Variable attenuator VA102

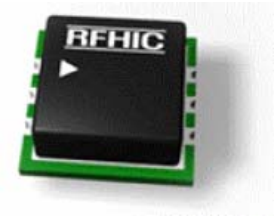
RFHIC

Product Features

- Single Voltage
- Pin diode based
- Voltage variable
- High Linearity
- SMD Type

Application

- Repeater
- RF Sub-Systems
- Base Station



Package Type: HY-1

ELECTRICAL CHARACTERISTICS

Absolute Minimum and Maximum Ratings

PARAMETER	UNIT	MIN	MAX
Reference Voltage	VDC		+3V
RF Input Power	dBm		30
Storage Temperature	℃	-40	+125

Operating Ranges

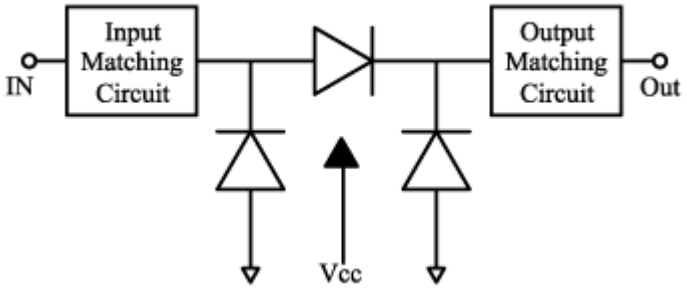
PARAMETER	UNIT	MIN	TYP	MAX
Operating Frequency	MHz	100	-	3000
Reference Voltage	VDC	-	+3V	
Control Voltage	VDC	+1.0V		+12V

Electrical Specifications

(Ta=+25℃, Vcc=+3V, F=900MHz)

PARAMETER	UNIT	MIN(1.0V)	TYP(4.5V)	MAX(12V)
Attenuation	dB	27	2.8	1.5
Input Return Loss	dB	-10	-15	-20
Output Return Loss	dB	-11	-15	-21
IIP3	dBm	47	46	47
Input P1dB	dBm		30	
Current	mA	0	10	34

Functional Diagram



▪ Tel : 82-31-250-5011
▪ rfsales@rfhic.com

▪ All specifications may change without notice.
▪ Version 5.4

Typical Performance Data (Vcc=3V, f = 900MHz)

Control Voltage	1.0V	2.5V	4.5V	7.0V	12V
Attenuation(dB)	27	6.5	2.8	2	1.5
Return Loss(dB)	-10	-15	-15	-17	-20
IIP3 (dBm)	47	46	46	46	47
Current (mA)	0	4	10	18	34

Typical Performance Data (Vcc=3V, f = 1900MHz)

Control Voltage	1.0V	2.5V	4.5V	7.0V	12V
Attenuation(dB)	23	7.5	3.3	2.7	2.1
Return Loss(dB)	-11	-18	-15	-18	-20
Current (mA)	0	4	10	18	34

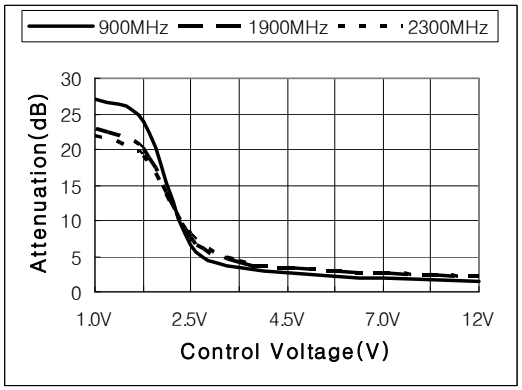
Typical Performance Data (Vcc=3V, f = 2300MHz)

Control Voltage	1.0V	2.5V	4.5V	7.0V	12V
Attenuation(dB)	22	8	3.4	2.75	2.2
Return Loss(dB)	-12	-20	-15	-18	-20
Current (mA)	0	4	10	18	34

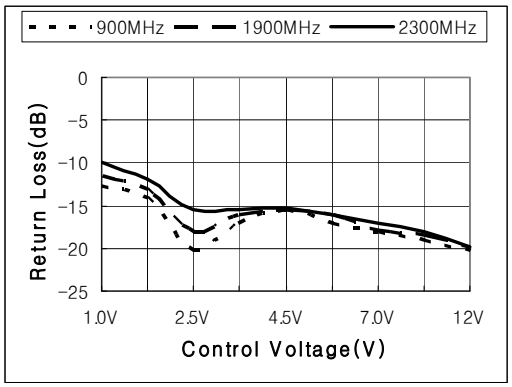
Typical Performance Data (Vcc=3V, f = 2600MHz)

Control Voltage	1.0V	2.5V	4.5V	7.0V	12V
Attenuation(dB)	20	8.5	3.6	2.9	2.4
Return Loss(dB)	-13	-23	-16	-19	-22
Current (mA)	0	4	10	18	34

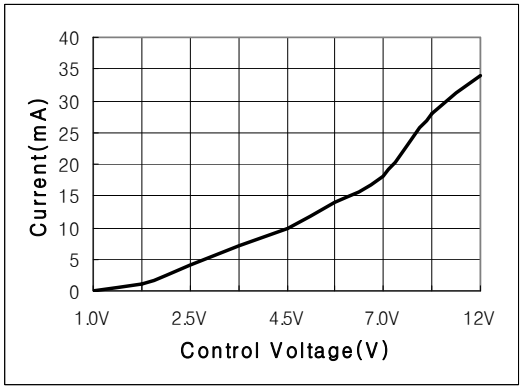
Attenuation vs. Control



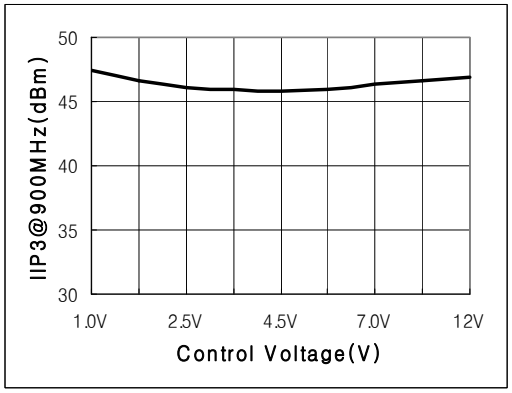
Return Loss vs. Control



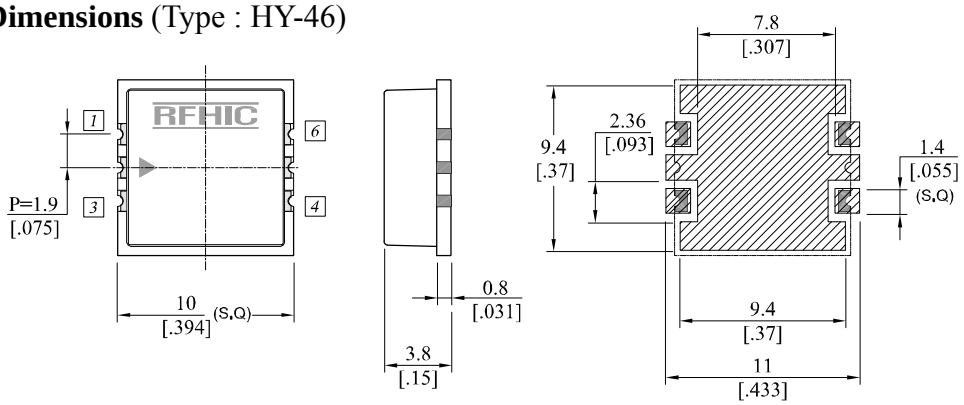
Current vs. Control Voltage



IIP3 vs. Control Voltage



Package Dimensions (Type : HY-46)



Pin No.	Function	Pin No.	Function
1	Input 1	4	Vcc+3V
2	Ground	5	Ground
3	Control	6	Output 1

Recommended Pattern

Unit : mm [inch]	Tolerance : ±0.2 .008

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