



SAW Components

SAW RF filter for Trunk Radio

TETRA

Series/type: B5150
Ordering code: B39451B5150Z810

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Version: 2.0

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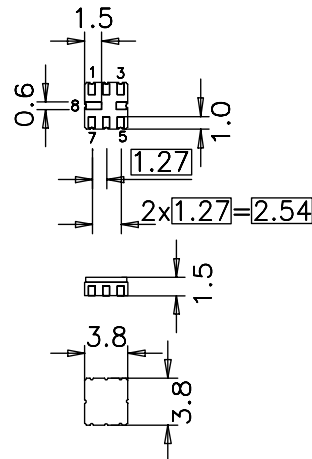
Data sheet


Application

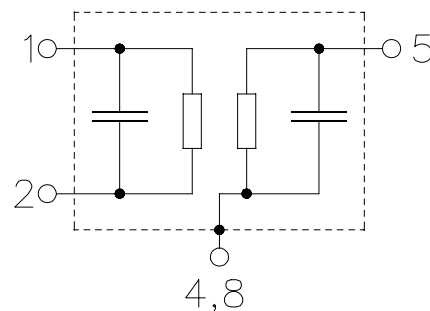
- Low-loss RF filter for TETRA systems, receive path (Rx)
- Unbalanced to unbalanced or unbalanced to balanced operation
- Low amplitude ripple
- No external matching required
- Usable passband 15MHz


Features

- Package size 3.8 x 3.8 x 1.35 mm³
- Package code QCC8B
- RoHS compatible
- Approximate weight 0.07 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 1**
- Filter surface passivated


Pin configuration

- 5 Input
- 1 Output / Output balanced
- 2 Output ground / Output balanced
- 3,6,7 To be grounded
- 4,8 Case grounded



Data sheet

Characteristics

Temperature range for specification:	T = -30 °C to +70 °C
Terminating source impedance:	Z _S = 50 Ω unbalanced
Terminating load impedance:	Z _L = 50 Ω unbalanced

		min.	typ. @ 25 °C	max.	
Center frequency	f _C	—	452.5	—	MHz
Maximum insertion attenuation	α _{max}				
445.0 ... 460.0 MHz		—	1.6	3.0 ¹⁾	dB
Amplitude ripple (p-p)	Δα				
445.0 ... 460.0 MHz		—	0.7	2.0 ²⁾	dB
VSWR					
445.0 ... 460.0 MHz		—	2.0	2.2	
Attenuation	α				
10.0 ... 326.0 MHz		31	61	—	dB
326.0 ... 440.0 MHz		10	15	—	dB
465.0 ... 509.0 MHz		10	16	—	dB
509.0 ... 525.0 MHz		16	54	—	dB
525.0 ... 552.0 MHz		27	52	—	dB
607.0 ... 623.0 MHz		49	50.5	—	dB
624.0 ... 1481.0 MHz		25	27	—	dB
1482.0 ... 1676.0 MHz		31	35	—	dB
1707.0 ... 2206.0 MHz		25	28	—	dB
2207.0 ... 4412.0 MHz		12	14	—	dB

¹⁾ 2.5dB max at +15°C to 35°C.

²⁾ 1.5dB max at +15°C to 35°C.


Maximum ratings

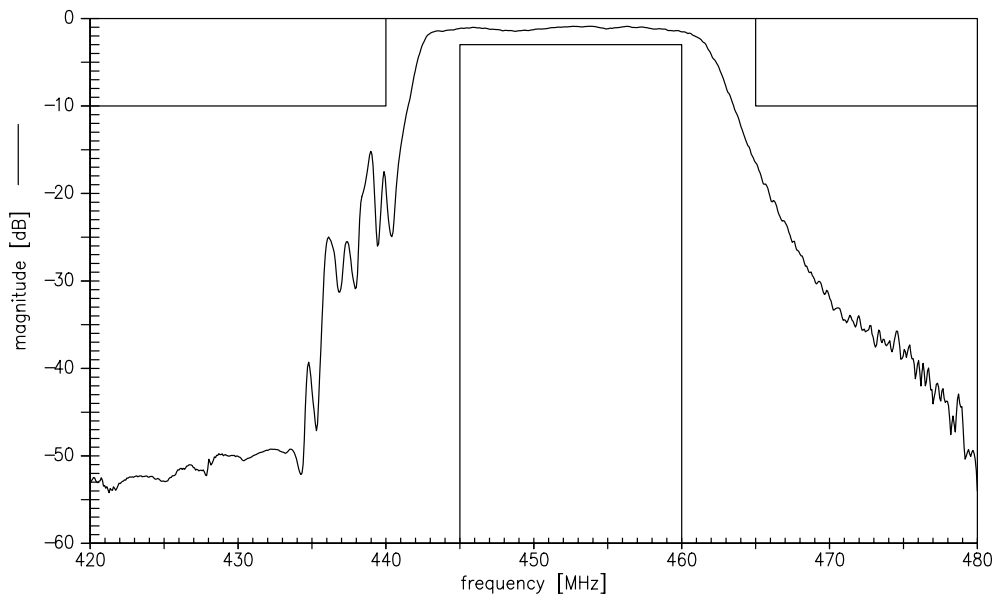
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	machine model, 1 pulse
Input power at 445.0 ... 460.0	P _{IN}	15	dBm	CW @10000 hrs, 25 °C

¹⁾ acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.

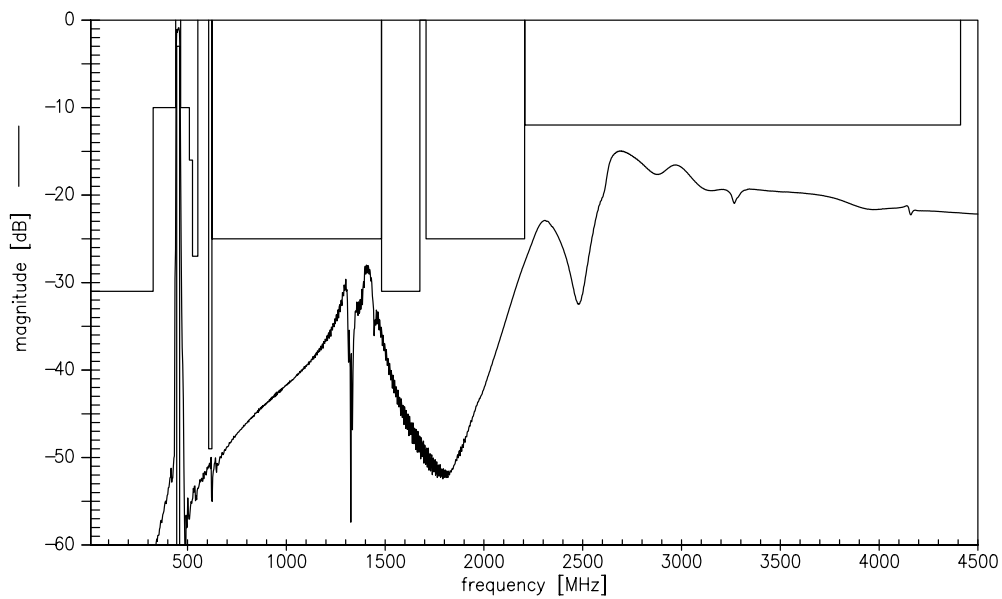
Data sheet



Transfer function



Transfer function (wideband)



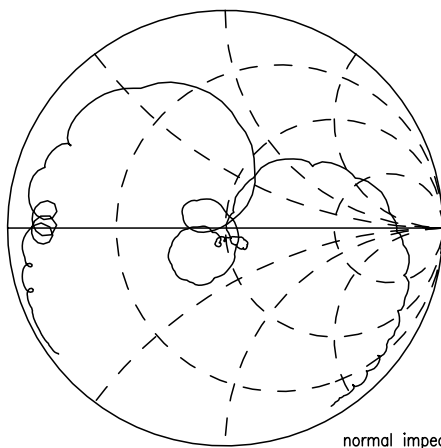
Please read *cautions and warnings* and *important notes* at the end of this document.

Data sheet

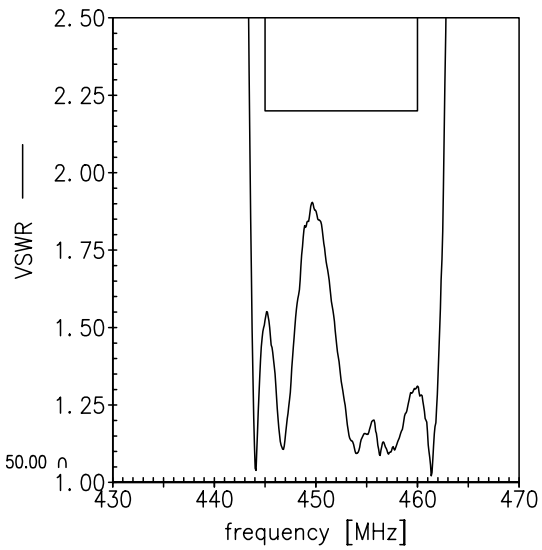


Smith charts

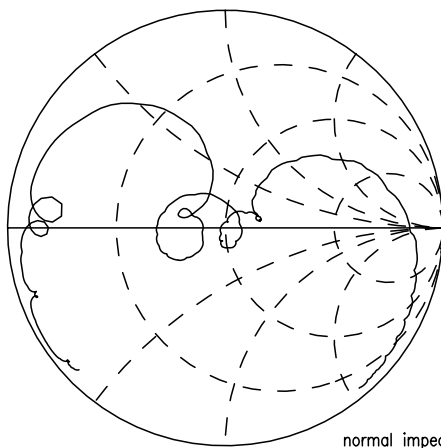
S_{11} function



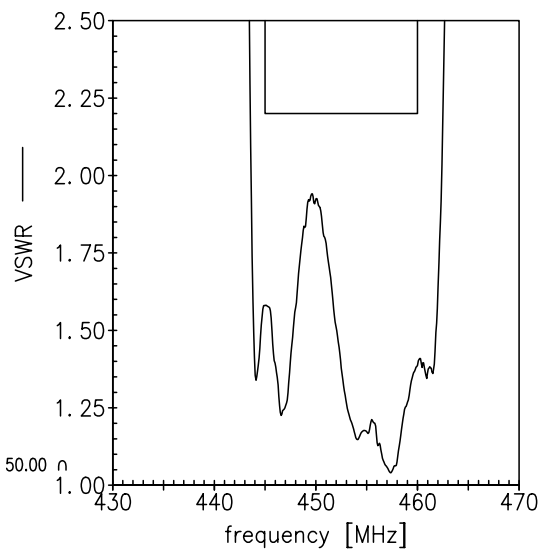
normal impedance: 50.00 Ω



S_{22} function



normal impedance: 50.00 Ω




References

Type	B5150
Ordering code	B39451B5150Z810
Marking and package	C61157-A7-A46
Packaging	F61074-V8167-Z000
Date codes	L_1126
S-parameters	B5150_NB.s2p B5150_WB.s2p See file header for port/pin assignment table
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

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