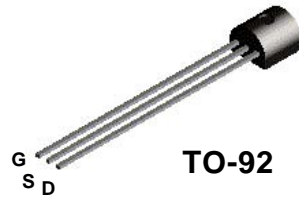




## MPF102



### N-Channel RF Amplifier

This device is designed for electronic switching  
Applications such as low ON resistance analog switching.  
Sourced from Process 50.

#### Absolute Maximum Ratings \* TA=25 degree C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>DG</sub>	Drain-Gate Voltage	25	V
V <sub>GS</sub>	Gate-Source Voltage	-25	V
I <sub>GF</sub>	Forward Gate Current	10	mA
T <sub>J</sub> , T <sub>stg</sub>	Operating and Storage Junction Temperature Range	-55 to + 155	degree C

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

#### NOTES :

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

#### Thermal Characteristics TA = 25 degrees C unless otherwise noted.

Symbol	Characteristic	Max	Units
P <sub>D</sub>	Total Device Dissipation	350	mW
	Derate above 25 degrees C	2.8	mW/degrees C
R <sub>θJC</sub>	Thermal Resistance, Junction to Case	125	degrees C/W
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	357	degrees C/W

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

**N-Channel RF Amplifier**

(Continued)

**Electrical Characteristics** TA= 25 degrees C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
<b>OFF CHARACTERISTICS</b>						
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	$I_G = -1.0\mu A, V_{DS} = 0$	-25			V
$I_{GSS}$	Gate Reverse Current	$V_{GS} = -15V, V_{DS} = 0$			-2.0	nA
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 15V, I_D = 2nA$			-8.0	V
$V_{GS}$	Gate-Source Voltage	$V_{DS} = 15V, I_D = 200\mu A$	-0.5		-7.5	V
<b>ON CHARACTERISTICS</b>						
$I_{DSS}$	Zero-Gate Voltage Drain Current	$V_{DS} = 15V, V_{GS} = 0$	2.0		20	mA
$g_{fs}$	Forward Transconductance	$V_{GS} = 0V, V_{DS} = 15V, f = 1kHz.$	2000		7500	$\mu S$
<b>Capacitance</b>						
$C_{iss}$	Common-Source Input Capacitance	$V_{GS} = 15V, V_{DS} = 0V$ $f = 1 MHz.$			7.0	pf
$C_{rss}$	Common-Source reverse Transfer Capacitance	$V_{GS} = 15V, V_{DS} = 0V$ $f = 1 MHz.$			3.0	pf

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

## PRODUCT STATUS DEFINITIONS

### Definition of Terms

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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