

New Jersey Semi-Conductor Products, Inc.

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MPF102

Preferred Devices

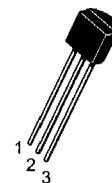
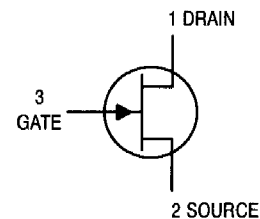
JFET VHF Amplifier

N-Channel - Depletion

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	25	Vdc
Drain-Gate Voltage	V_{DG}	25	Vdc
Gate-Source Voltage	V_{GS}	-25	Vdc
Gate Current	I_G	10	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	350 2.8	mW mW/ $^\circ\text{C}$
Junction Temperature Range	T_J	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150	$^\circ\text{C}$

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.



TO-92 (TO-226AA)



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors

MPF102

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Gate-Source Breakdown Voltage ($I_G = -10 \mu\text{Adc}$, $V_{DS} = 0$)	$V_{(BR)GSS}$	-25	-	Vdc
Gate Reverse Current ($V_{GS} = -15 \text{Vdc}$, $V_{DS} = 0$) ($V_{GS} = -15 \text{Vdc}$, $V_{DS} = 0$, $T_A = 100^\circ\text{C}$)	I_{GSS}	-	-2.0 -2.0	nAdc μAdc
Gate-Source Cutoff Voltage ($V_{DS} = 15 \text{Vdc}$, $I_D = 2.0 \text{nAdc}$)	$V_{GS(off)}$	-	-8.0	Vdc
Gate-Source Voltage ($V_{DS} = 15 \text{Vdc}$, $I_D = 0.2 \text{mAdc}$)	V_{GS}	-0.5	-7.5	Vdc
ON CHARACTERISTICS				
Zero-Gate-Voltage Drain Current (Note 1) ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0 \text{Vdc}$)	I_{DSS}	2.0	20	mAdc
SMALL-SIGNAL CHARACTERISTICS				
Forward Transfer Admittance (Note 1) ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{kHz}$) ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 100 \text{MHz}$)	$ y_{fs} $	2000 1600	7500 -	μmhos
Input Admittance ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 100 \text{MHz}$)	$\text{Re}(y_{is})$	-	800	μmhos
Output Conductance ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 100 \text{MHz}$)	$\text{Re}(y_{os})$	-	200	μmhos
Input Capacitance ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{MHz}$)	C_{iss}	-	7.0	pF
Reverse Transfer Capacitance ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{MHz}$)	C_{rss}	-	3.0	pF

1. Pulse Test; Pulse Width $\leq 630 \text{ms}$, Duty Cycle $\leq 10\%$.