

# **RF Filters for Cellular Phones**

#### Series/Type: B7744

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39182B7744C810	B39182B7822C710	2007-09-21	2007-12-31	2008-03-31

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.



Dimensions in mm, approx. weight 0,012 g

#### **Pin configuration**

-	
1	Input
3	Output
2, 4	To be grounded



Туре	Ordering code	Marking and Package according to	Packing according to
B7744	B39182-B7744-C810	C61157-A7-A89	F61074-V8153-Z000

Electrostatic Sensitive Device (ESD)

Operable temperature range	Т	- 10 / + 80	°C	
Storage temperature range	T <sub>stg</sub>	- 40 / + 85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	50	V	
Input power at	-			
GSM850, GSM900	P <sub>IN</sub>	15	dBm	peakpowerofGSMsignal
GSM1800, GSM1900	$P_{\rm IN}$	12	dBm	duty cycle 4:8
Tx bands				

SAW Components Low-Loss Filter for Mobile Comr	_	_	1842	B7744 2,5 MHz	
Data Sheet	SMD				.,0
Characteristics					
Operating Temperature Range: Terminating source impedance: Terminating load impedance:	T = +25 $Z_{\rm S} = 50.9$ $Z_{\rm L} = 50.9$	Ω			
		min.	typ.	max.	
Center frequency	f <sub>C</sub>	_	1842,5	—	MHz
Maximum insertion attenuation 1805,0 188	α <sub>max</sub> 0,0 MHz	_	2,4	3,0	dB
Amplitude ripple (p-p) 1805,0 188	Δα 0,0 MHz	_	0,9	1,7	dB
Input VSWR 1805,0 188	0,0 MHz	_	1,9	2,2	
Output VSWR 1805,0 188	0,0 MHz	_	1,9	2,2	
Attenuation	Q				
0,0 148		35	37	_	dB
1480,0 170 1705,0 178		28 12	32 16		dB dB
1920,0 198		15	21		dB
1980,0 240	,	23	25	_	dB
2400,0 250		30	37	_	dB
2500,0 361		25	36	-	dB
3610,0 376		35	40	-	dB
3760,0 600	0,0 MHz	25	34	—	dB

SAW Components							B7744
Low-Loss Filter for Mobile Communication						1842	2,5 MHz
Data Sheet		SN					
Characteristics							
Operating Temperature Range: Terminating source impedance: Terminating load impedance:		$Z_{S}$	= -10 to = 50 Ω = 50 Ω				
				min.	typ.	max.	
Center frequency			f <sub>C</sub>	—	1842,5	-	MHz
Maximum insertion attenuation 1805,0 1	880,0	MHz	$\alpha_{max}$	_	2,4	3,2	dB
Amplitude ripple (p-p) 1805,0 … 1	880,0	MHz	Δα	_	0,9	1,9	dB
Input VSWR 1805,0 1	880.0	MHz		_	1,9	2,2	
Output VSWR							
1805,0 1	880,0	MHz			1,9	2,2	
Attenuation			α				
0,0 1		MHz		35	37	-	dB
1480,0 1	,			28	32	-	dB
1705,0 1				11	15	-	dB
	980,0			15 22	21 24	-	dB dB
	2400,0 2500,0			22 30	24 37		dВ
2400,0 2 2500,0 3				30 25	37		dВ
2500,0 3 3610,0 3				25 35	40		dB
3760,0 6				25	40 34		dB
0.00,0 0	,.						

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### **⊘TDK**

CharacteristicsOperating Temperature Range: $T = -30 \text{ to } +85^{\circ}\text{C}$ Terminating source impedance: $Z_{\text{S}} = 50 \ \Omega$ Terminating load impedance: $Z_{\text{L}} = 50 \ \Omega$ Min. typ. max.Center frequency $f_{\text{C}}$ $ 1842,5$ $-$ MHzMaximum insertion attenuation $\alpha_{\text{max}}$ $ 2,4$ $3,2$ dBAmplitude ripple (p-p) $\Delta \alpha$ $ 0,9$ $1,9$ dBInput VSWR $1805,0 \dots 1880,0 \ \text{MHz}$ $ 1,9$ $2,2$	SAW Components					B7744
Characteristics         Operating Temperature Range:       T = -30 to +85°C         Terminating source impedance: $Z_{\rm L}$ source impedance:         Terminating load impedance:       Z, = 50 Ω         Terminating load impedance:       Classing a source impedance:       Terminating to +85°C         Terminating load impedance:       Z, = 50 Ω         Center frequency       f <sub>C</sub> -       1842,5       MHz         Maximum insertion attenuation $\alpha_{max}$ -       2,4       3,2       dB         Maximum insertion attenuation $\alpha_{max}$ -       2,4       3,2       dB         Amplitude ripple (p-p) $\Delta \alpha$ -       1,9       2,2         Output VSWR       1805,0       MHz       -       1,9       2,2         Attenuation $\alpha$ $\alpha$ -       1,9       2,22       C	Low-Loss Filter for Mobile Comm			1842	,5 MHz	
Operating Temperature Range: Terminating source impedance: $T = -30 \text{ to } +85^{\circ}\text{C}$ Zs $= 50 \Omega$ Terminating load impedance: $Z_L = 50 \Omega$ Center frequency $f_C$ $ 1842,5$ $-$ MHz         Maximum insertion attenuation 1805,0 $\alpha_{max}$ $ 2,4$ $3,2$ dB         Amplitude ripple (p-p) 1805,0 $\ldots$ 1880,0       MHz $ 0,9$ $1,9$ $dB$ Input VSWR 1805,0 $\ldots$ 1880,0       MHz $ 1,9$ $2,2$ $A$ Attenuation $0,0$ $\ldots$ 1880,0       MHz $ 1,9$ $2,2$ $A$ Mattenuation $1805,0$ $\alpha$ $\alpha$ $ 1,9$ $2,2$ $A$ Mattenuation $0,0$ $\ldots$ 1880,0       MHz $ 1,9$ $2,2$ $A$ Attenuation $\alpha$ $\alpha$ $ 1,9$ $2,2$ $A$ $1480,0$ $\ldots$ 1785,0 $MHz$ $ 1,9$ $2,2$ $A$ $A$ $\alpha$ $\alpha$ $\alpha$ $\alpha$ $\alpha$ $\alpha$ $\alpha$ $\alpha$	Data Sheet	SMD				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Characteristics					
Center frequency $f_{\rm C}$ -         1842,5         -         MHz           Maximum insertion attenuation 1805,0 $\alpha_{\rm max}$ 1805,0 $\alpha_{\rm max}$ -         2,4         3,2         dB           Amplitude ripple (p-p) 1805,0 $\Delta \alpha$ 1805,0         - $\Delta \alpha$ 1805,0         -         0,9         1,9         dB           Input VSWR 1805,0          1880,0         MHz         -         1,9         2,2         A           Output VSWR 1805,0          1880,0         MHz         -         1,9         2,2         A           Attenuation $\alpha$ -         1,9         2,2         A           Attenuation $\alpha$ -         1,9         2,2         A           1480,0          1705,0         MHz         35         37         -         dB           1920,0          1880,0         MHz         35         37         -         dB           1920,0          1880,0         MHz         35         37         -         dB           1920,0          1880,0         MHz         35         37         -         dB	Operating Temperature Range: Terminating source impedance: Terminating load impedance:	$Z_{\rm S} = 50.9$	Ω			
Maximum insertion attenuation 1805,0 $\alpha_{max}$ -       2,4       3,2       dB         Amplitude ripple (p-p) $\Delta \alpha$ -       0,9       1,9       dB         Iso5,0        1880,0       MHz       -       0,9       1,9       dB         Input VSWR       1805,0        1880,0       MHz       -       1,9       2,2       Imput VSWR         Iso5,0        Iso5,0       MHz       35       37       -       dB         Iso5,0        Iso5,0       MHz       35       37       -       dB         Attenuation $\alpha$ <			min.	typ.	max.	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Center frequency	f <sub>C</sub>	_	1842,5	-	MHz
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Maximum insertion attenuation 1805,0 1880		_	2,4	3,2	dB
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	<b>Amplitude ripple</b> (p-p) 1805,0 1880		_	0,9	1,9	dB
1805,0        1880,0       MHz        1,9       2,2         Attenuation       α        1,9       2,2         0,0        1480,0       MHz       35       37        dB         1480,0        1705,0       MHz       28       32        dB         1705,0        1785,0       MHz       10       15        dB         1920,0        1980,0       MHz       15       21        dB         1980,0        2400,0       MHz       30       37        dB         2400,0        2500,0       MHz       30       37        dB         3610,0        3610,0       MHz       35       40        dB	Input VSWR 1805,0 1880	,0 MHz	_	1,9	2,2	
0,0        1480,0       MHz       35       37        dB         1480,0        1705,0       MHz       28       32        dB         1705,0        1785,0       MHz       10       15        dB         1920,0        1980,0       MHz       15       21        dB         1980,0        2400,0       MHz       22       24        dB         2400,0        2500,0       MHz       30       37        dB         2500,0        3610,0       MHz       25       36        dB         3610,0        3760,0       MHz       35       40        dB	Output VSWR 1805,0 1880	,0 MHz	_	1,9	2,2	
0,0        1480,0       MHz       35       37        dB         1480,0        1705,0       MHz       28       32        dB         1705,0        1785,0       MHz       10       15        dB         1920,0        1980,0       MHz       15       21        dB         1980,0        2400,0       MHz       22       24        dB         2400,0        2500,0       MHz       30       37        dB         2500,0        3610,0       MHz       25       36        dB         3610,0        3760,0       MHz       35       40        dB	Attenuation	α				
1705,0        1785,0       MHz       10       15       —       dB         1920,0        1980,0       MHz       15       21       —       dB         1980,0        2400,0       MHz       22       24       —       dB         2400,0        2500,0       MHz       30       37       —       dB         2500,0        3610,0       MHz       25       36       —       dB         3610,0        3760,0       MHz       35       40       —       dB			35	37	_	dB
1920,0        1980,0       MHz       15       21       —       dB         1980,0        2400,0       MHz       22       24       —       dB         2400,0        2500,0       MHz       30       37       —       dB         2500,0        3610,0       MHz       25       36       —       dB         3610,0        3760,0       MHz       35       40       —       dB	1480,0 1705	,0 MHz	28	32	_	dB
1980,0       2400,0       MHz       22       24       —       dB         2400,0       2500,0       MHz       30       37       —       dB         2500,0       3610,0       MHz       25       36       —       dB         3610,0       3760,0       MHz       35       40       —       dB	1705,0 1785	,0 MHz	10	15		dB
2400,0        2500,0       MHz       30       37       —       dB         2500,0        3610,0       MHz       25       36       —       dB         3610,0        3760,0       MHz       35       40       —       dB	1920,0 1980	,0 MHz	15	21	-	dB
2500,0 3610,0 MHz 25 36 — dB 3610,0 3760,0 MHz 35 40 — dB		,				
3610,0 3760,0 MHz 35 40 — dB		,			-	
					-	
3760,0 6000,0 MHz 25 34 — dB					-	
	3760,0 6000	,U MHZ	25	34		aR



Transfer function (spec for 25°C)



#### Transfer function (wideband)



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Aug 07, 2003

SAW Components		B7744
Low-Loss Filter for Mo	bile Communication	1842,5 MHz
Data Sheet	SMD	

=MD

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