

# Device Modeling Report

COMPONENTS: GaAIAs Laser Diode  
PART NUMBER: HL6714G  
MANUFACTURER: HITACHI

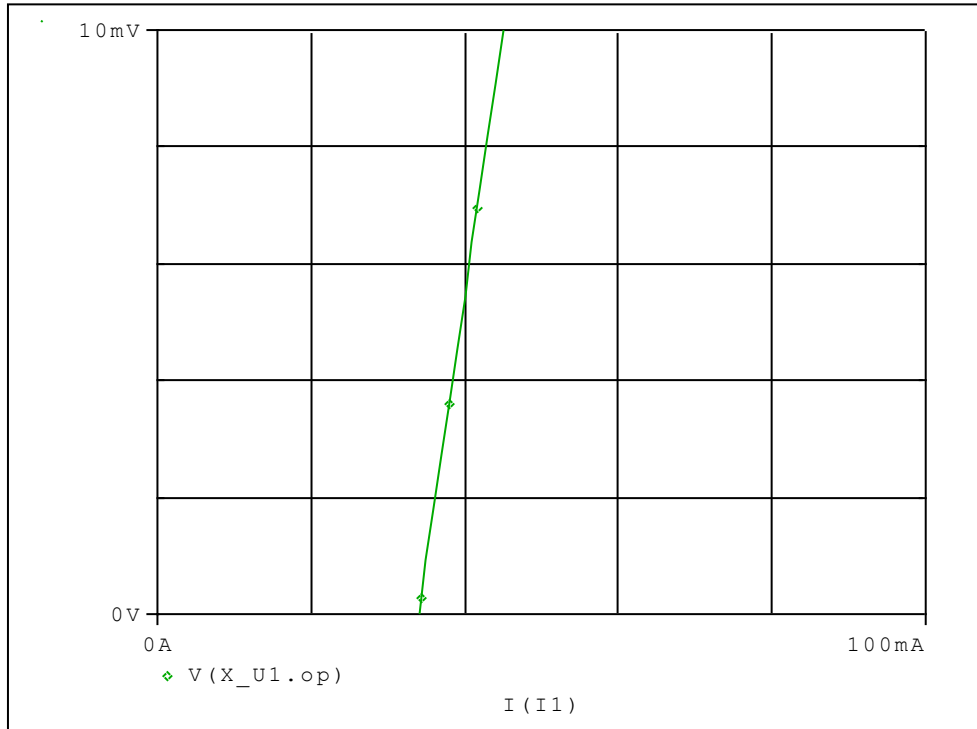


**Bee Technologies Inc.**

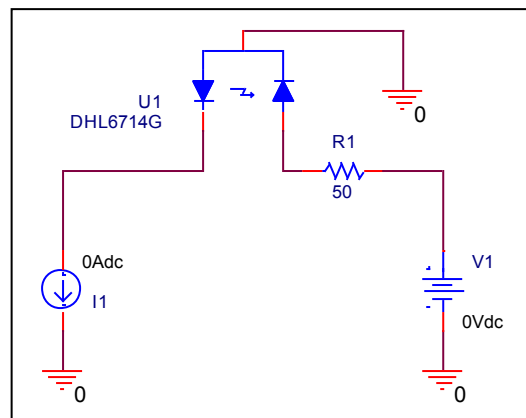
PSpice model parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a positive value)
IBV	Reverse Breakdown Current(a positive value)
TT	Transit Time

# Optical Output Power vs. Forward current characteristics

## Circuit simulation result

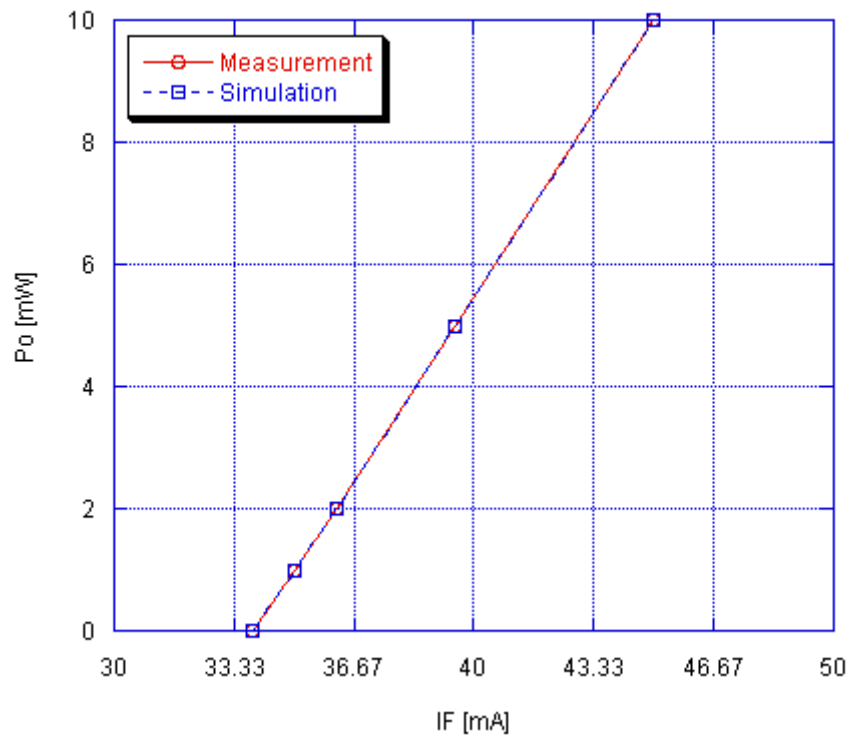


## Evaluation circuit



## Comparison graph

### Circuit simulation result

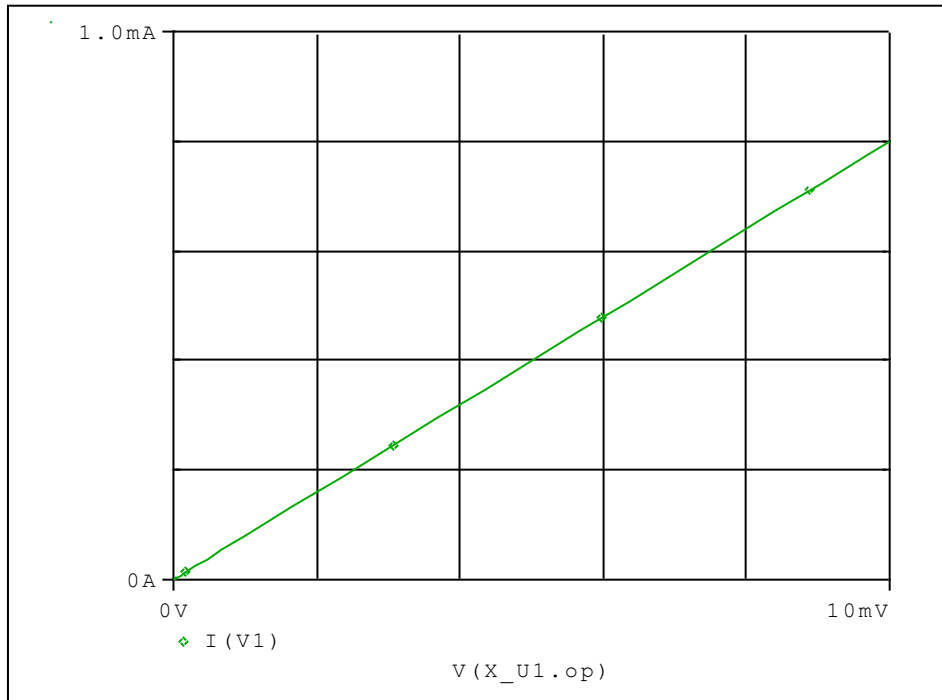


### Simulation Result

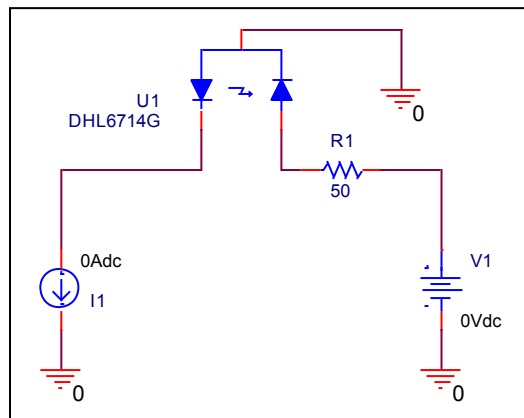
Po [mW]	IF [mA]		Error (%)
	Measurement	Simulation	
1.000	35.000	35.000	0.000
2.000	36.200	36.190	0.028
5.000	39.500	39.490	0.025
10.000	45.000	45.000	0.000

# Monitor Current vs. Optical Output Power characteristics

## Circuit simulation result

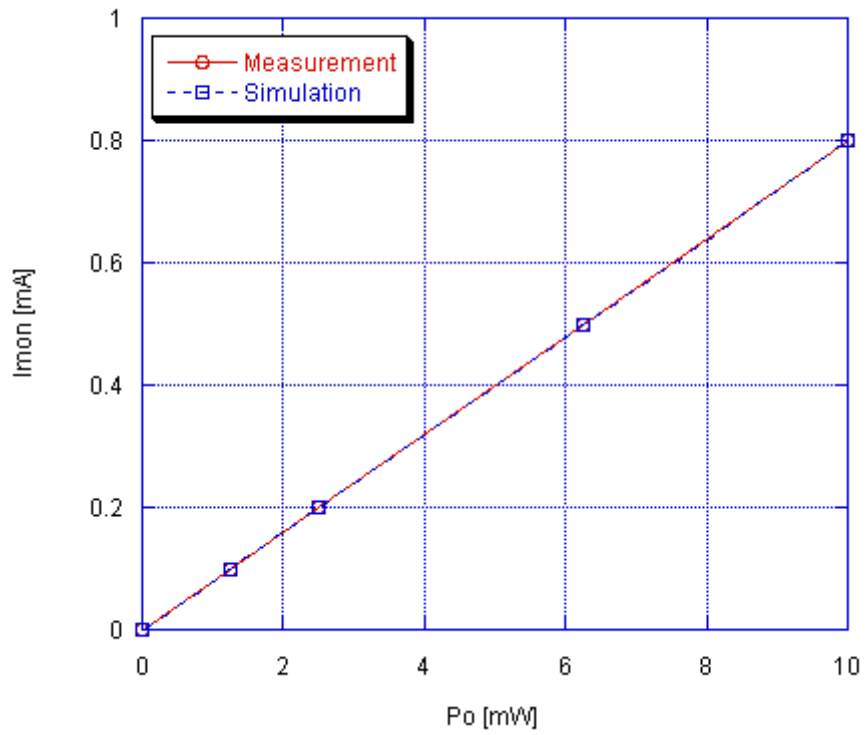


## Evaluation circuit



## Comparison graph

### Circuit simulation result



### Simulation Result

Imon [mA]	Po [mW]		Error (%)
	Measurement	Simulation	
0.100	1.250	1.250	0.000
0.200	2.500	2.500	0.000
0.500	6.250	6.250	0.000
0.800	10.000	10.000	0.000