

6 dB Fixed Attenuator for Cryogenic Application, SMA
Male to SMA Female Passivated Stainless Steel
Hex/Round Body Rated to 2W, DC to 18 GHz



PE7700-6

Features

- Cryogenic Operating Temperature Range -265.15 to 125Deg °C
- Bidirectional
- DC to 18 GHz Range
- Attenuation 6 +/- 0.3dB
- 2 Watts Average Input Power
- VSWR <1.35:1

Applications

- Quantum Computing
- Precision Measurements
- Instrumentation
- Prototyping and Characterization

Description

Pasternack carries a wide range of fixed attenuators with a broad selection of attenuation levels, frequency ranges, and power dissipation ranges. RF microwave attenuators (also known as RF pads) lower the amplitude of a signal (attenuate) a known amount and can be used in a wide variety of applications. These attenuator pads are used when a signal needs to be reduced to protect measurement equipment or other circuitry, to extend the range of power meters and amplifiers, and to impedance match circuits by reducing the VSWR seen by adjacent components. RF attenuators can prevent signal overload in amplifiers, receivers and detectors, adjusting the signal level to a range that is optimal.

Few RF components are as commonly used as fixed coaxial attenuators, and Pasternack carries one of the largest in-stock varieties and ships them same day. The 6 dB Fixed Attenuator PE7700-6 is rated to 2 Watts and operates from DC to 18 GHz. The versatile coaxial package uses SMA male to SMA female connectors. The PE7700 series are specially designed and manufactured for cryogenic applications with RF performances guaranteed at 4 kelvin.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Nominal Attenuation		6		dB
Attenuation Accuracy			±0.3	dB
VSWR		1.25:1	1.35:1	
Input Power, CW			2	Watts
Derates linearly to 10% @ 125°C from 25°C				
Input Power, Peak			500	Watts
5 µSec PW, .05% duty cycle				

Specifications by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 6	6 to 12.4	12.4 to 18			GHz
VSWR, Max	1.15:1	1.25:1	1.35:1			

Mechanical Specifications

Size

- Length 0.86 in [21.84 mm]
- Width/Diameter 0.31 in [7.87 mm]

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Height	0.31 in [7.87 mm]
Weight	0.005 lbs [2.27 g]
Body Material and Plating	Passivated Stainless Steel
Configuration	
Design	Fixed, Bidirectional

Connectors

Description	Connector 1	Connector 2
Type	SMA Male	SMA Female
Contact Material and Plating	Beryllium Copper, Gold	Beryllium Copper, Gold
Dielectric Type	PTFE	PTFE
Torque	7 in-lbs 0.79 Nm	7 in-lbs 0.79 Nm

Environmental Specifications

Temperature	
Operating Range	-269.15 to +125 deg C
Storage Range	-269.15 to +150 deg C

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Performance Data

6 dB Fixed Attenuator for Cryogenic Application, SMA Male to SMA Female Passivated Stainless Steel Hex/Round Body Rated to 2W, DC to 18 GHz from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

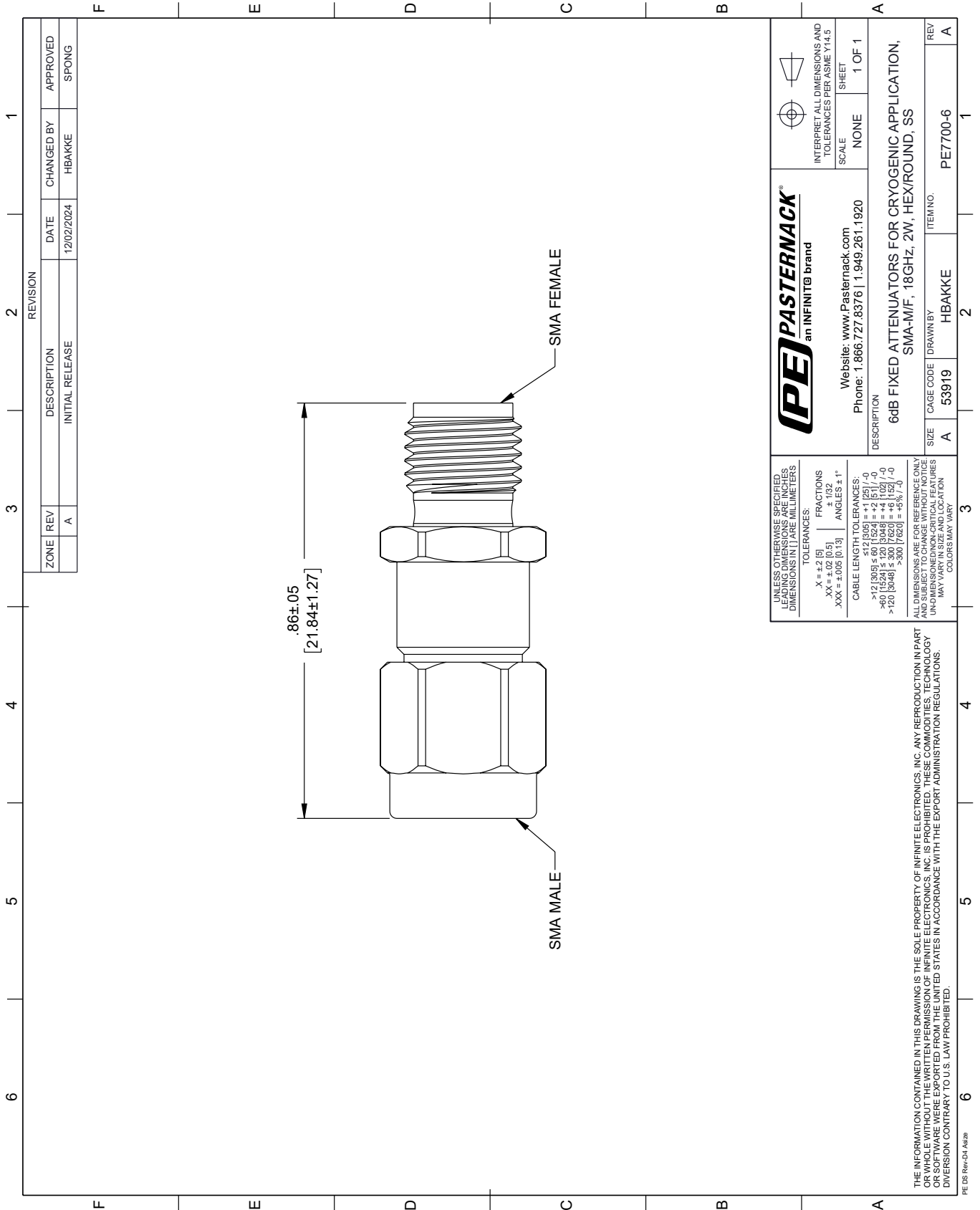
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [6 dB Fixed Attenuator for Cryogenic Application, SMA Male to SMA Female Passivated Stainless Steel Hex/Round Body Rated to 2W, DC to 18 GHz PE7700-6](#)

URL: <https://www.pasternack.com/6db-fixed-sma-male-sma-female-2-watts-attenuator-pe7700-6-p.aspx>

The information contained within this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part in order to implement improvements. Pasternack Enterprises reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack Enterprises does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack Enterprises does not assume liability arising out of the use of any part or document.

PE7700-6 CAD Drawing

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 Passivated Stainless Steel Hex/Round Body Rated to 2W, DC to 18 GHz



REVISION		DATE	CHANGED BY	APPROVED	
ZONE	REV	DESCRIPTION	DATE	CHANGED BY	APPROVED
	A	INITIAL RELEASE	12/02/2024	HBAKKE	SPONG

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INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5
 SCALE NONE SHEET 1 OF 1

DESCRIPTION
 6dB FIXED ATTENUATORS FOR CRYOGENIC APPLICATION,
 SMA-MF, 18GHz, 2W, HEX/ROUND, SS

SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	53919	HBAKKE	PE7700-6

REV A

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:
 .X = ±.2 [5]
 .XX = ±.02 [0.5]
 .XXX = ±.005 [0.13]

FRACTIONS ± 1/32
 ANGLES ± 1°

CABLE LENGTH TOLERANCES:
 >12 [305] ≤ 60 [1524] = ±.1 [2.5] / -0
 >60 [1524] ≤ 120 [3048] = ±.4 [102] / -0
 >120 [3048] ≤ 300 [7620] = ±.8 [20] / -0

ALL DIMENSIONS ARE FOR REFERENCE ONLY. UNDIMENSIONED/NON-CRITICAL FEATURES MAY VARY IN SIZE AND LOCATION. COLORS MAY VARY.

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