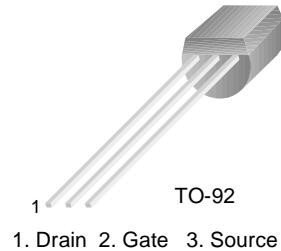


# 2N3819

## 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	°C

\* These 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
<b>Off Characteristics</b>						
$V_{(BR)GS}$	Gate-Source Breakdown 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
$V_{GS(\text{off})}$	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
<b>On Characteristics</b>						
$I_{DSS}$	Zero-Gate Voltage Drain Current	$V_{DS} = 15\text{V}$ , $V_{GS} = 0$	2.0		20	mA
<b>Small Signal Characteristics</b>						
$g_{fs}$	Forward Transfer Conductance	$V_{DS} = 15\text{V}$ , $V_{GS} = 0$ , $f = 1.0\text{KHz}$	2000		6500	μmhos
$g_{oss}$	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

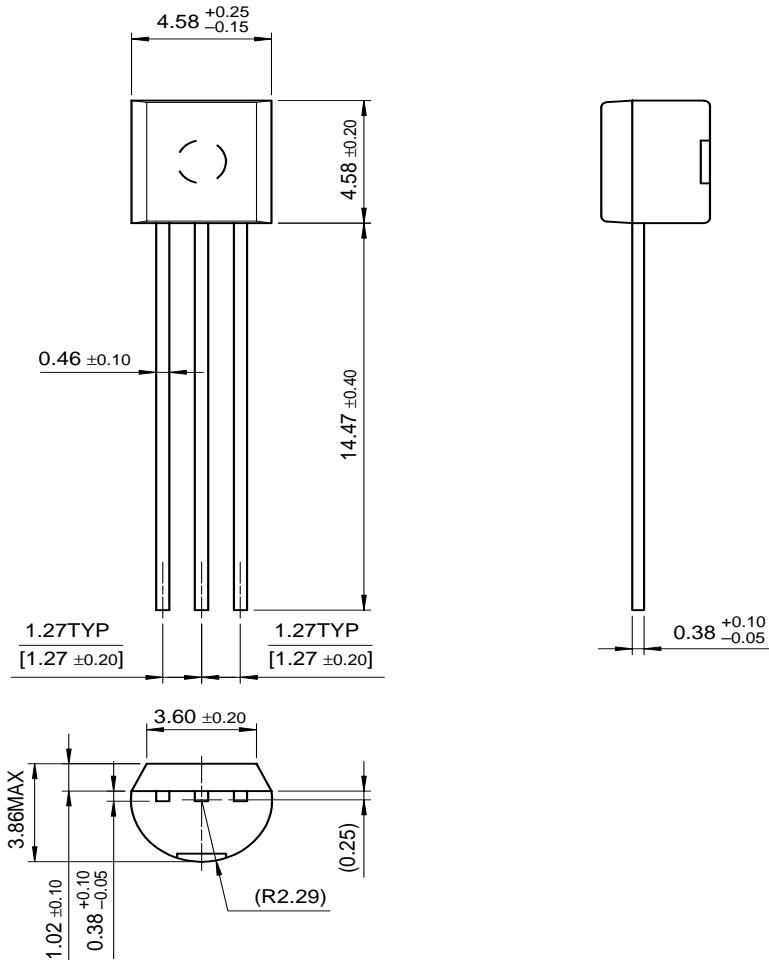
### Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

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

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

## Package Dimensions

TO-92



Dimensions in Millimeters

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