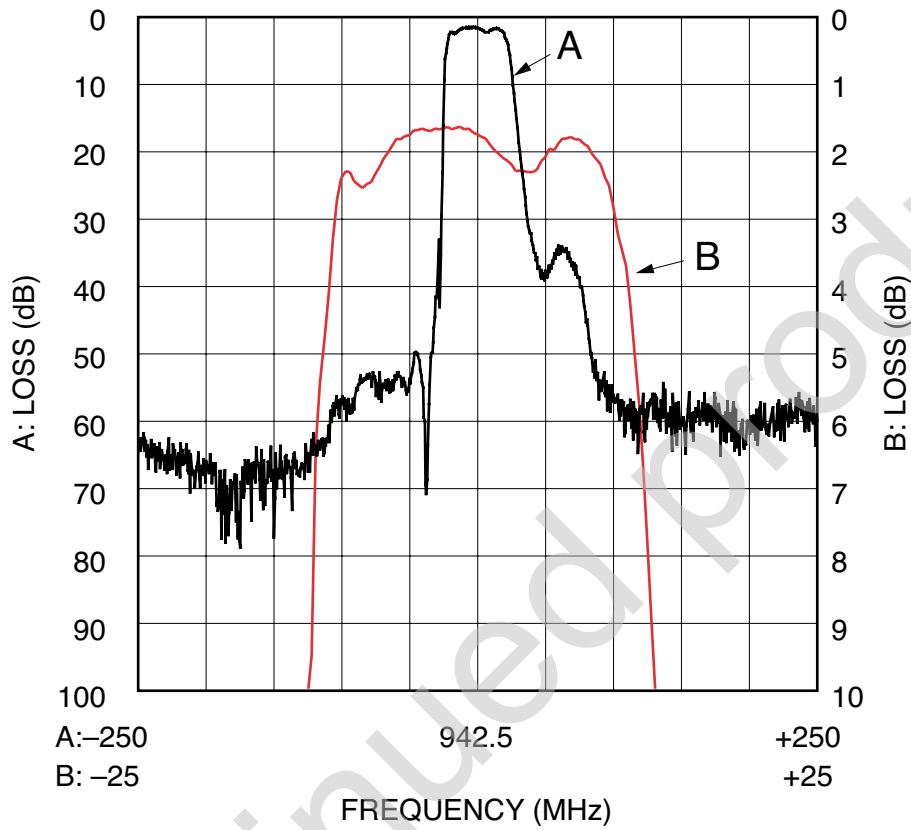


Surface Acoustic Wave Filter (SAW Filter)

RF Filter (Balanced Output) for Cellular Phone
E-GSM system (Rx)

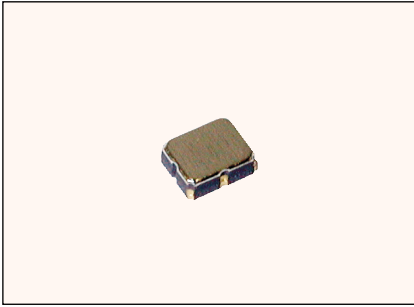
TQS-528A-7G
942.5 MHz

■ Electrical Data



Discontinued Product

Surface Acoustic Wave Filter (SAW Filter)



TQS-529A-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- Low Insertion Loss
- Balanced Output

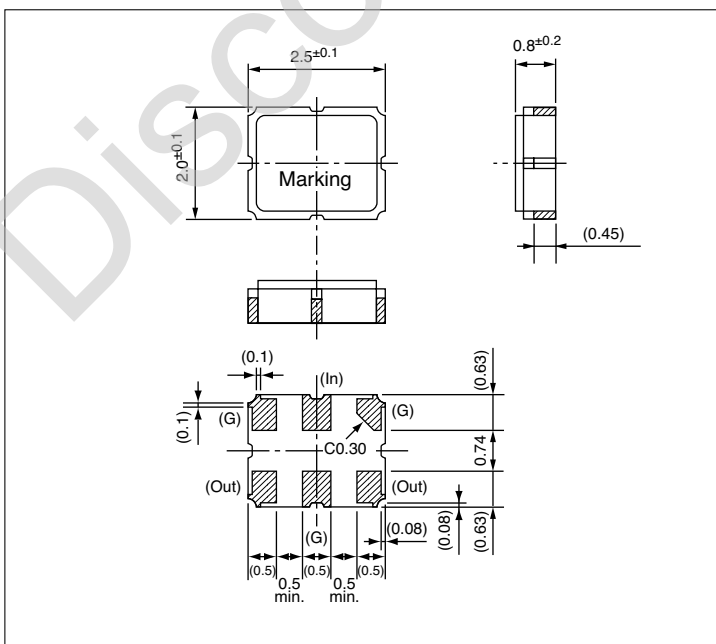
Application

- RF filter for GPS

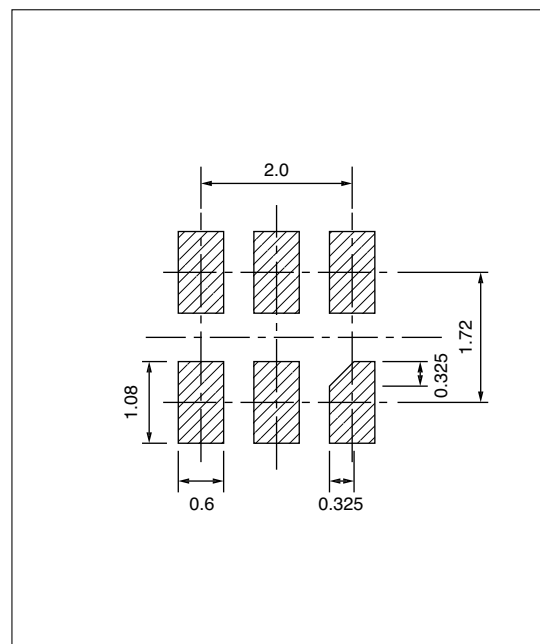
Specifications

Type	TQS-529A-7G
Nominal frequency	1575.42 MHz
Pass band	1573.42 to 1577.42 MHz
Insertion loss	1.7 dB max.
Pass band ripple	0.7 dB max.
VSWR	2.0 max.
Phase imbalance	±15° max.
Amplitude imbalance	±1.5dB max.
Stop band attenuation (Referred to through Level)	
DC to 1501 MHz	24 dB min.
1501 to 1525 MHz	20 dB min.
1626 to 1661 MHz	15 dB min.
1661 to 2100 MHz	23 dB min.
2100 to 2400 MHz	20 dB min.
2400 to 6000 MHz	25 dB min.
Terminating impedance	Input : Unbalanced 50 Ω Output : Balanced 100 Ω
Operating temperature range	-30 °C to +85 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]

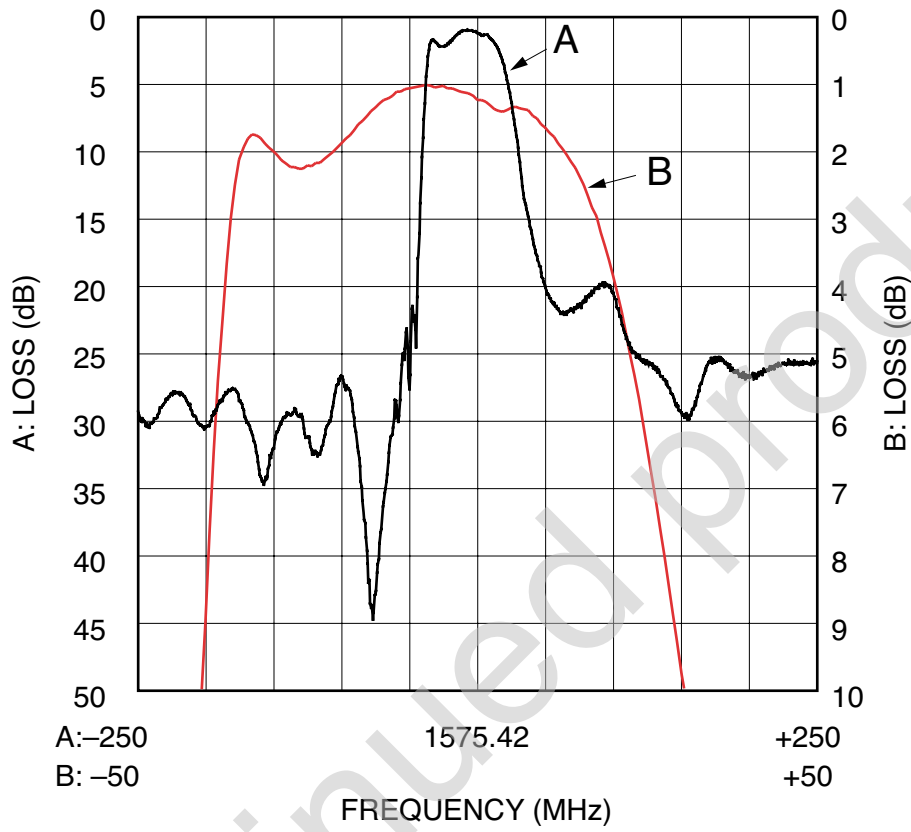


Surface Acoustic Wave Filter (SAW Filter)

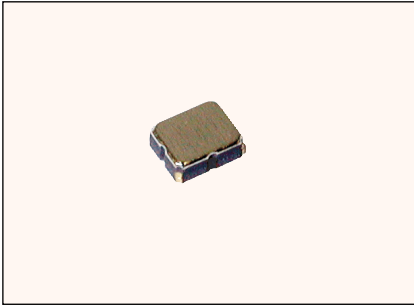
RF Filter (Balanced Output)
for GPS

TQS-529A-7G
1575.42 MHz

■ Electrical Data



Surface Acoustic Wave Filter (SAW Filter)



TQS-530A-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- High attenuation

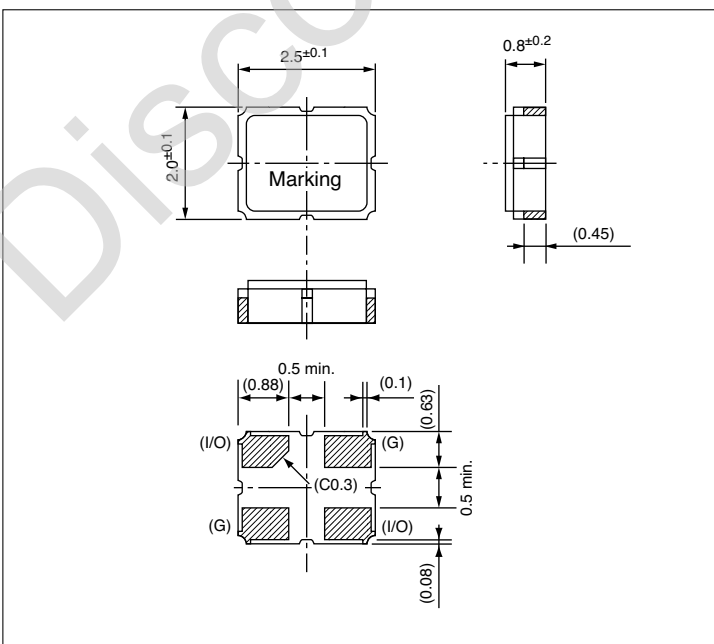
Application

- RF filter for Cellular Phone
AMPS / TDMA / CDMA / GSM (Tx)

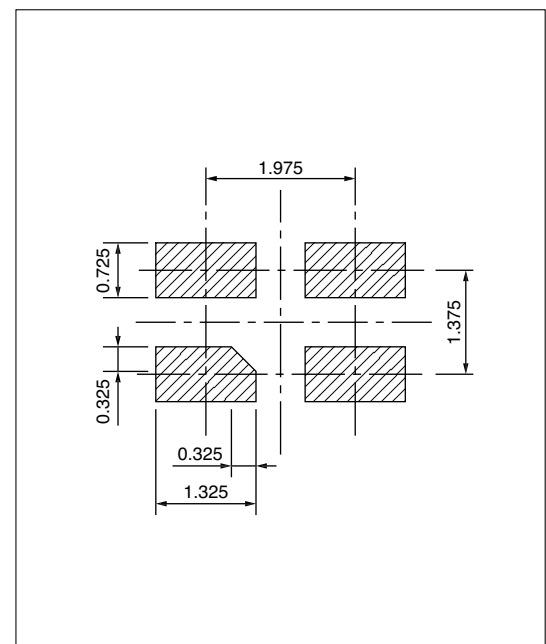
Specifications

Type	TQS-530A-7G
Nominal frequency	836.5 MHz
Pass band	824 to 849 MHz
Insertion loss	2.8 dB max.
Pass band ripple	1.6 dB max.
VSWR	2.0 max.
Stop band attenuation (Referred to through Level)	
DC to 800 MHz	45 dB min.
869 to 910 MHz	38 dB min.
910 to 2000 MHz	45 dB min.
2000 to 3000 MHz	20 dB min.
Terminating impedance	50 Ω
Operating temperature range	-30 °C to +85 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]

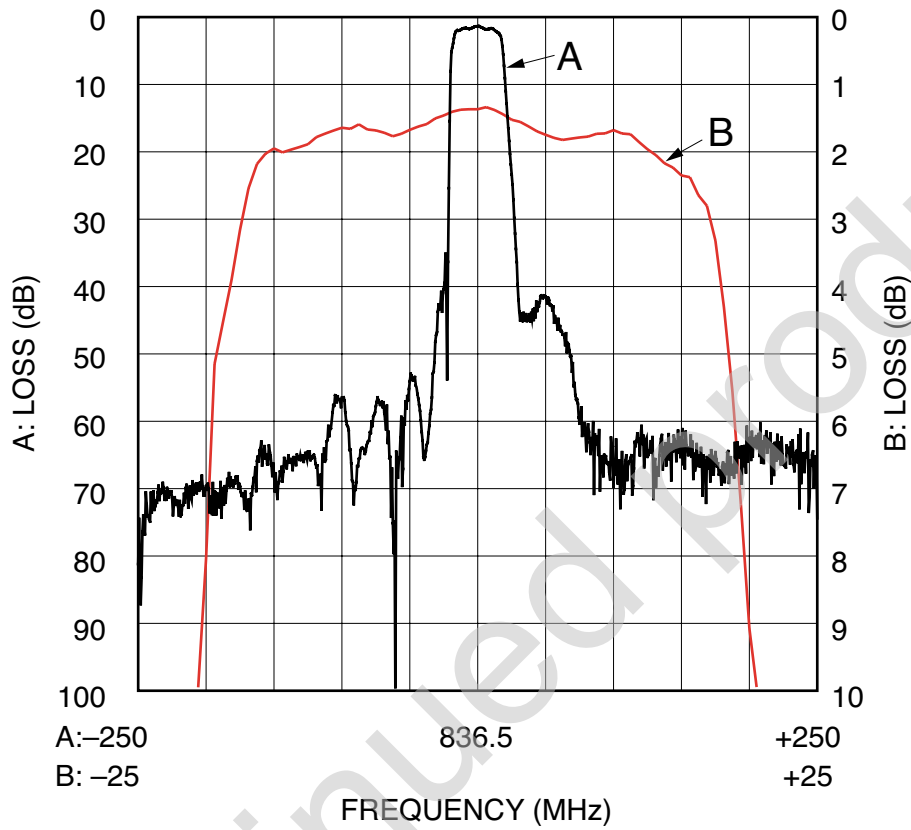


Surface Acoustic Wave Filter (SAW Filter)

RF Filter for Cellular Phone
 AMPS / TDMA / CDMA / GSM system (Tx)

TQS-530A-7G
 836.5 MHz

■ Electrical Data

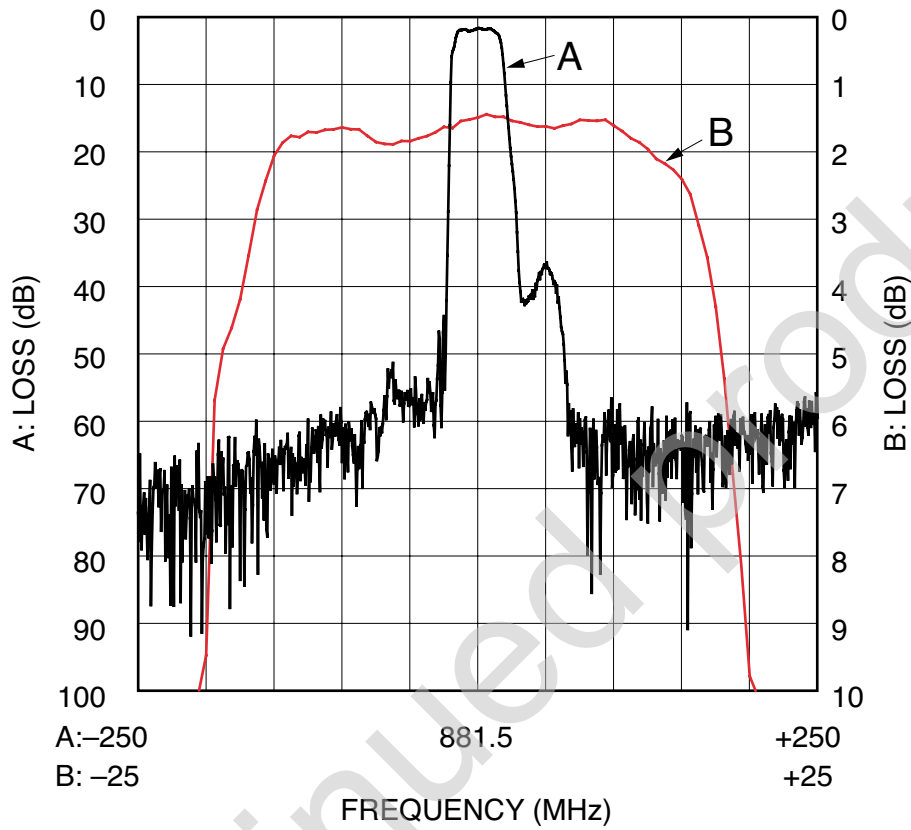


Surface Acoustic Wave Filter (SAW Filter)

RF Filter for Cellular Phone
AMPS system (Rx)

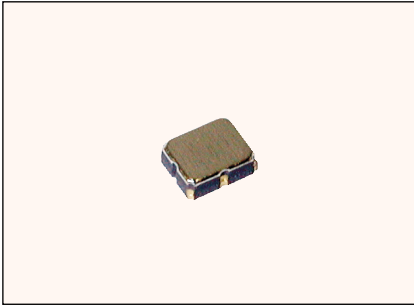
TQS-535A-7G
881.5 MHz

■ Electrical Data



Discontinued Product

Surface Acoustic Wave Filter (SAW Filter)



TQS-536A-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- Low Insertion Loss
- Balanced Output

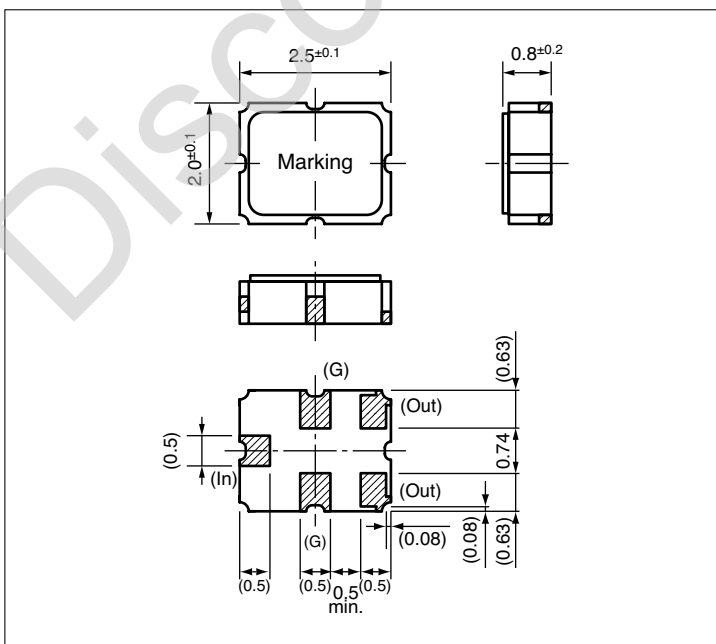
Application

- RF filter for Cellular Phone PCS system (Rx)

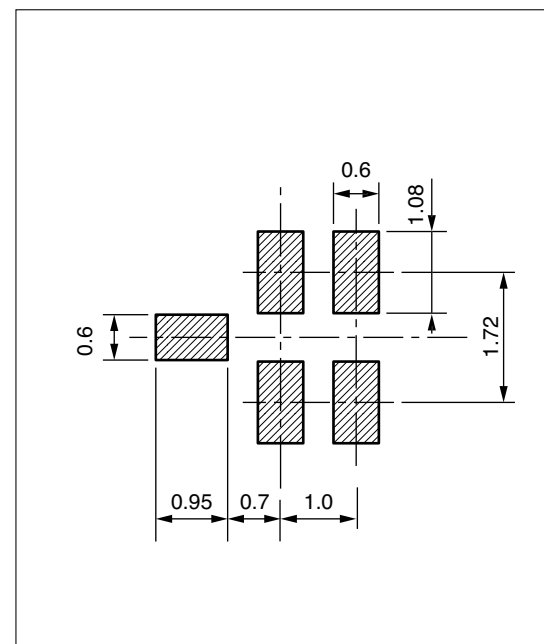
Specifications

Type	TQS-536A-7G
Nominal frequency	1960 MHz
Pass band	1930 to 1990 MHz
Insertion loss	4.1 dB max.
Pass band ripple	2.0 dB max.
VSWR	3.0 max.
Phase imbalance	±20° max.
Amplitude imbalance	±2.0dB max.
Stop band attenuation (Referred to through Level)	
DC to 1750 MHz	30 dB min.
1850 to 1910 MHz	10 dB min.
2040 to 2140 MHz	17 dB min.
2140 to 3860 MHz	25 dB min.
3860 to 3980 MHz	20 dB min.
3980 to 6000 MHz	15 dB min.
Terminating impedance	Input : Unbalanced 50 Ω Output : Balanced 100 Ω
Operating temperature range	-30 °C to +85 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]

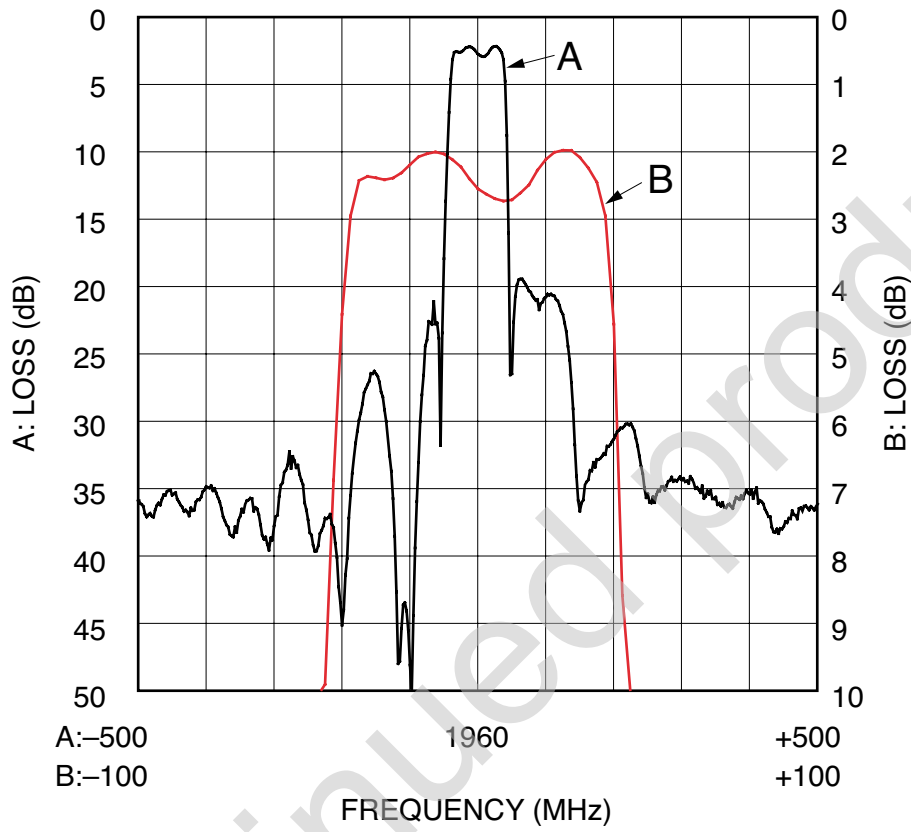


Surface Acoustic Wave Filter (SAW Filter)

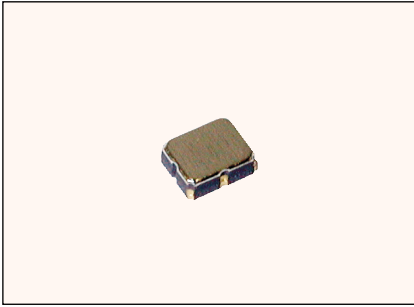
RF Filter for Cellular Phone
 PCS system (Rx)

TQS-536A-7G
 1960 MHz

■ Electrical Data



Surface Acoustic Wave Filter (SAW Filter)



TQS-537A-7G

Features

- Ultra miniature size : 2.5(W) x 2.0(D) x 0.8(H)mm
- Low Insertion Loss
- Balanced Output

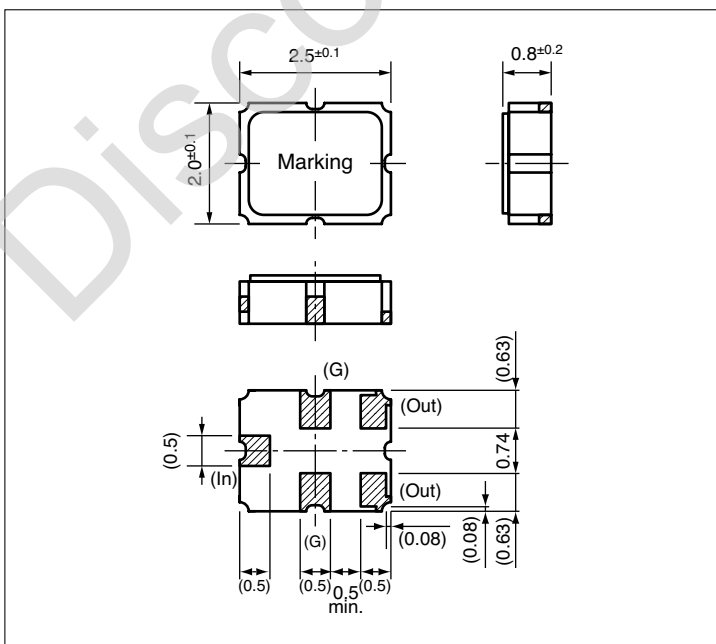
Application

- RF filter for GPS

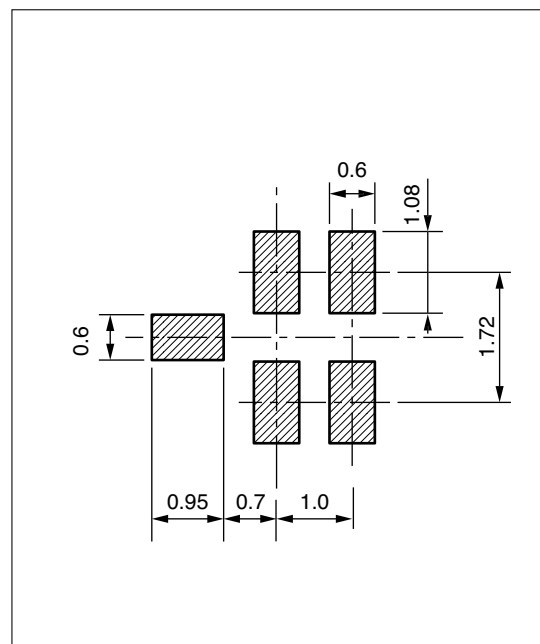
Specifications

Type	TQS-537A-7G
Nominal frequency	1575.42 MHz
Pass band	1574.42 to 1576.42 MHz
Insertion loss	1.8 dB max.
Pass band ripple	0.7 dB max.
Phase imbalance	±20° max.
Amplitude imbalance	±2.0dB max.
Stop band attenuation (Relative to attenuation at fo)	
DC to 1475 MHz	30 dB min.
1475 to 1525 MHz	10 dB min.
1625 to 1675 MHz	10 dB min.
1675 to 2000 MHz	30 dB min.
2000 to 2300 MHz	28 dB min.
2300 to 3155 MHz	30 dB min.
3155 to 6000 MHz	20 dB min.
Terminating impedance	Input : Unbalanced 50 Ω Output : Balanced 100 Ω
Operating temperature range	-30 °C to +85 °C

Package Outlines [Dimensions in mm]



Footprint [Dimensions in mm]



Surface Acoustic Wave Filter (SAW Filter)

RF Filter
for GPS

TQS-537A-7G
1575.42 MHz

■ Electrical Data

