

**DATA SHEET**

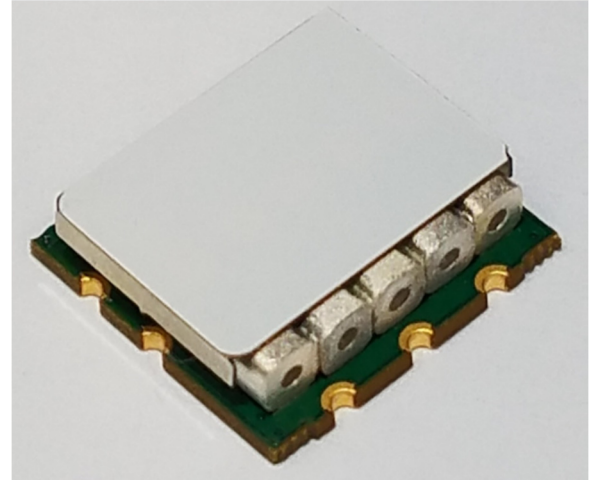
# TT49764E-TR: 4700 MHz Ceramic Filter

## Applications

- C-band applications
- Portable transceivers for both military and homeland security radio communications

## Features

- Surface mount design
- 600 MHz bandwidth
- Wide operating temperature range
- Light weight
- Smaller profile compared to a typical ceramic design
- Easy drop-in solution
- Quick turnaround on new designs
- RoHS-compliant
- Available in various frequencies



**Figure 1. TT49764E-TR External View**

## Description

Skyworks, through its wholly owned subsidiary, Trans-Tech, offers a family of ultra-small profile filters available in surface-mount technology (SMT) designs. We can design and manufacture filters from 200 MHz up to 8 GHz, with higher power handling ability up to 10 W, continuous wave (CW). We also offer rapid response times on all filter design requirements.

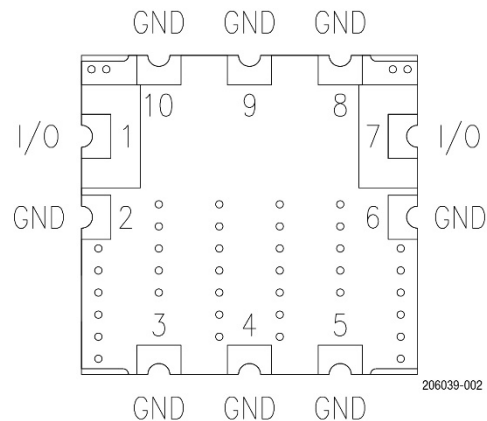
The small-profile ceramic filter designs offer customers the option to go with a lighter weight, and reduced X-Y-Z dimensions as solutions to their requirements.

These ceramic filter solutions allow design flexibility beyond traditional ceramic styles.



Skyworks Green™ products are compliant with all applicable legislation and are halogen-free. For additional information, refer to *Skyworks Definition of Green™*, document number SQ04-0074.

**Figure 2. TT49764E-TR Pin Out (Bottom View)**



**Table 1. TT49764E-TR Signal Pin Description**

Pin	Name	Function
2, 3, 4, 5, 6, 8, 9, 10	GND	Castellations are RF ground
1, 7	I/O	Input / Output

**Table 2. TT49764E-TR Absolute Maximum Ratings (Tc = 25 °C, Unless Otherwise Noted)<sup>1</sup>**

Parameter	Symbol	Minimum	Maximum	Units
RF CW input power, IO, IO	P <sub>IN</sub>		10	W
Storage Temperature Range	T <sub>STG</sub>	-40	+85	°C
Maximum Junction temperature	T <sub>J</sub>		N/A	
Electrostatic discharge: Charged device model (MDM), Class C3 Human Body model (HBM), Class 2	ESD		N/A	V

<sup>1</sup> Exposure to maximum rating conditions for extended periods may reduce device reliability. There is no damage to device with only one parameter set at the limit and all other parameters set at or below their nominal value. Exceeding any of the limits listed here may result in permanent damage to the device.

**Table 3. TT49764E-TR Electrical Specifications<sup>1</sup>**

Parameter	Symbol	Test Condition	Minimum	Typical	Maximum	Units
Center frequency	f <sub>0</sub>			4700		MHz
Poles				5		
Bandwidth	BW			F <sub>0</sub> ± 300		MHz
Insertion loss	IL	IL @ BW			2.1	dB
Return loss	RL	RL @ BW		15		dB
Out of band rejection		@ 4000 MHz	30			dBc
		@ 5400 MHz	19			
Impedance				50		Ω

<sup>1</sup> Performance is guaranteed only under the conditions listed in this table.

### Typical Performance Characteristics

(Tc = 25 °C, Characteristic Impedance (Zo) = 50 Ω)

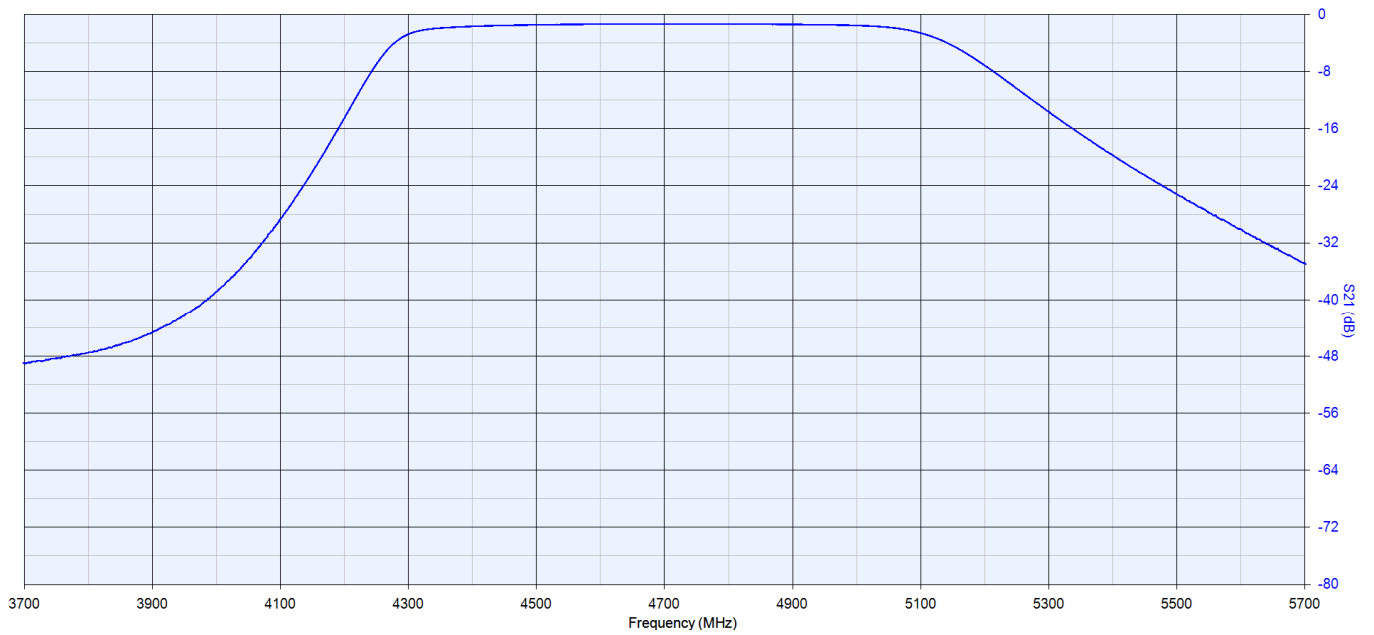


Figure 3. TT49764E-TR Insertion Loss vs Frequency

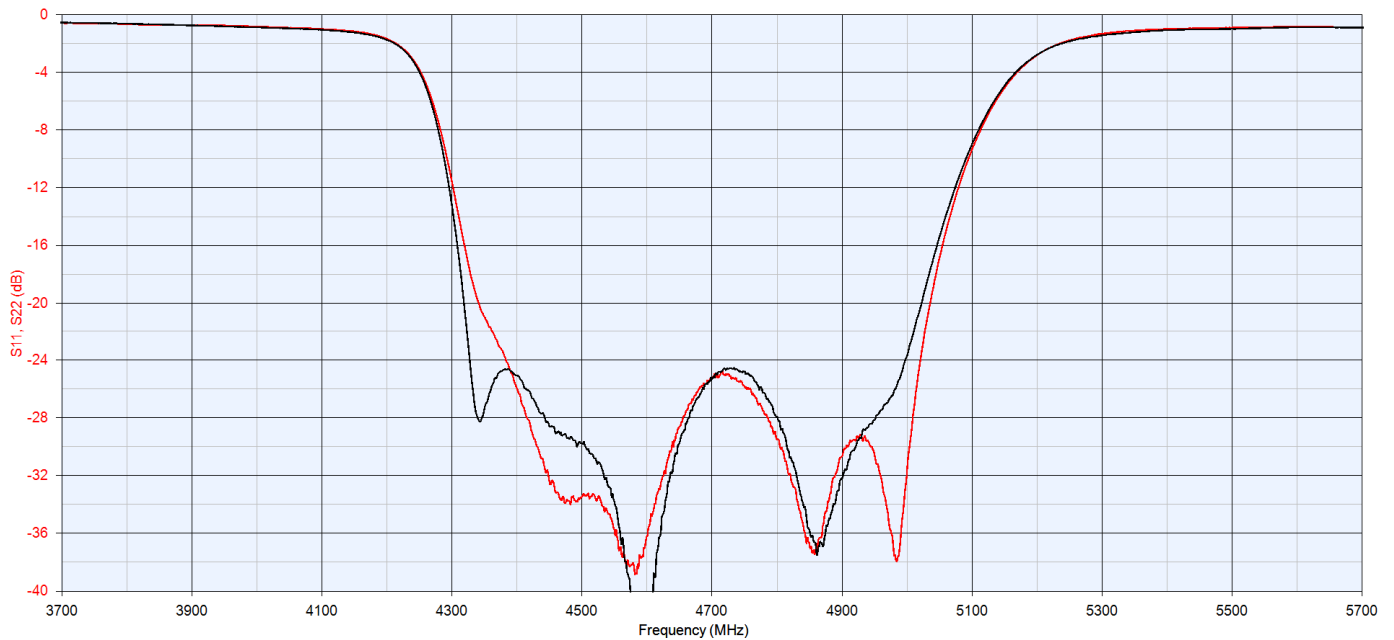


Figure 4. TT49764E-TR Return Loss vs Frequency

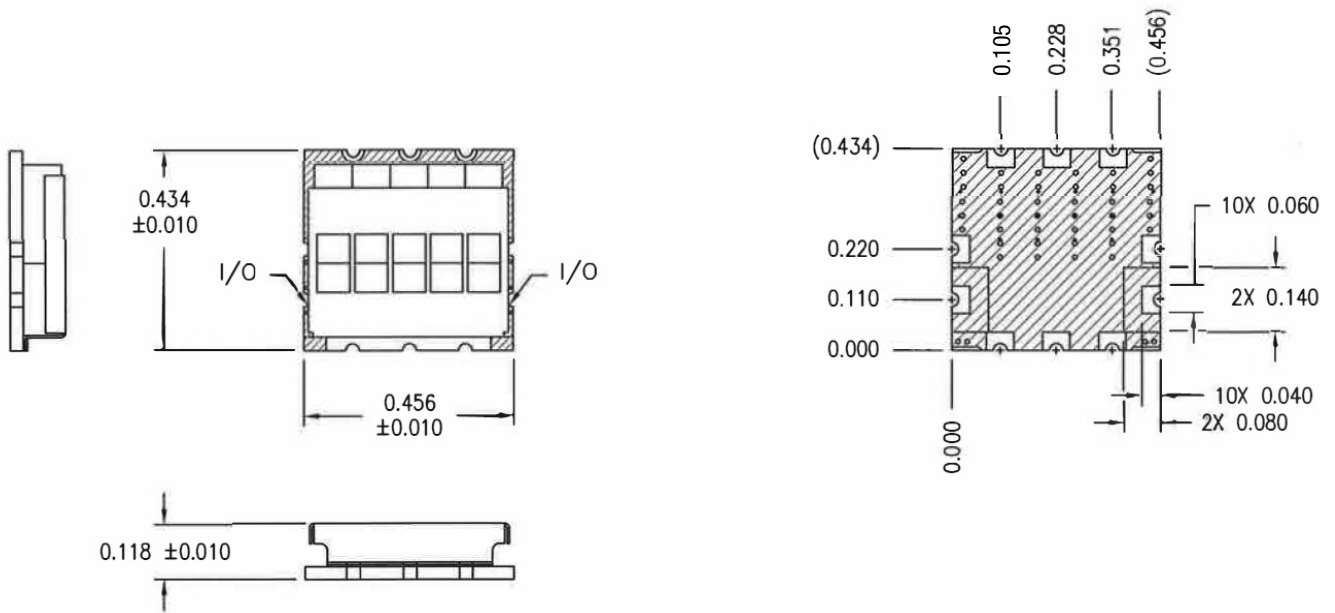
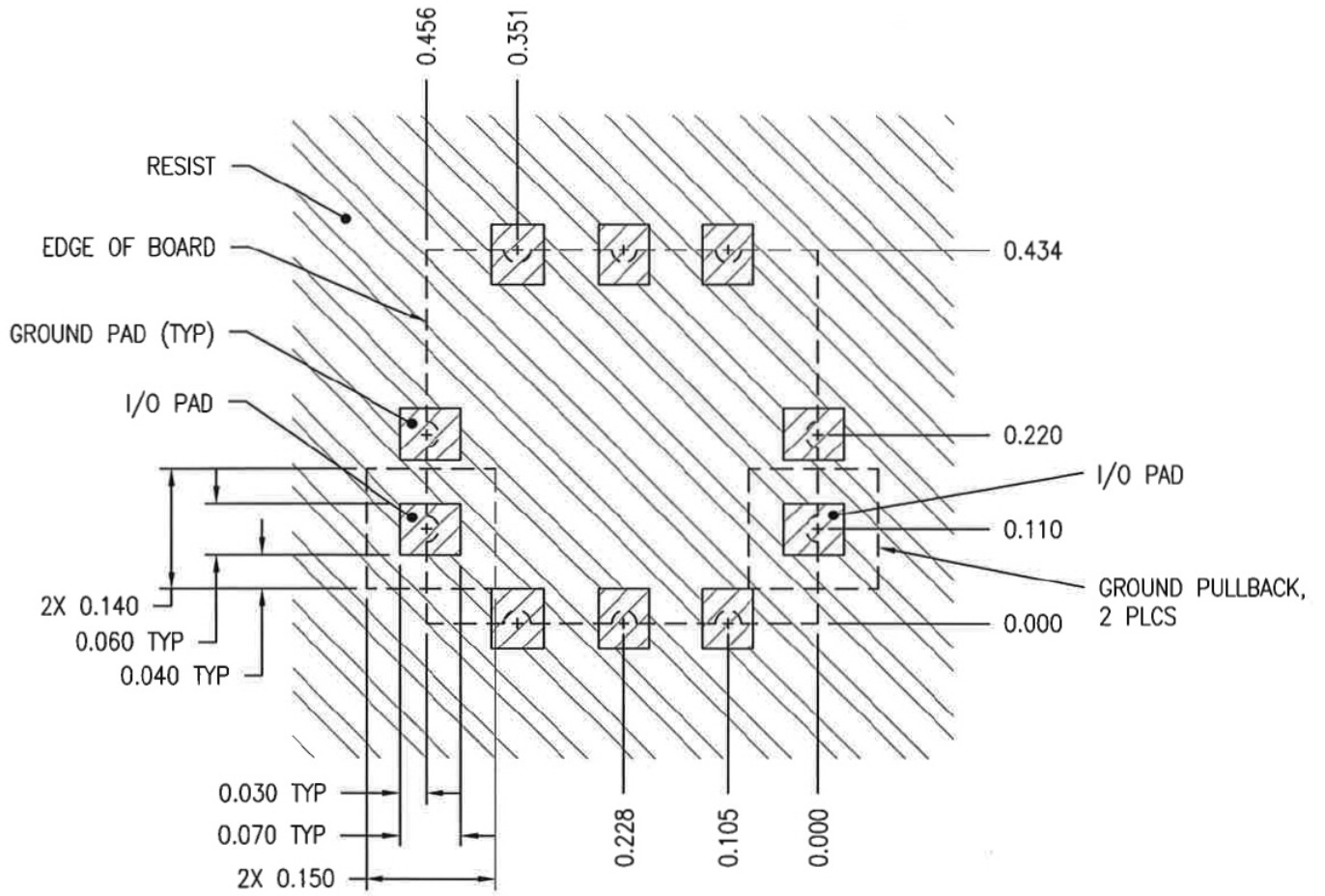


Figure 5. TT49764E-TR Package Dimensions



**Figure 6. TT49764E-TR PCB Layout Footprint**

**Ordering Information**

Part Number	Product Description
TT49764E-TR	4700 MHz RF Ceramic Filter

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