



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 ($T_a=25^\circ\text{C}$)

● C.W. Type

Parameter	Frequency	Output Power			Operating Voltage		Operating Current		Package Outline
	f(GHz)	P_o (mW)			V_{OP} (V)		I_{OP} (mA)		
Test Condition	$V_{OP}=8\text{V}$	$V_{OP}=8\text{V}$					$V_{OP}=8\text{V}$		
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

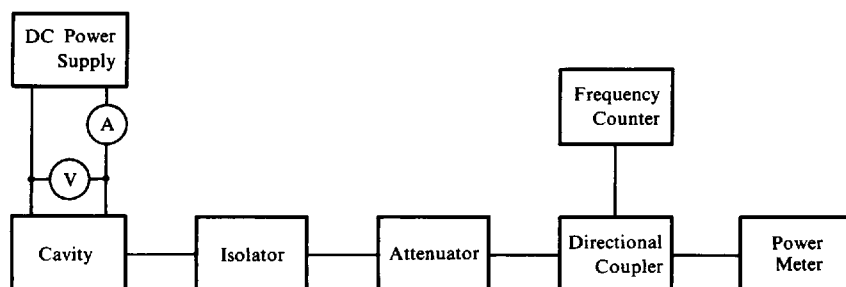
Note : $V_{OP}=5\text{V}$

● Pulse Type

Parameter	Frequency	Output Voltage			Operating Voltage		Operating Current		Package Outline
	f(GHz)	P_o (dBm)			V_{OP} (V)		I_{OP} (mA)		
Type	Typ.	Min.	Typ.	Max.	Min.	Max.	Max.		
NJX4416	10.5	-6	—	-4	7	9	200		A

Test Condition : Pulse Width=45 μ sec, Duty Cycle=4.5%, I_{OP} is DC value.

■ Test Circuit



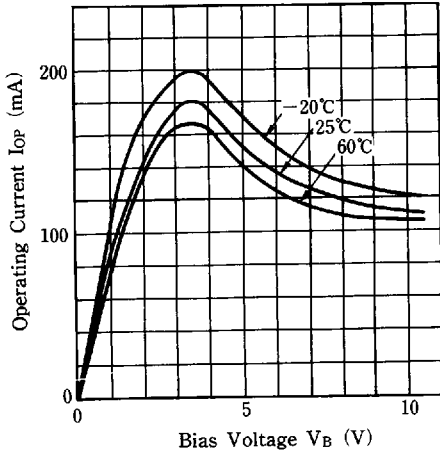
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■ **Typical Performance Characteristics**

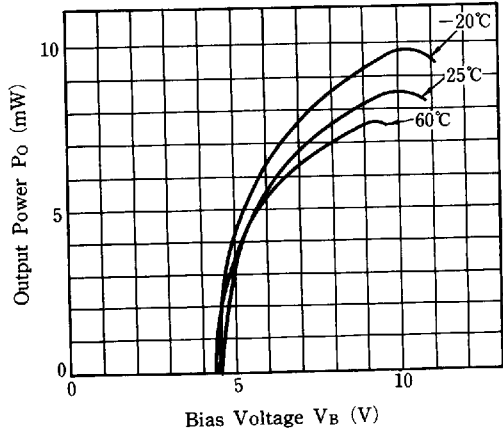
NJX4410

Operating Current vs. Bias Voltage



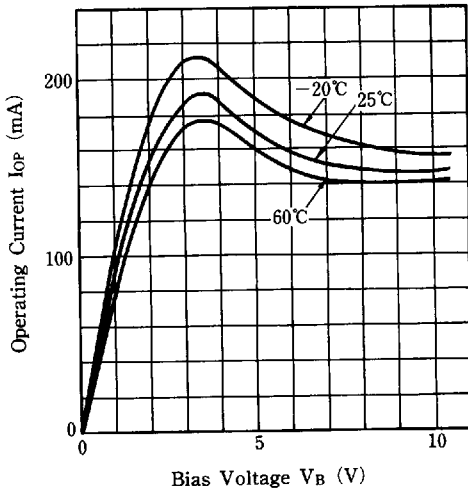
NJX4410

Output Power vs. Bias Current



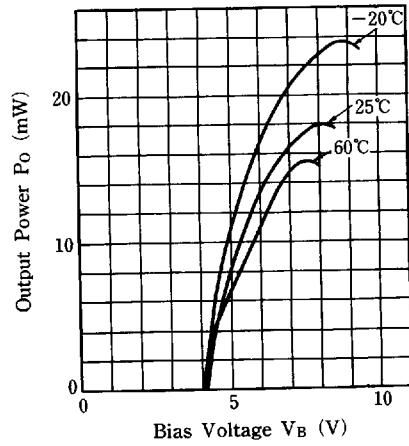
NJX4411

Operating Current vs. Bias Voltage



NJX4411

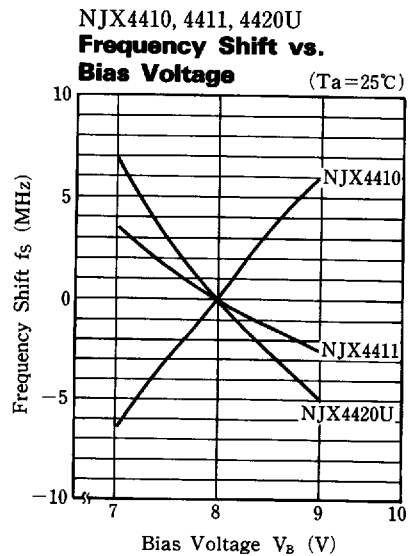
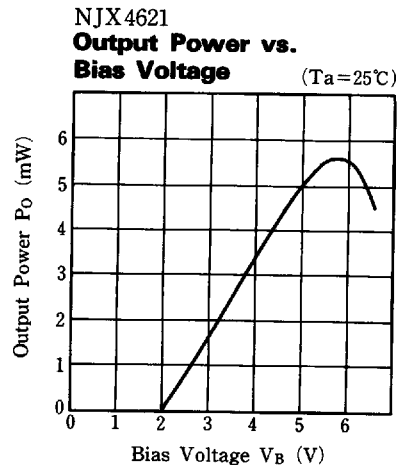
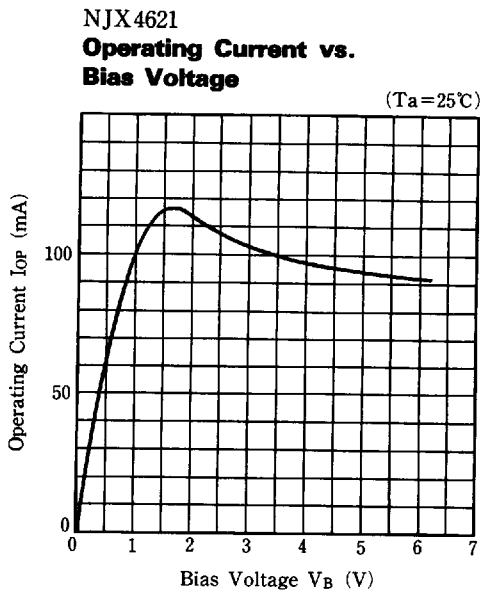
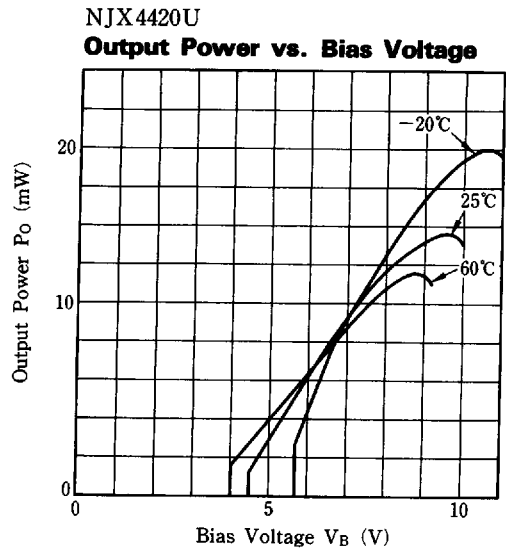
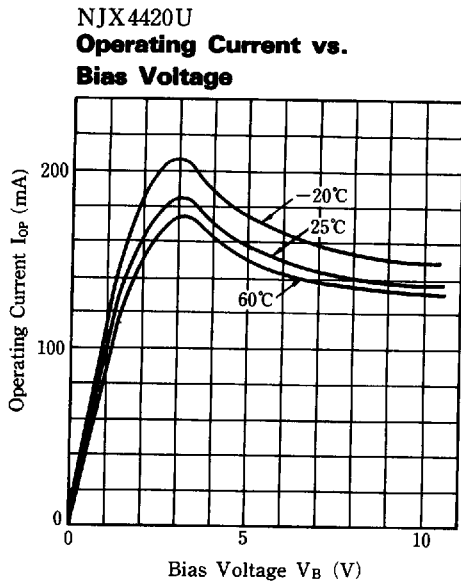
Output Power vs. Bias Voltage



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■ **Typical Performance Characteristics**

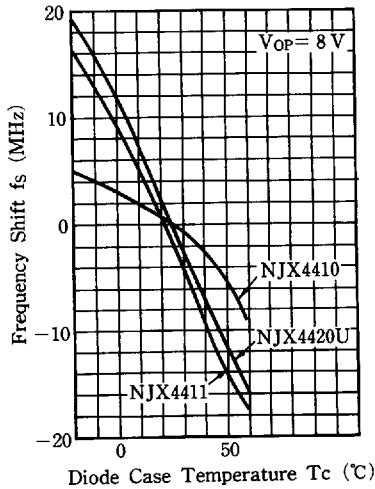


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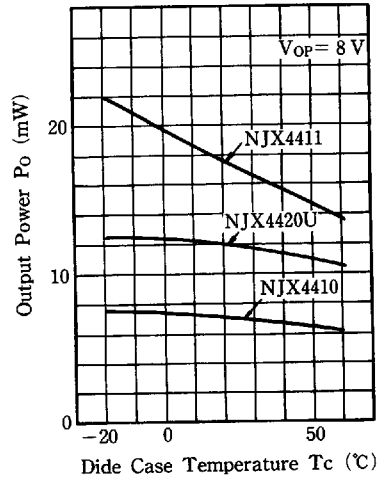
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■ **Typical Performance Characteristics**

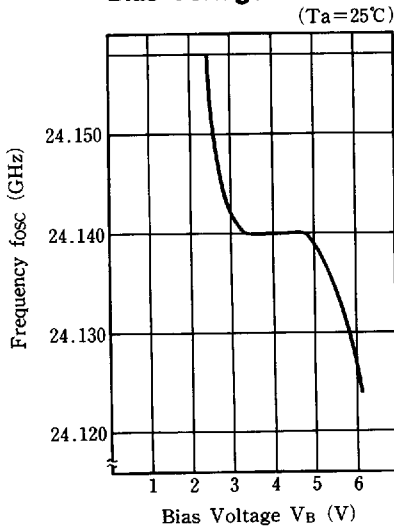
NJX4410, 4411, 4420U
Frequency Shift vs. Diode Case Temperature



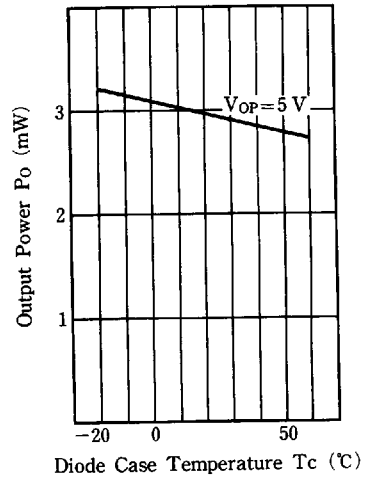
NJX4410, 4411, 4420U
Output Power vs. Diode Case Temperature



NJX4621
Frequency vs. Bias Voltage



NJX4621
Output Power vs. Diode Case Temperature





PACKAGE OUTLINE

T-91-20

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