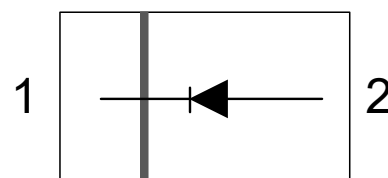
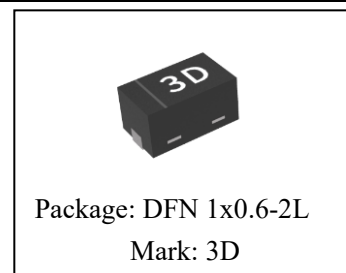


Features

- High capacitance ratio: $C_{0V} / C_{5V} = 3.4$ (typ.)
- Low series resistance for low phase noise
- Designed for high volume commercial applications
- Available in tape and reel packaging
- Industry Standard DFN1x0.6-2L Package



Functional Block Diagram

Product Description

The YVC024P034RD device is GaAs hyperabrupt junction varactor diode is designed for use in VCOs with low tuning voltage operation. The low resistance of YVC024P034RD makes it appropriate for high Q resonators in wireless system VCOs to frequencies beyond 3.5 GHz. The YVC024P034RD is fully characterized for capacitance and resistance over temperature.

Absolute Maximum Ratings

Characteristic	Rating	Unit
Reverse voltage (V_R)	15	V
Forward current (I_F)	20	mA
Power dissipation (P_D)	250	mW
Storage temperature (T_{ST})	-55 to +150	°C
Operating temperature (T_{OP})	-55 to +125	°C
ESD human body model	Class1B	



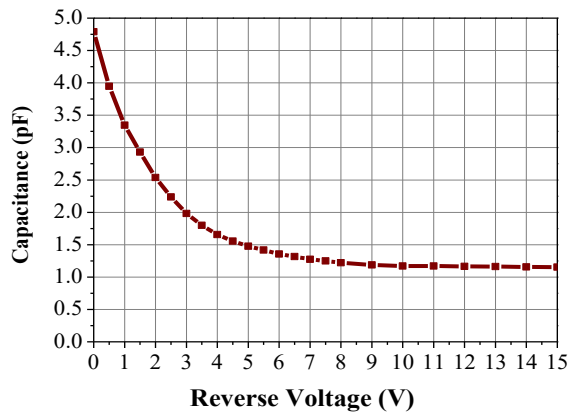
Caution!

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability.

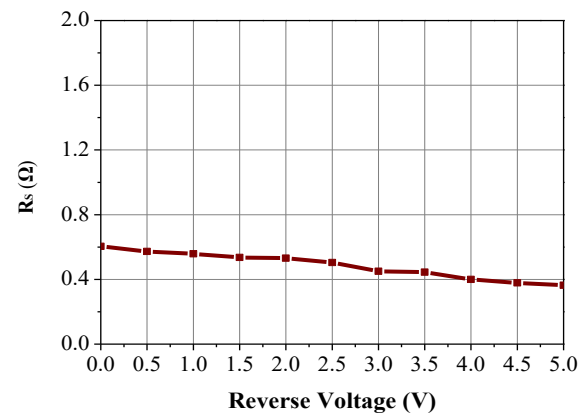
Electrical Specifications@25 °C

Parameter	Condition	Specification			Unit
		Min.	Typ.	Max.	
Reverse Current (I_R)	$V_R = 15$ V			20	nA
Capacitance (C_T)	$C_T @ 0.5$ V, $V_R = 0.5$ V, $F = 1$ MHz		3.95		pF
Capacitance (C_T)	$C_T @ 5$ V, $V_R = 5$ V, $F = 1$ MHz		1.48		pF
Capacitance Ratio (C_{TR})	$C_T (0.5$ V)/ $C_T (5$ V)		2.67		
Series Resistance (R_S)	$V_R = 1$ V, $F = 100$ MHz			0.6	Ω
Breakdown Voltage (V_{BR})	$I_R = 10$ μ A	20			V

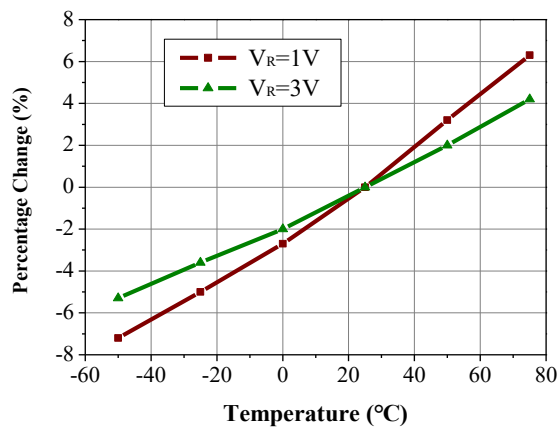
Typical Performance Data



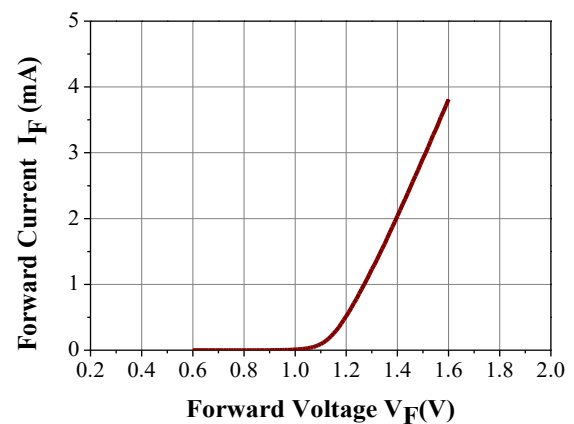
Capacitance vs. Reverse Voltage



Series Resistance vs. Reverse Voltage
@ 100 MHz



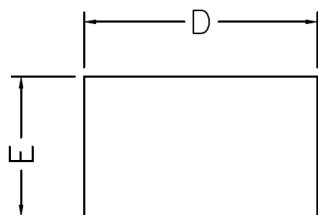
Relative Capacitance Change
vs. Temperature



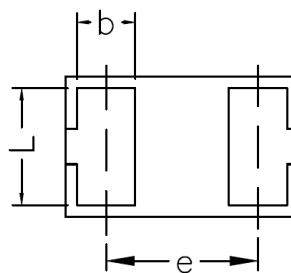
Forward I-V characteristic curve

Package Diagram

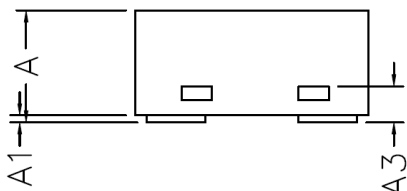
(Units: millimeters)



TOP VIEW



BOTTOM VIEW



SIDE VIEW

COMMON DIMENSIONS(MM)			
PKG.	X1: EXTREME THIN		
REF.	MIN.	NOM.	MAX
A	>0.4	—	0.50
A1	0.00	—	0.05
A3	0.125REF.		
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b	0.20	0.25	0.30
L	0.45	0.50	0.55
	—	—	—
	—	—	—
e	0.65 BSC		

Part Number Naming Conventions:

(e.g.) **Y** **VC** **024** **P** **034** **R** **(D)** - **3** **S/D**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

- ① Company: INNOTION
- ② Product ID: (VC=Variable Capacitance Diode)
- ③ Capacitance (C_T)@ $V_R=0V$ is expressed by three-digit alphanumeric (e.g. **024**=2.4pF, **228**=22.8pF)
- ④ Capacitance Unit: pF
- ⑤ Capacitance ratio: C_{0V} / C_{5V} is expressed by three-digit alphanumeric (e.g. **034** is $C_{0V} / C_{5V} = 3.4$)
- ⑥ Ratio
- ⑦ There are two parallel varactors inside, which can be used in parallel. For a single Varactor product, this letter is omitted
- ⑧ Internal part number
- ⑨ S: single Varactor product is used. D: two varactors are used in parallel.