

SAW Components

Data Sheet B4233

© EPCOS AG 2015. Reproduction, publication and dissemination of this publication, enclosures hereto and the information contained therein without EPCOS' prior express consent is prohibited.

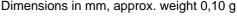
EPCOS AG is a TDK Group Company.

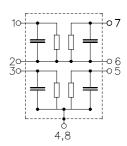
☆TDK

SAW Components		B4233
Low-Loss Dual Band Filter for Mob	ile Communication	a 390,0 / 420,0 MHz
Data Sheet	SMD	
		Ceramic package QCC8C
Features		
 Low-loss filter for TETRA Usable passband: 20 MHz Ceramic package for Surface Technology (SMT) RoHS compliant 	Mounted	
Terminals ■ Ni, gold-plated		
	Dime	nsions in mm, approx. weight 0,10 g

Pin configuration

1	Input [Filter 1]
3	Input [Filter 2]
5	Output [Filter 2]
7	Output [Filter 1]
2, 6	To be grounded
4, 8	Case ground





Туре	Ordering code		Packing according to
B4233	B39421-B4233-U310	C61157-A7-A56	F61074-V8070-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	Т	- 30 / + 85	°C	
Storage temperature range	T _{stg}	- 40 / + 85	°C	
DC voltage	V _{DC}	3	V	
ESD voltage	V [*] _{ESD}	100*	V	Machine Model, 10 pulses
Source power (CW)	Ps	12	dBm	

*-acc. to JESD22-A115A (Machine Model), 10 negative & 10 positive pulses

SAW Components B4233						
Low-Loss Dual Band Filter for Mobile	e Communic	ation	390),0 / 420,0	MHz	
Data Sheet	SMD					
Characteristics Filter 1						
Operating temperature range: $T = +25^{\circ}C$						
Terminating source impedance: $Z_{\rm S} = 50 \ \Omega$						
Terminating load impedance:	$Z_{\rm L} = 50 \ \Omega$					
		min.	typ.	max.		
Center frequency	f _c	_	390,0		MHz	
•• • • • • •						
Maximum insertion attenuation 380,0 400,0	α _{max} MHz		1,9	2,2	dB	
360,0 400,0			1,9	∠,∠		
Amplitude ripple (p-p)	Δα					
380,0 400,0	MHz	_	0,7	1,1	dB	
Input return loss		10.0	44.0			
380,0 400,0	MHz	10,0	11,0	_	dB	
Output return loss						
380,0 400,0	MHz	10,0	12,0	_	dB	
Attenuation	α_{abs}					
0,1 150,0	MHz	35,0	42,0	—	dB	
190,0 200,0	MHz	30,0	41,0		dB	
228,0 250,0 252,0 275,0	MHz MHz	30,0 30,0	41,0 39,0		dB dB	
275,0 287,0	MHz	30,0	39,0		dB	
304,0 320,0	MHz	30,0	34,0	_	dB	
320,0 335,0	MHz	30,0	33,0	_	dB	
342,0 360,0	MHz	20,0	25,0	—	dB	
418,0 440,0	MHz	20,0	22,0	—	dB	
442,0 455,0	MHz	25,0	31,0	—	dB	
456,0 480,0	MHz MHz	30,0	39,0		dB	
492,0 531,0 532,0 560,0	MHz MHz	30,0 33,0	42,0 39,0		dB dB	
570,0 600,0	MHz	25,0	35,0	_	dB	
632,0 668,0	MHz	35,0	46,0	_	dB	
684,01000,0	MHz	27,0	34,0		dB	

SAW Components					B4233
Low-Loss Dual Band Filter for Mob	ile Commur	nication	39	0,0 / 420	,0 MHz
Data Sheet	SMD				
Characteristics Filter 1					
Operating temperature range:	T = -30				
Terminating source impedance: Terminating load impedance:	$Z_{\rm S} = 50 \ \Omega$ $Z_{\rm I} = 50 \ \Omega$				
reminating load impedance.	ZL - 30 3	2			
		min.	typ.	max.	
Center frequency	f _c	-	390,0	-	MHz
Maximum insertion attenuation	α_{max}				
380,0 400,0		·	2,6	3,3	dB
Amplitude ripple (p-p)	$\Delta \alpha$				
380,0 400,0	MHz	-	1,4	2,3	dB
Input return loss					
380,0 400,0	MHz	10,0	11,0	_	dB
,-			, -		
Output return loss					
380,0 400,0	MHz	10,0	12,0	-	dB
Attenuation	α.				
0,1 150,0	α _{abs} MHz	35,0	42,0	_	dB
190,0 200,0		30,0	41,0	_	dB
228,0 250,0		30,0	41,0	_	dB
252,0 275,0	MHz	30,0	39,0	_	dB
275,0 287,0	MHz	33,0	37,0	-	dB
304,0 320,0		30,0	33,0	-	dB
320,0 335,0	MHz	30,0	33,0	-	dB
342,0 360,0		20,0	25,0	-	dB
418,0 440,0		20,0	21,0	-	dB
442,0 455,0		25,0	31,0	-	dB
456,0 480,0		30,0	39,0	-	dB
492,0 531,0		30,0	42,0	-	dB
532,0 560,0		33,0	39,0	-	dB
570,0 600,0		25,0	35,0	-	dB
632,0 668,0		35,0	46,0	-	dB
684,01000,0	MHz	27,0	34,0	-	dB

SAW Components					B4233
Low-Loss Dual Band Filter for Mo	bile Communi	cation	39	0,0 / 420,	0 MHz
Data Sheet	<u>SMD</u>				
Characteristics Filter 1					
Characteristics Filter 1					
Operating temperature range:	T = -30 to	o +85°C			
Terminating source impedance: Terminating load impedance:	$Z_{\rm S} = 50 \ \Omega$ $Z_{\rm I} = 50 \ \Omega$				
reminating load impedance.	2L - 30 32				
		min.	typ.	max.	
Center frequency	f _c	-	390,0	-	MHz
Maximum insertion attenuation	α_{max}				
380,0 400		_	2,7	3,3	dB
• • · · · · · · ·					
Amplitude ripple (p-p)	$\Delta \alpha$		1 5	2.2	dD
380,0 400	,0 MHz	_	1,5	2,3	dB
Input return loss					
380,0 400	,0 MHz	10,0	11,0	-	dB
Output roturn loop					
Output return loss 380,0 400	0 MHz	10,0	12,0	_	dB
,	-		, -		-
Attenuation	α_{abs}				
0,1 150		35,0	42,0	-	dB
190,0 200		30,0	41,0	-	dB
228,0 250		30,0	41,0	-	dB
252,0 275		30,0	39,0	-	dB
275,0 287		33,0	37,0	-	dB
304,0 320		30,0	33,0	-	dB
320,0 335		30,0	33,0	-	dB
342,0 360		20,0	25,0	-	dB
418,0 440		20,0	21,0	-	dB
442,0 455		25,0	31,0	-	dB
456,0 480		30,0	39,0	-	dB
492,0 531		30,0	42,0	-	dB
532,0 560		33,0	39,0	-	dB
570,0 600		25,0	35,0	-	dB
632,0 668		35,0	46,0	-	dB
684,01000	,0 MHz	27,0	34,0		dB

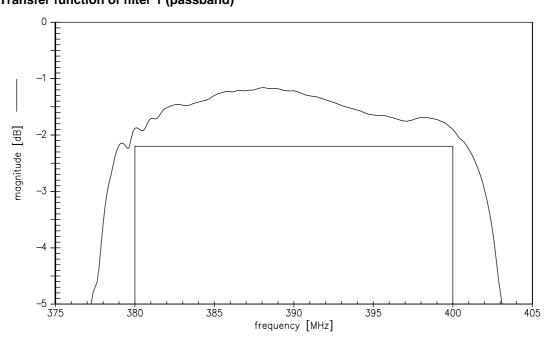
☆TDK



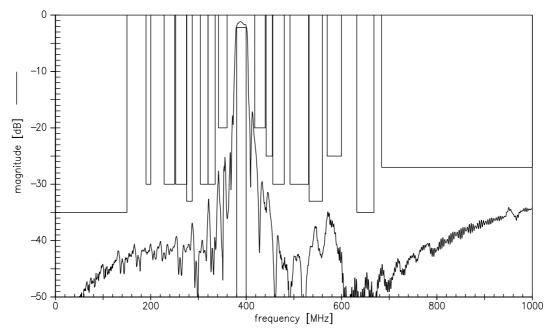
Data Sheet

SMD

Transfer function of filter 1 (passband)



Transfer function of filter 1 (narrow band)



6

⇔TDK

SAW Components						B4233
Low-Loss Dual Bar	nd Filter for Mo	bile Communi	cation	39	90,0 / 420	,0 MHz
Data Sheet						
Characteristics Filter	2					
Operating temperature		T = +25°				
Terminating source imp		$Z_{\rm S} = 50 \Omega$				
Terminating load imped	lance:	$Z_{\rm L} = 50 \ \Omega$	2			
			min.	typ.	max.	
Center frequency		f _c	-	420,0	_	MHz
Maximum insertion at	tenuation	$lpha_{max}$				
	410,0 430,0		_	1,9	2,2	dB
Amplitude ripple (p-p)		Δα				
	410,0 430,0	0 MHz	_	0,6	1,0	dB
Input return loss						
	410,0 430,	0 MHz	10,0	11,5	—	dB
Output return loss						
	410,0 430,0	0 MHz	10,0	13,5	—	dB
Attenuation		α_{abs}				
	0,1 150,0		35,0	42,0	—	dB
	204,0 216,		30,0	41,0		dB
	246,0 270,0		30,0	41,0		dB
	272,0 301,0		35,0	41,0		dB
	328,0 344,0		30,0	42,0		dB
	345,0 360,0		25,0	31,0		dB
	369,0 387,0		18,0	23,0		dB
	451,0 473,		20,0	23,0		dB
	477,0 491,0		25,0	35,0 30,0		dB
	492,0 516,0		30,0	39,0 38.0		dB
	532,0 573,0 574,0 602,0		30,0	38,0 39.0	_	dB dB
	574,0 602,0 602,01000,0		33,0	39,0 34.0		dB
	002,0 1000,0		27,0	34,0		dB

⇔TDK

SAW Components							B4233
Low-Loss Dual Band F	ilter for Mobi	le Con	nmunio	cation	39	90,0 / 420	,0 MHz
Data Sheet		SD					
Characteristics Filter 2							
Operating temperature rang Terminating source impedar Terminating load impedance	nce:		= -30 to = 50 Ω = 50 Ω				
				min.	typ.	max.	
Center frequency			f _c	_	420,0		MHz
Maximum insertion attenu 410	ation 0,0 430,0	MHz	α_{max}	_	2,4	3,3	dB
Amplitude ripple (p-p) 410	,0 430,0	MHz	Δα	_	1,1	2,2	dB
Input return loss 410	,0 430,0	MHz		10,0	11,5	_	dB
Output return loss 410	0,0 430,0	MHz		10,0	13,5	_	dB
Attenuation			α_{abs}				
C	,1 150,0	MHz		35,0	42,0	_	dB
204		MHz		30,0	41,0	—	dB
	,0 270,0	MHz		30,0	41,0		dB
	2,0 301,0	MHz		35,0	41,0	_	dB
	,0 344,0	MHz		30,0	35,0	_	dB
	,0 360,0	MHz		25,0	31,0		dB
369		MHz		18,0	23,0		dB
	,0 473,0	MHz		20,0	21,0		dB
	7,0 491,0	MHz		25,0	35,0 20.0		dB dB
492 532		MHz MHz		30,0 20.0	39,0 28.0		dB dB
532		MHz		30,0 33,0	38,0 39,0		dВ
602		MHz		33,0 27,0	34,0	_	dB

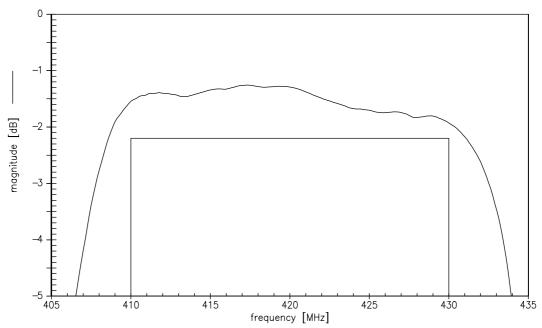
SAW Components						B4233
Low-Loss Dual Band Filter for	Nobile Co	ommuni	cation	39	90,0 / 420),0 MHz
Data Sheet		MD				
Characteristics Filter 2						
Operating temperature range: Terminating source impedance: Terminating load impedance:		= -30 t $= 50 \Omega$ $= 50 \Omega$				
			min.	typ.	max.	
Center frequency		f _c	—	420,0	_	MHz
Maximum insertion attenuation 410,0 43	30,0 MH	α _{max} z	_	2,5	3,3	dB
Amplitude ripple (p-p) 410,0 43	30,0 MH	Δα z	_	1,2	2,2	dB
Input return loss 410,0 43	30,0 MH	Z	10,0	11,5	_	dB
Output return loss 410,0 43	30,0 MH	Z	10,0	13,5	_	dB
Attenuation		α_{abs}				
0,1 15			35,0	42,0		dB
204,0 21			30,0	41,0	-	dB
246,0 27			30,0	41,0		dB
272,0 30			35,0	41,0	-	dB
328,0 34			30,0	35,0	-	dB
345,0 30			25,0	31,0	_	dB
369,0 38	,		18,0	23,0	_	dB dB
451,0 47 477,0 49	,		20,0 25,0	21,0 35,0		dB dB
477,0 48			25,0 30,0	39,0 39,0		dВ
492,0 5 532,0 57		_	30,0	39,0		dB
574,0 60			33,0	39,0	_	dB
602,0100			27,0	34,0		dB

☆TDK

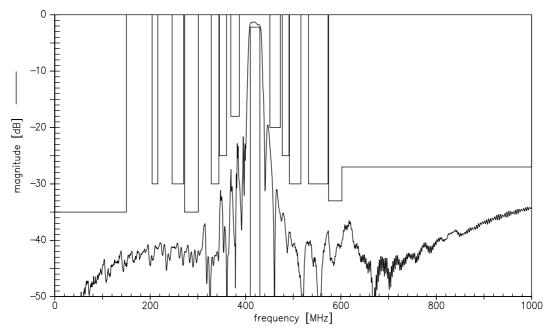


Data Sheet

Transfer function of filter 2 (passband)



Transfer function of filter 2 (narrow band)



SAW Components		B4233
Low-Loss Dual Band	Filter for Mobile Communication	390,0 / 420,0 MHz
Data Sheet	SMD	

Published by EPCOS AG Surface Acoustic Wave Components Division, SAW COM WT PD P.O. Box 80 17 09, 81617 Munich, GERMANY

© EPCOS AG 2006. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.

