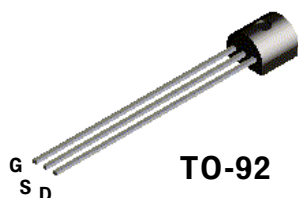


MPF102



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 _{DG} | Drain-Gate Voltage | 25 | V |
| V _{GS} | Gate-Source Voltage | -25 | V |
| I _{GF} | Forward Gate Current | 10 | mA |
| T _J , T _{stg} | 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 _D | Total Device Dissipation | 350 | mW |
| | Derate above 25 degrees C | 2.8 | mW/degrees C |
| R _{θJC} | Thermal Resistance, Junction to Case | 125 | degrees C/W |
| R _{θJA} | 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 |
|----------------------------|--|---|------|-----|------|---------|
| OFF CHARACTERISTICS | | | | | | |
| $V_{(BR)GSS}$ | 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 |
| ON CHARACTERISTICS | | | | | | |
| 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 | μS |
| Capacitance | | | | | | |
| 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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|----------------------|---------------------|---------------------|------------|
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| CROSSVOLT™ | HiSeC™ | QT Optoelectronics™ | VCX™ |
| DOME™ | ISOPLANAR™ | Quiet Series™ | |
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| FACT™ | OPTOPLANAR™ | SuperSOT™-3 | |
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|--------------------------|------------------------|---|
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