

# Device Modeling Report

COMPONENTS: Inductance  
PART NUMBER: LQH55PN1R2NR0  
MANUFACTURER: Murata Manufacturing Co., Ltd.  
Remark: DC Model



**Bee Technologies Inc.**

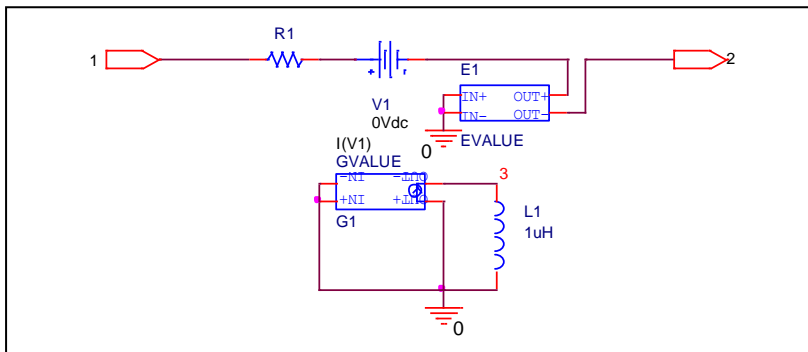
## SPICE MODEL

```

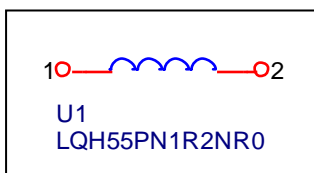
*$
* PART NUMBER: LQH55PN1R2NR0
* MANUFACTURER: Murata Manufacturing Co., Ltd.
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.subckt LQH55PN1R2NR0 1 2
R_R1      1  N1  0.021
V_V1      N1 N30409 0Vdc
G_G1      0 3  VALUE { I(V_V1) }
E_E2      N30409 2 VALUE { IF(I(V_V1)>0,
+ V(3,0)*limit(1.2393+0.049155*I(V_V1)
+ -0.05563*I(V_V1)*I(V_V1),0,1.25),
+ V(3,0)*limit(1.2393+0.049155*(-I(V_V1))
+ -0.05563*(-I(V_V1))*(-I(V_V1)),0,1.25)) }
L_L1      3 0  1uH
.ENDS
*$

```

## Model Equivalent Circuit

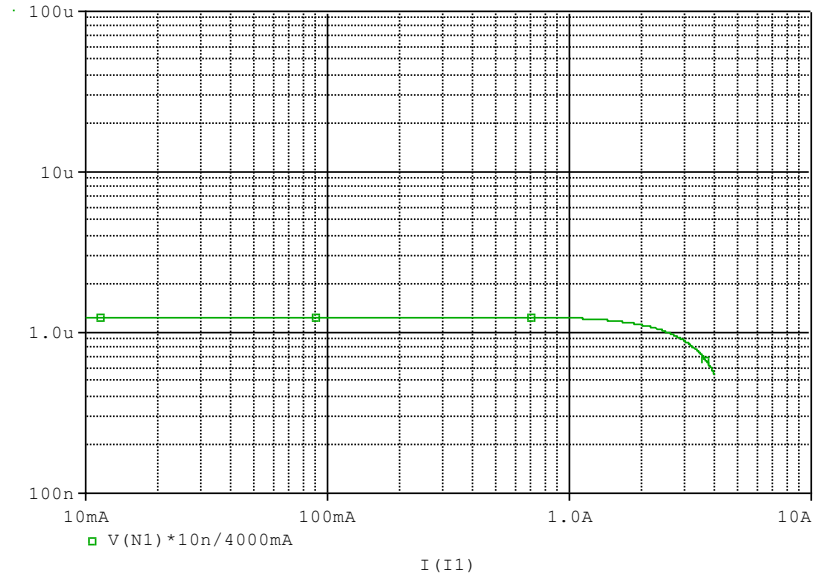


## Circuit Configuration

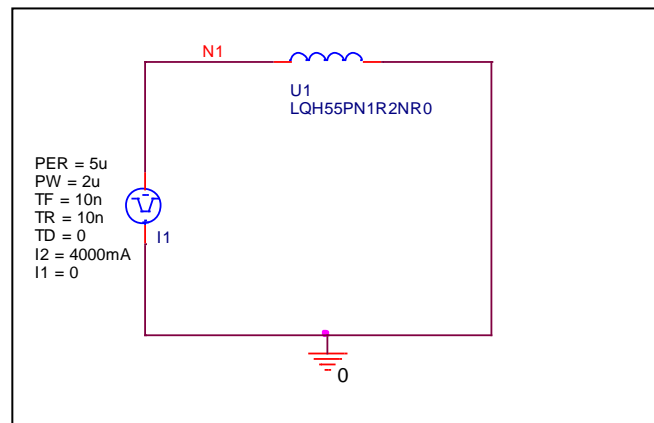


# Inductance-Current Characteristics

## Circuit Simulation result

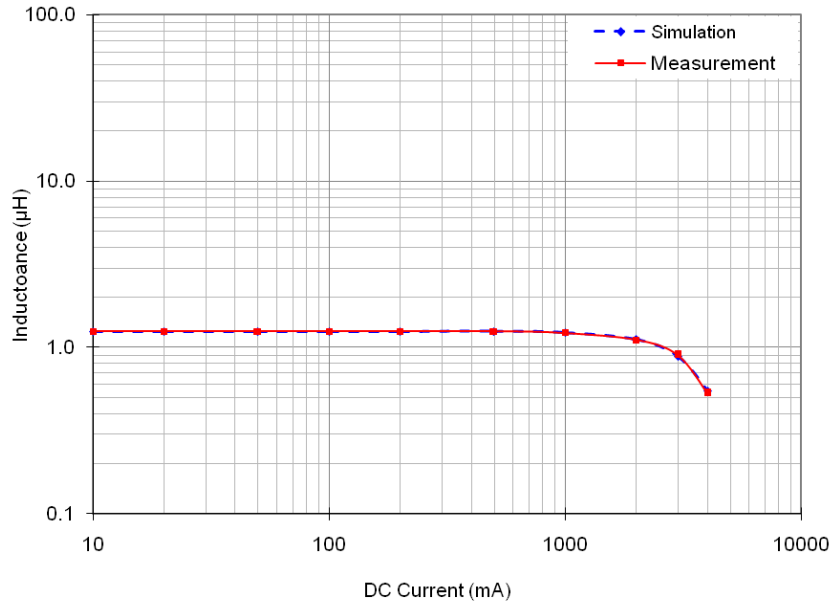


## Evaluation circuit



# Comparison Graph

## Simulation result



## Comparison table

I (mA)	L (µH)		%Error
	Measurement	Simulation	
10	1.250	1.240	-0.82
20	1.250	1.240	-0.78
50	1.250	1.242	-0.67
100	1.250	1.244	-0.50
200	1.250	1.247	-0.25
500	1.250	1.250	0.00
1000	1.225	1.233	0.64
2000	1.110	1.115	0.47
3000	0.900	0.886	-1.53
4000	0.530	0.546	3.03