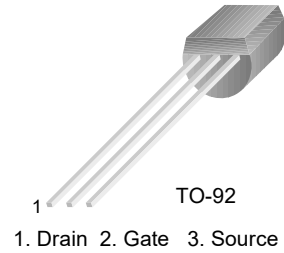


2N3819 Datasheet

N-Channel RF Amplifier

- This device is designed for RF amplifier and mixer applications operating up to 450MHz, and for analog switching requiring low capacitance.
- Sourced from process 50.



Epitaxial Silicon Transistor

Absolute Maximum Ratings* $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{DG}	Drain-Gate Voltage	25	V
V_{GS}	Gate-Source Voltage	-25	V
I_D	Drain Current	50	mA
I_{GF}	Forward Gate Current	10	mA
T_{STG}	Storage Temperature Range	-55 ~ 150	$^\circ\text{C}$

* This ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- These rating are based on a maximum junction temperature of 150 degrees C.
- These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)GSS}$	Gate-Source Breakdwon Voltage	$I_G = 1.0\mu\text{A}, V_{DS} = 0$	25			V
I_{GSS}	Gate Reverse Current	$V_{GS} = -15\text{V}, V_{DS} = 0$			2.0	nA
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 15\text{V}, I_D = 2.0\text{nA}$			8.0	V
V_{GS}	Gate-Source Voltage	$V_{DS} = 15\text{V}, I_D = 200\mu\text{A}$	-0.5		-7.5	V
On Characteristics						
I_{DSS}	Zero-Gate Voltage Drain Current	$V_{DS} = 15\text{V}, V_{GS} = 0$	2.0		20	mA
Small Signal Characteristics						
gfs	Forward Transfer Conductance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{KHz}$	2000		6500	μmhos
goss	Output Conductance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{KHz}$			50	μmhos
Y_{fs}	Forward Transfer Admittance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{KHz}$	1600			μmhos
C_{iss}	Input Capacitance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{KHz}$			8.0	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{KHz}$			4.0	pF

Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C/W}$

* Device mounted on FR-4 PCB 1.5" x 1.6" x 0.06"

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