Coaxial

Voltage Variable Attenuator

ZX73-123+

50Ω 0 to 20 dB 6 to 12 GHz Single Control Voltage

The Big Deal

- Full octave bandwidth, 6 to 12 GHz
- Low insertion loss, 0.8 dB

(@ 0 dB attenuation setting)

- Single control voltage
- Low DC current Consumption, 40mA max.

CASE STYLE: BY2911

Product Overview

Mini-Circuits' ZX73-123+ is a 50Ω reflective voltage variable attenuator which provides adjustable attenuation from 0 to 20 dB with continuous change. This model covers a wide frequency range from 6 to 12 GHz and operates on a single positive voltage with no extra supply voltage needed.

Key Features

Feature	Advantages
Wideband operation, specified from 6 to 12 GHz	Can be used in multiple applications such as communications, satellite and defense, reducing part count
Variable attenuation from 0 to 20 dB with continuous change	Compared to digital step attenuators with minimum, discrete attenuation steps, this product can provide an arbitrarily small change in attenuation by changing the control voltage, without introducing any phase perturbations.
Single positive control voltage	Many similar devices require both supply voltage and control voltage. ZX73-123+ only needs a single positive control voltage for operation. No additional supply voltage needed, greatly simplifying system design.

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Generic photo used for illustration purposes only

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Connectors	Model
SMA	ZX73-123+

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 85°C
Absolute Max. Control Voltage(Vcrtl)	1 V
Absolute Max.RF Input Level	+20dBm

Permanent damage may occur if any of these limits are exceeded

Features

- wideband, from 6 to 12 GHz
- adjustable attenuation from 0 to 20 dB
- low insertion loss, 0.8 dB typ.
- single control voltage
- low DC current consumption, 40mA max.

Applications

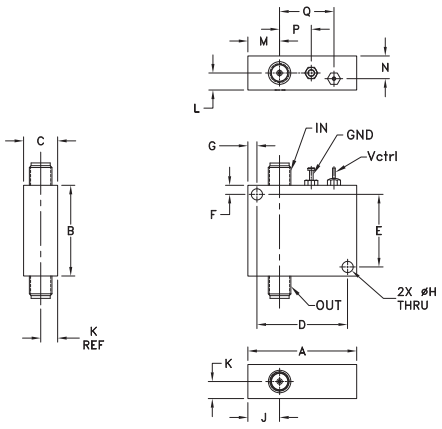
- variable gain amplifier
- power level control
- feed-forward amlifiers
- testing

Electrical Specifications at 25°C

Parameter	Frequency (GHz)	Conditions	Min.	Typ.	Max.	Units
Frequency range			6	—	12	GHz
Insertion Loss	6 - 12	Vctrl = 0V	—	0.8	1.6	dB
Return Loss	6 - 12	Vctrl = 0V	8.5	15	—	dB
Attenuation Range (1)	6 - 12	Vctrl = 0 - 0.85V	—	20	—	dB
Control Voltage	6 - 12	@20dB attenuation	—	—	0.85	V
Control Current	6 - 12	@20dB attenuation	—	—	40	mA

1. Attenuation is the relative insertion loss with reference to the insertion loss at Vctrl=0V.

Outline Drawing

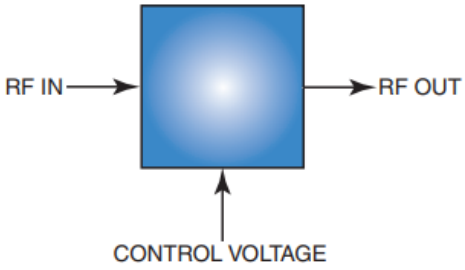


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H
1.20	1.00	.38	1.0	.800	.10	.10	.125
30.48	25.40	9.65	25.40	20.32	2.54	2.54	3.18

J	K	L	M	N	P	Q	wt
.35	.19	.19	.35	.25	.350	.600	grams
8.89	4.83	4.83	8.89	6.35	8.89	15.24	75

Electrical Schematic



Notes
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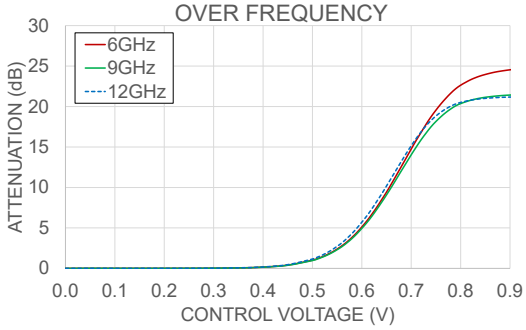
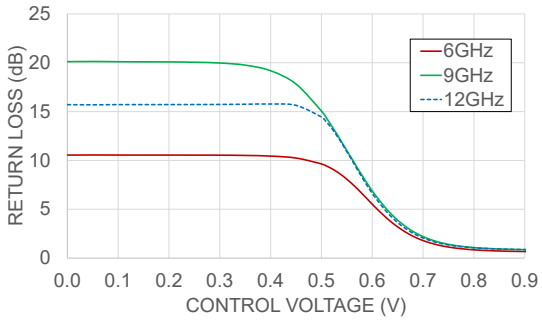
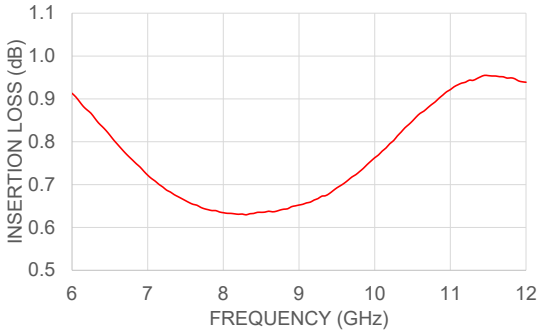
ZX73-123+
ATTENUATION vs. CONTROL VOLTAGE OVER FREQUENCY



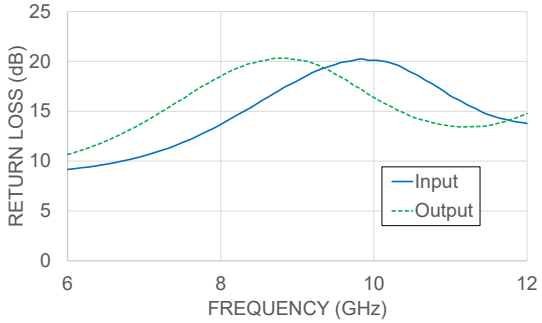
ZX73-123+
INPUT RETURN LOSS vs. CONTROL VOLTAGE OVER FREQUENCY



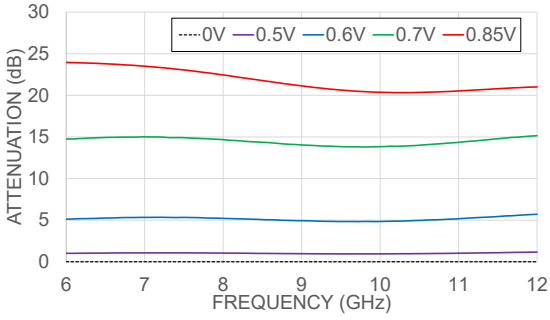
ZX73-123+
INSERTION LOSS @Vctrl = 0V



ZX73-123+
RETURN LOSS @Vctrl = 0V



ZX73-123+
ATTENUATION vs. FREQUENCY OVER CONTROL VOLTAGE



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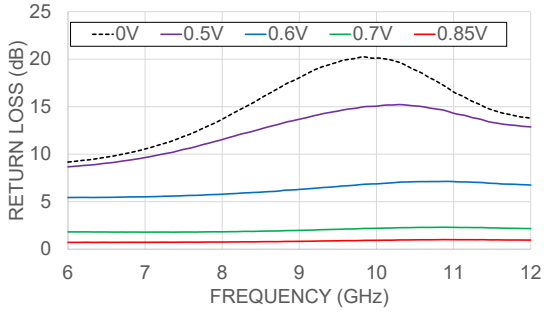

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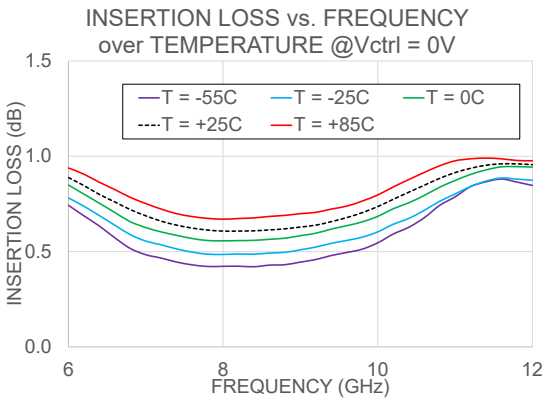

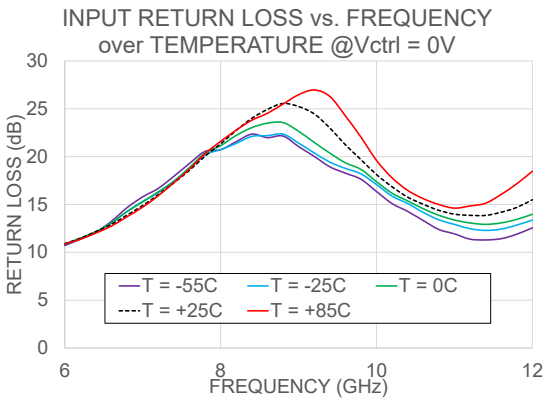

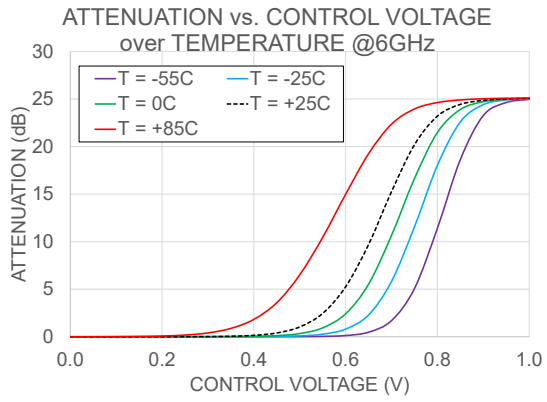

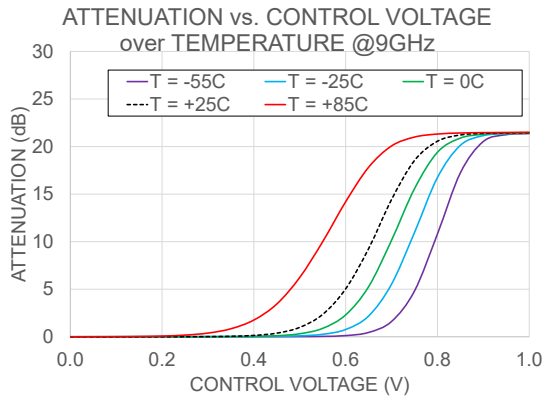

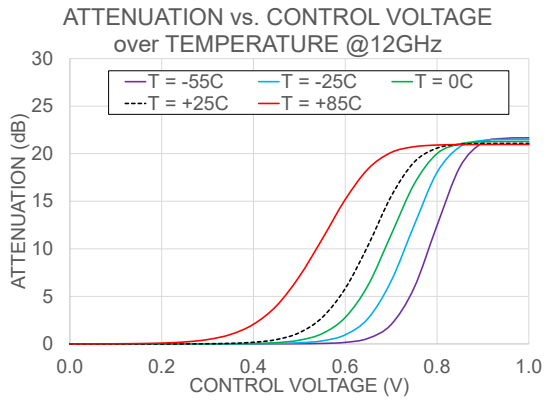

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