

# **SAW Mobile Communications**

Series/Type: B7740

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product		Deadline Last Orders	Last Shipments
B39202B7740C810	B39202B9008E610	06.07.2007	31.01.2008	30.04.2008

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# SAW Components

# **Low-Loss Filter for Mobile Communication**

1960,0 MHz

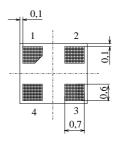
B7740

**Data Sheet** 



#### **Features**

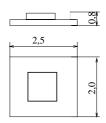
- RF filter for mobile telephone PCS systems, receive path
- Low insertion loss, low amplitude ripple
- Usable passband 60 MHz
- Suitable for GPRS class 1 to 12
- Package for Surface Mounted Technology (SMT)



Chip Sized SAW Package DCS4D

## **Terminals**

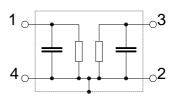
■ Gold-plated Ni



Dimensions in mm, approx. weight 0,012 g

# Pin configuration

1	Input
3	Output
24	Ground



Туре	Ordering code	Marking and Package according to	Packing according to
B7740	B39202-B7740-C810	C61157-A7-A89	F61074-V8125-Z000

Electrostatic Sensitive Device (ESD)

# **Maximum ratings**

Operating temperature range	T	<b>- 10/+ 80</b>	°C	
Storage temperature range	$T_{ m stg}$	<b>- 40/+ 85</b>	°C	
DC voltage	$V_{\rm DC}$	3	V	
ESD voltage	$V_{ESD}$	50	V	
Input Power at				
GSM850, GSM900	$P_{IN}$	15	dBm	peak power of GSM signal,
GSM1800, GSM1900	$P_{IN}$	12	dBm	duty cycle 4:8
tx bands				



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# **Low-Loss Filter for Mobile Communication**

1960,0 MHz

**Data Sheet** 

 $\equiv$ MD

**Characteristics** 

Operating temperature range :  $T = 25 \,^{\circ}\text{C} + /-2 \,^{\circ}\text{C}$ 

Terminating source impedance:  $Z_{\rm S} = 50~\Omega$ Terminating load impedance:  $Z_{\rm L} = 50~\Omega$ 

Center frequency $f_{\rm C}$ —         1960,0         —           Maximum insertion attenuation $\alpha_{\rm max}$ —         2,8         3,2           Amplitude ripple (p-p) $\Delta \alpha$ —         1,3         1,7           Attenuation $\alpha$ —         1,3         1,7           Attenuation $\alpha$ —         2,8         3,2           Attenuation $\alpha$ —         1,3         1,7           Attenuation $\alpha$ —         2,8         3,1           1500,0         1500,0         MHz         28         31         —           1830,0         1910,0         MHz         25         29         —           1830,0         1910,0         MHz         12         14         —           2010,0         2070,0         MHz         12         14         —           2070,0         2500,0         MHz         24         28         35         —           3000,0         4500,0         MHz         24         30         —           4500,0         5200,0         MHz         24         30         —	
1930,0 1990,0 MHz  Amplitude ripple (p-p)	MHz
Amplitude ripple (p-p)       Δα         1930,0       1990,0       MHz       —       1,3       1,7         Attenuation       α       28       31       —         1500,0       1830,0       MHz       25       29       —         1830,0       1910,0       MHz       12       14       —         2010,0       2070,0       MHz       12       14       —         2070,0       2500,0       MHz       21       23       —         2500,0       3000,0       MHz       24       28       —         3000,0       4500,0       MHz       26       32       —         4500,0       5200,0       MHz       26       32       —         1930,0       1990,0       MHz       —       2,2       2         Output vswr	
1930,0 1990,0 MHz — 1,3 1,7  Attenuation α  DC 1500,0 MHz 25 29 — 1830,0 1910,0 MHz 12 14 — 2010,0 2070,0 MHz 12 14 — 2070,0 2500,0 MHz 21 23 — 2500,0 3000,0 MHz 21 23 — 2500,0 3000,0 MHz 24 28 — 3000,0 4500,0 MHz 28 35 — 4500,0 5200,0 MHz 26 32 — 5200,0 6000,0 MHz 24 30 —  Input vswr 1930,0 1990,0 MHz - 2,2 2	dB
Attenuation         DC       1500,0       MHz       28       31       —         1500,0       1830,0       MHz       25       29       —         1830,0       1910,0       MHz       12       14       —         2010,0       2070,0       MHz       12       14       —         2500,0       2500,0       MHz       21       23       —         2500,0       3000,0       MHz       24       28       —         3000,0       4500,0       MHz       28       35       —         4500,0       5200,0       MHz       26       32       —         5200,0       6000,0       MHz       24       30       —         Input vswr         1930,0       1990,0       MHz       —       2,2       2         Output vswr	
DC       1500,0       MHz       28       31       —         1500,0       1830,0       MHz       25       29       —         1830,0       1910,0       MHz       12       14       —         2010,0       2070,0       MHz       12       14       —         2070,0       2500,0       MHz       21       23       —         2500,0       3000,0       MHz       24       28       —         3000,0       4500,0       MHz       28       35       —         4500,0       5200,0       MHz       26       32       —         5200,0       6000,0       MHz       24       30       —     Input vswr  Output vswr	dB
1500,0 1830,0 MHz 25 29 — 1830,0 1910,0 MHz 12 14 — 2010,0 2070,0 MHz 12 14 — 2070,0 2500,0 MHz 21 23 — 2500,0 3000,0 MHz 24 28 — 3000,0 4500,0 MHz 28 35 — 4500,0 5200,0 MHz 26 32 — 5200,0 6000,0 MHz 24 30 —  Input vswr 24 30 —  Output vswr	
1830,0       1910,0       MHz       12       14       —         2010,0       2070,0       MHz       12       14       —         2070,0       2500,0       MHz       21       23       —         2500,0       3000,0       MHz       24       28       —         3000,0       4500,0       MHz       26       32       —         4500,0       5200,0       MHz       24       30       —         Input vswr         1930,0       1990,0       MHz       —       2,2       2    Output vswr	dB
2010,0 2070,0 MHz 2070,0 2500,0 MHz 2500,0 3000,0 MHz 3000,0 4500,0 MHz 4500,0 5200,0 MHz 5200,0 6000,0 MHz 1930,0 1990,0 MHz 201 23 — 24 28 — 28 35 — 26 32 — 24 30 —  Input vswr 1930,0 1990,0 MHz 2,2 2	dB
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2500,0 3000,0 MHz 24 28 — 3000,0 4500,0 MHz 28 35 — 4500,0 5200,0 MHz 26 32 — 5200,0 6000,0 MHz 24 30 —  Input vswr 1930,0 1990,0 MHz 2,2 2  Output vswr	dB
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4500,0 5200,0 MHz 26 32 — 5200,0 6000,0 MHz 24 30 — 1930,0 1990,0 MHz 2,2 2  Output vswr	dB
5200,0 6000,0 MHz 24 30 —  Input vswr 1930,0 1990,0 MHz 2,2 2  Output vswr	dB
Input vswr 1930,0 1990,0 MHz 2,2 2 Output vswr	dB
1930,0 1990,0 MHz 2,2 2  Output vswr	dB
1930,0 1990,0 MHz 2,2 2  Output vswr	
•	3
1930,0 1990,0 MHz 2,2 2	
	\$
Tx band suppression $\alpha$	
1830,0 1910,0 MHz 12 14 —	dB



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1960,0 MHz

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### **Characteristics**

Operating temperature range :

 $T = -10 \text{ to } +80 \,^{\circ}\text{C}$   $Z_{\text{S}} = 50 \,\Omega$   $Z_{\text{L}} = 50 \,\Omega$ Terminating source impedance: Terminating load impedance:

				min.	typ.	max.	
Center frequency			$f_{\mathbb{C}}$	_	1960,0	_	MHz
Maximum insertion attenuation			$lpha_{\sf max}$				
1930,0	1990,0	MHz		_	2,8	3,2	dB
Amplitude ripple (p-p)		$\Delta \alpha$					
1930,0	1990,0	MHz		_	1,3	1,7	dB
Attenuation			α				
DC	1500,0	MHz		28	31	_	dB
1500,0	1830,0	MHz		25	29	_	dB
1830,0	1910,0	MHz		10	13	_	dB
2010,0	2070,0	MHz		10	13	_	dB
2070,0	2500,0	MHz		21	23	_	dB
2500,0	3000,0	MHz		24	28	_	dB
3000,0	4500,0	MHz		28	35	_	dB
4500,0	5200,0	MHz		26	32	_	dB
5200,0	6000,0	MHz		24	30	_	dB
Input vswr							
1930,0	1990,0	MHz			2,2	2,3	
Output vswr							
1930,0	1990,0	MHz			2,2	2,3	
Tx band suppression			α				
1830,0	1910,0	MHz		10	13	_	dB



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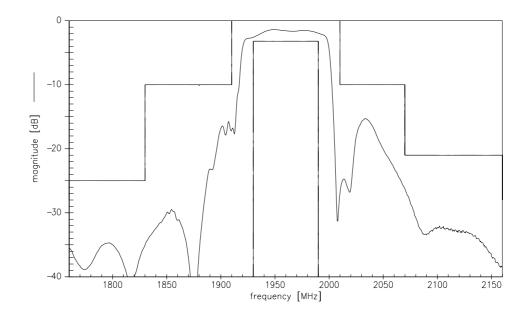
**Low-Loss Filter for Mobile Communication** 

1960,0 MHz

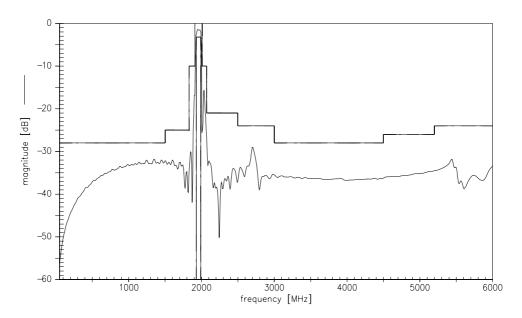
**Data Sheet** 

# **Transfer function**

### narrow band



# wide band





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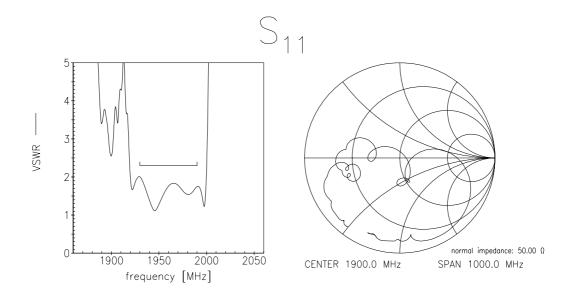
**Low-Loss Filter for Mobile Communication** 

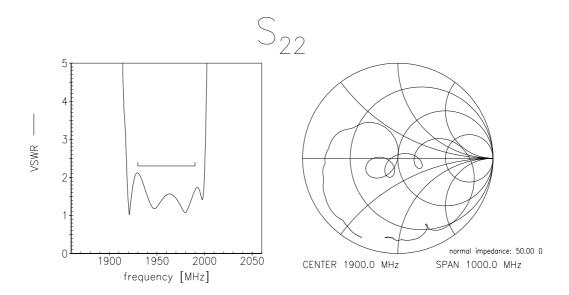
1960,0 MHz

**Data Sheet** 



### **Reflection functions**







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1960,0 MHz

**Data Sheet** 



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