



## LOW POWER GUNN DIODES

## NJX4000 Series

T-07-11

### ■ Description

NJX4000 Series low power Gunn diodes except NJX4402, 4403, 4404 are designed for in X-band or K-band and cw or pulsed mode oscillators. These Gunn diodes utilizing the bulk negative resistance effect can be easily obtained microwave power from DC power.

These devices are suited for use in low noise sources such as local oscillators, low power transmitter applications and motion detector applications.

### ■ Absolute Maximum Ratings

Parameter	DC Forward Voltage	Storage Temperature Range	Operating Temperature Range	Case Temperature
Ratings	( $V_{OP}+1$ )	-65~+150°C	-20~+60°C	70°C

### ■ Electrical Characteristics (Ta=25°C)

#### ● C.W. Type

Parameter Test Condition	Frequency f(GHz)	Output Power Po(mW)			Operating Voltage V <sub>OP</sub> (V)		Operating Current I <sub>OP</sub> (mA)		Package Outline
	V <sub>OP</sub> =8V	V <sub>OP</sub> =8V					V <sub>OP</sub> =8V		
Type	Typ.	Min.	Typ.	Max.	Min.	Max.	Typ.	Max.	
NJX4415	9.5	—	8	—	7	9	150	—	A
4410	10.5	4	—	15	8	10	—	150	A
4420H	10.5	4	—	19	7	9	—	170	A
4411	11.5	10	—	30	7.5	8.5	—	200	A
4420U	11.5	3	—	15	7	9	—	180	A
4621 (Note)	24.0	2	—	5	4.5	5.5	—	150	B

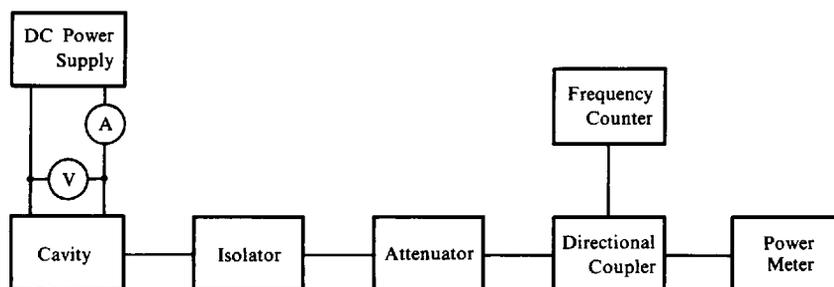
Note : V<sub>OP</sub>=5V

#### ● Pulse Type

Parameter Type	Frequency f(GHz)	Output Voltage Po(dBm)			Operating Voltage V <sub>OP</sub> (V)		Operating Current I <sub>OP</sub> (mA)	Package Outline
	Typ.	Min.	Typ.	Max.	Min.	Max.	Max.	
NJX4416	10.5	-6	—	-4	7	9	200	A

Test Condition : Pulse Width=45μsec, Duty Cycle=4.5%, I<sub>OP</sub> is DC value.

### ■ Test Circuit



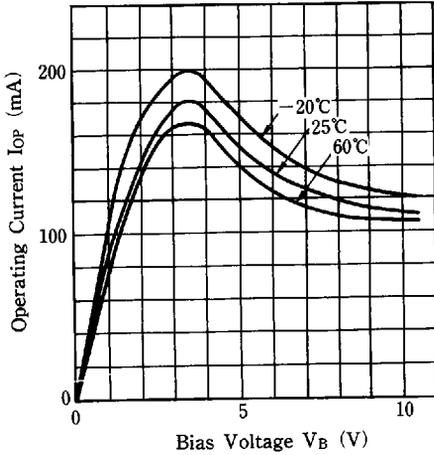
T-07-11

1

■ **Typical Performance Characteristics**

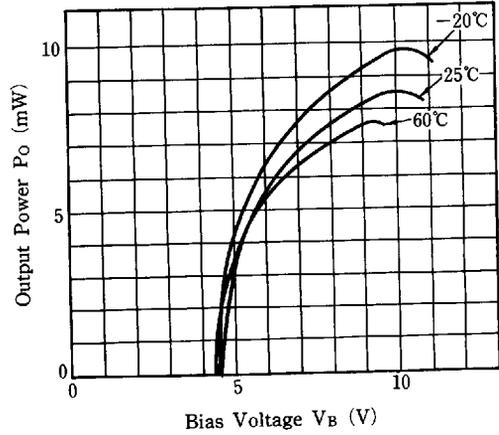
NJX4410

**Operating Current vs. Bias Voltage**



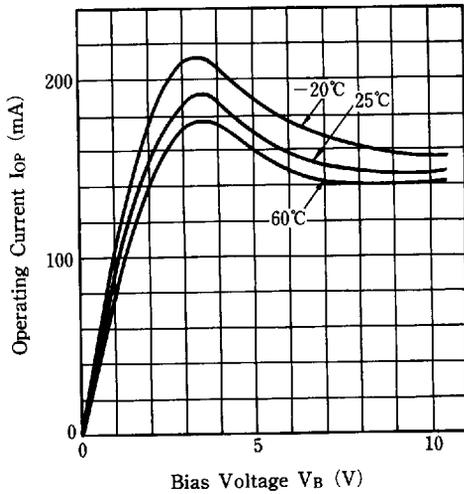
NJX4410

**Output Power vs. Bias Current**



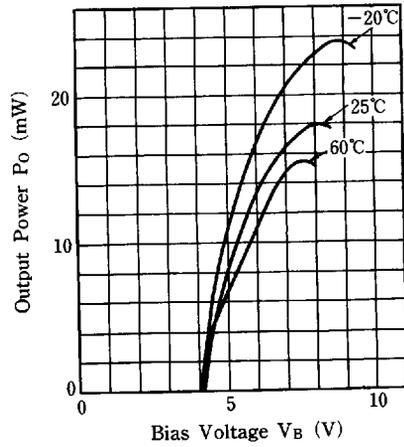
NJX4411

**Operating Current vs. Bias Voltage**



NJX4411

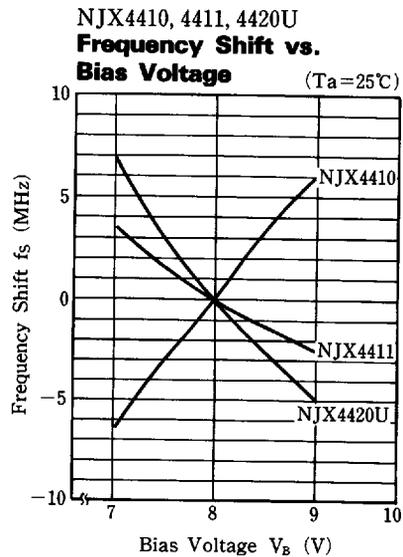
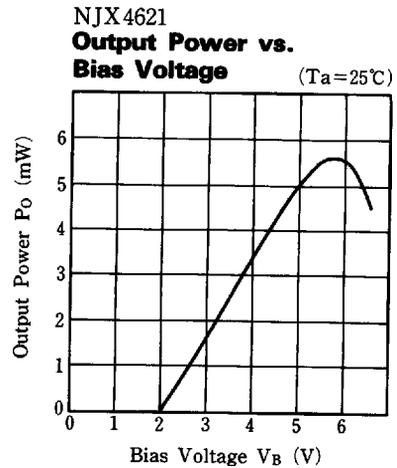
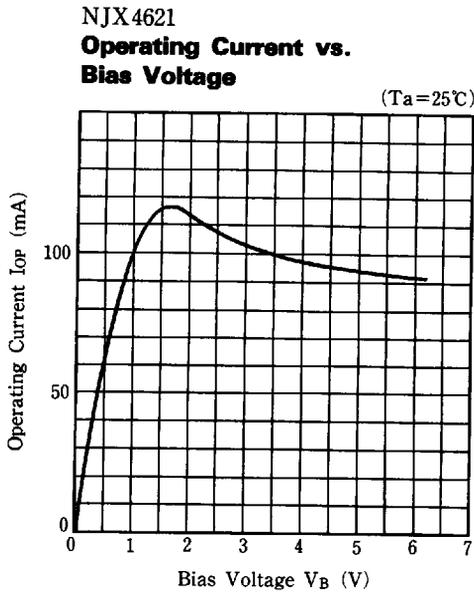
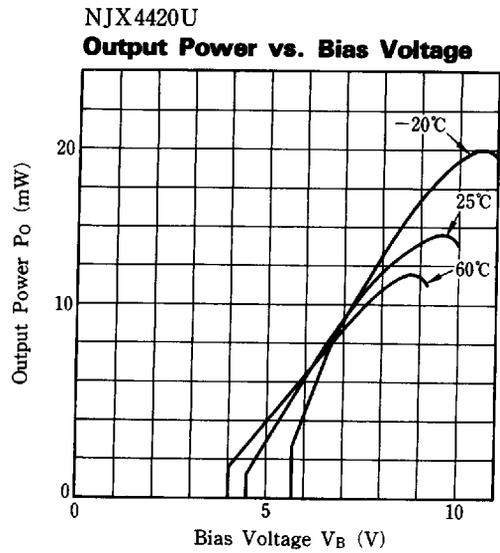
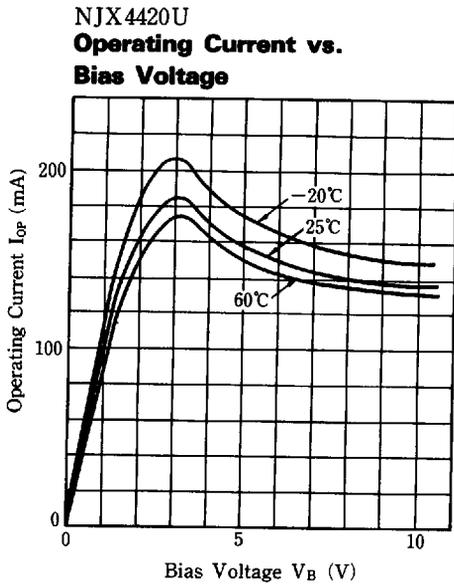
**Output Power vs. Bias Voltage**



T-09-11

1

■ **Typical Performance Characteristics**

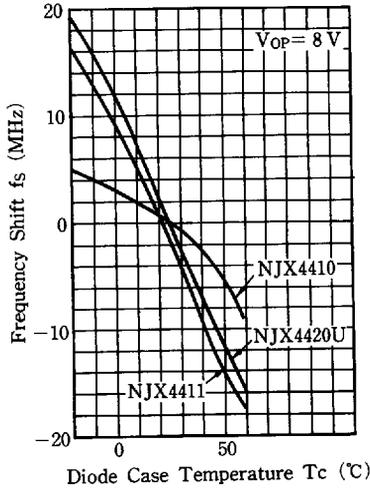


T-07-11

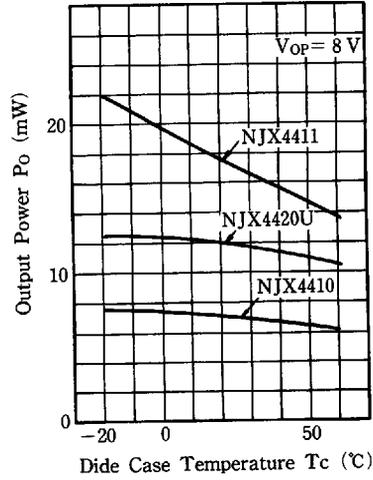
1

■ **Typical Performance Characteristics**

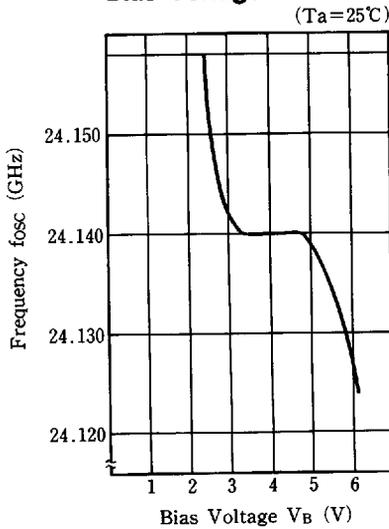
NJX4410, 4411, 4420U  
**Frequency Shift vs. Diode Case Temperature**



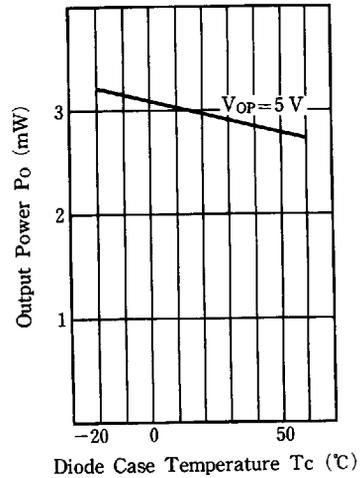
NJX4410, 4411, 4420U  
**Output Power vs. Diode Case Temperature**



NJX4621  
**Frequency vs. Bias Voltage**



NJX4621  
**Output Power vs. Diode Case Temperature**





PACKAGE OUTLINE

T-91-20

1

