



SAW Components

SAW RF filter for base stations

APT700

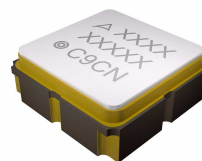
Series/type:	B5194
Ordering code:	B39731B5194U410
Date:	April 29,2014
Version:	2.1

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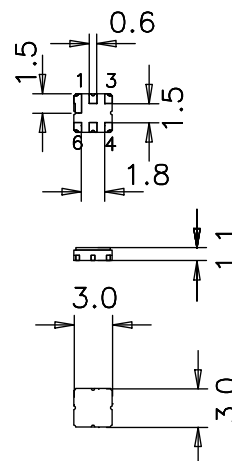
Application

- RF Rx filter for APT 700
- Usable passband 45MHz
- Unbalanced to unbalanced operation



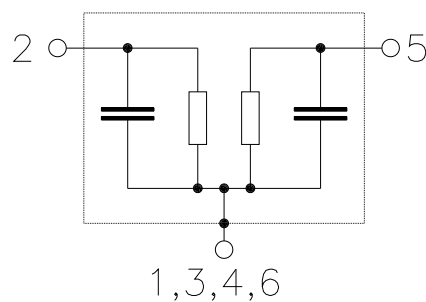
Features

- Package size 3.0 x3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Ceramic Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 1**
- Filter surface passivated



Pin configuration

- 2 Input
- 5 Output
- 1,3,4,6 Case grounded



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Characteristics

 Temperature range for specification: $T = -40\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$

 Terminating source impedance: $Z_S = 50\ \Omega$

 Terminating load impedance: $Z_L = 50\ \Omega$

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	725.5	—	MHz
Maximum insertion attenuation	α_{\max}	—	2.4	3.0	dB
	703.0 ... 748.0 MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	0.7	1.5	dB
	703.0 ... 748.0 MHz				
Return loss		10	12	—	dB
	703.0 ... 748.0 MHz				
Absolute attenuation	α_{abs}				
	50.0 ... 100.0 MHz	30	47	—	dB
	430.0 ... 480.0 MHz	30	35	—	dB
	480.0 ... 648.0 MHz	20	28	—	dB
	785.0 ... 830.0 MHz	14	18	—	dB
	936.0 ... 971.0 MHz	20	40	—	dB
	1090.0 ... 1150.0 MHz	20	26	—	dB
	1615.0 ... 1660.0 MHz	30	37	—	dB

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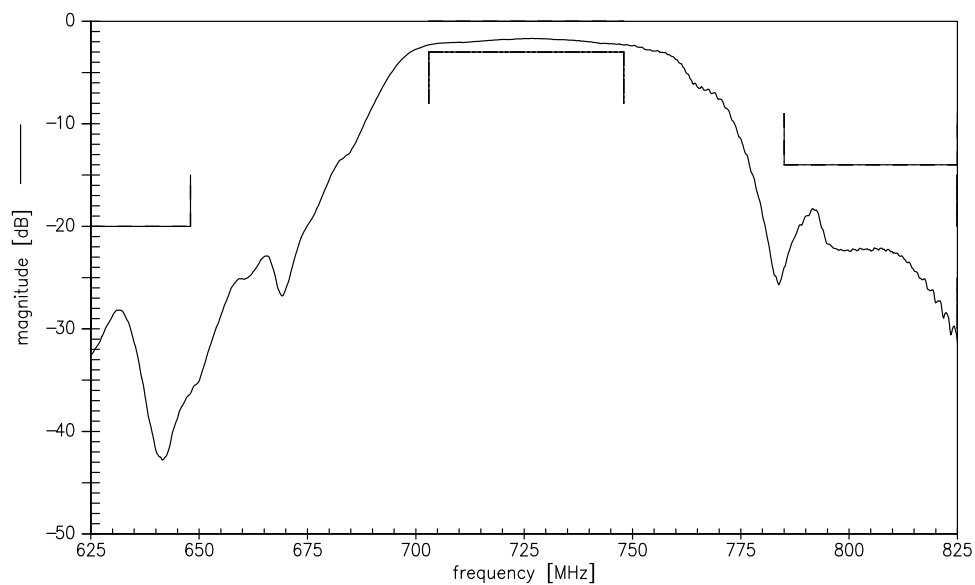
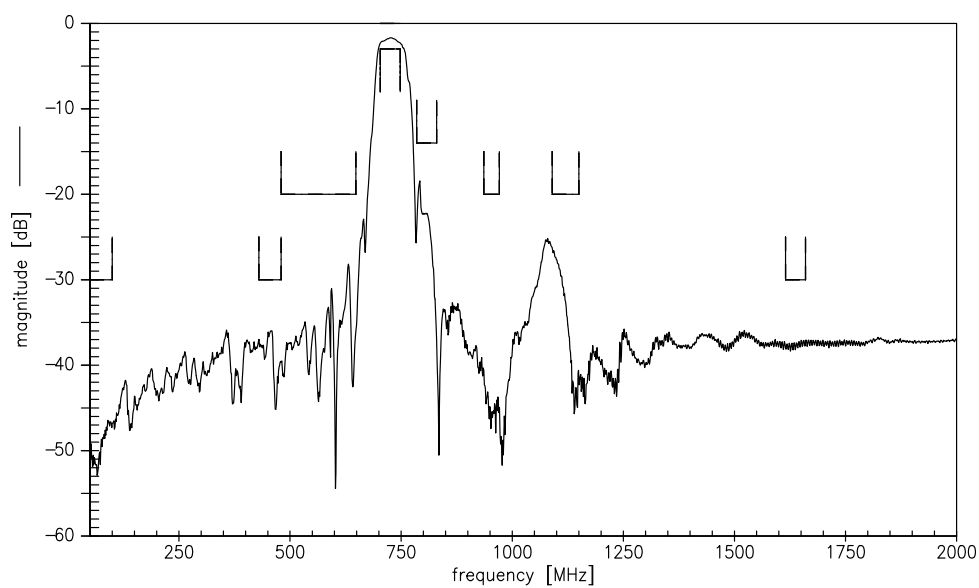
Maximum ratings

Operable temperature range	T	−45/+125	°C	
Storage temperature range	T _{stg}	−45/+125	°C	
DC voltage	V _{DC}	6	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	machine model, 10 pulses
		350 ²⁾	V	human body model, 1 pulse
		1000 ³⁾	V	charge device model
Input power at				
703.0 ... 748.0 MHz	P _{IN}	25	dBm	CW @ 85°C, 48 hrs
703.0 ... 748.0 MHz	P _{IN}	20	dBm	CW @ 85°C, 100000 hrs

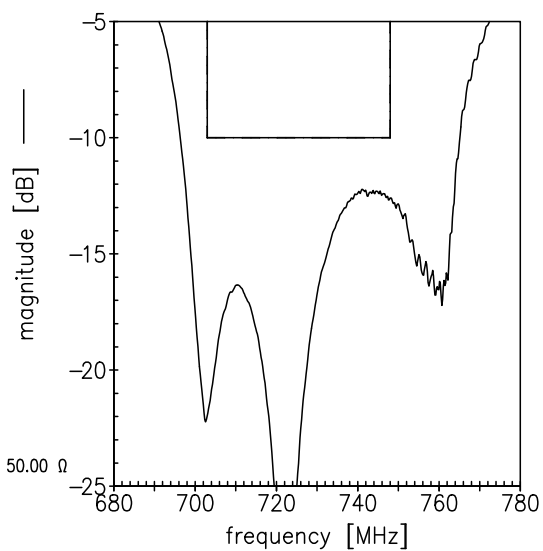
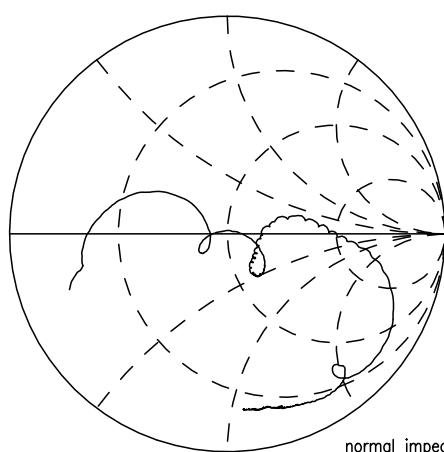
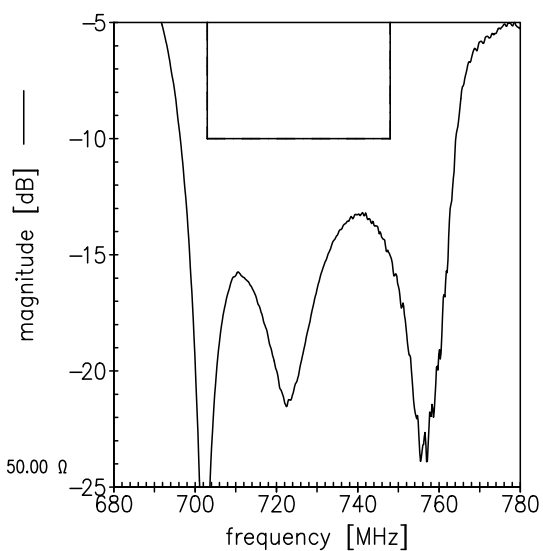
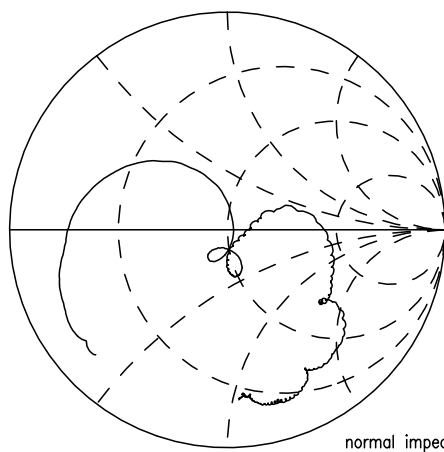
¹⁾ acc. to JESD22-A115B (machine model), +/- 10 pulses.

²⁾ acc. to JESD22-A114F (human body model), +/- 1 pulse.

³⁾ acc. to JESD22-C101E (charge device model).

Transfer function

Transfer function (wideband)


Data sheet


Smith chart
 S_{11} function

 S_{22} function


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References

Type	B5194
Ordering code	B39731B5194U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8228-Z000
Date codes	L_1126
S-parameters	B5194_NB.s2p,B5194_WB.s2p see file header for port/pin assignment table
Soldering profile	S_6001
RoHS compatible	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8th, 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
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 for a large variety of matching coils.

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