

SILICON MOS N-CHANNEL RF POWER TRANSISTOR 5 W, up to 500 MHz, Enhancement Mode

KP978A

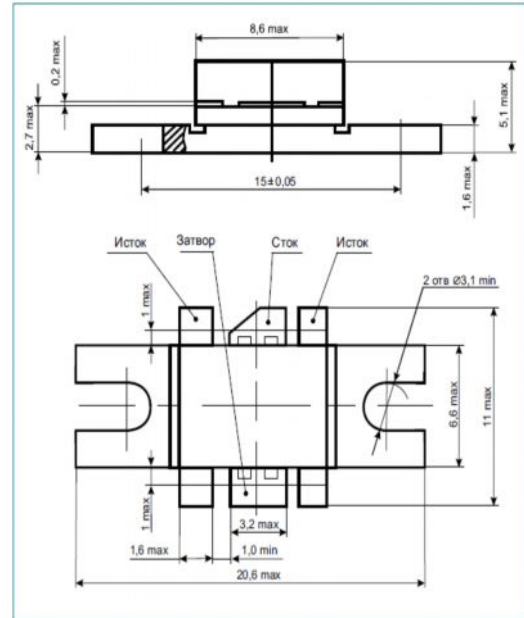
Designed primarily for wideband large-signal output and driver from 30–500 MHz.

Features:

- Performance at 500 MHz, 28 Vdc
- Power Gain: 13 dB Min
- Output Power: 5 W
- Efficiency: 50 % Min

Absolute Maximum Ratings

| Parameters | Sym | Value | Unit |
|--|-----------------|-------------|---------------|
| Drain-Source Voltage | V_{DSS} | 65 | V_{DC} |
| Drain Current-Continuous | I_D | 1.5 | A_{DC} |
| Gate-Source Voltage | V_{GS} | ± 20 | V_{DC} |
| Storage Temperature Range | T_{STG} | -65 to +150 | $^{\circ}C$ |
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 7 | $^{\circ}C/W$ |
| Total Power Dissipation @ $T_C=25^{\circ}C$ | P_D | 25 | W |



Case KT-83

Parameters

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|---------------|------|------|------|--------------|
| Drain-Source Breakdown Voltage ($I_D=5.0$ mA, $V_{GS}=0$ V) | $V_{(BR)DSS}$ | 65 | — | — | V_{DC} |
| Gate-Source Leakage Current ($V_{GS}=20$ V, $V_{DS}=0$ V) | I_{GSS} | — | — | 1.0 | μA_{DC} |
| Zero Gate Voltage Drain Leakage Current ($V_{DS} = 28$ V, $V_{GS}=0$ V) | I_{DSS} | — | — | 2.0 | mA_{DC} |
| Gate Threshold Voltage ($V_{DS} = 10$ V, $I_D = 20$ mA) | $V_{GS(TH)}$ | 1 | — | 5 | V_{DC} |
| Forward Transconductance ($V_{DS} = 10$ V, $I_D = 0.3$ A) | G_{FS} | 0.19 | 0.3 | — | mhos |
| Input Capacitance ($V_{DS} = 28$ V, $V_{GS}=0$ V, $f = 1$ MHz) | C_{ISS} | — | 16 | — | pF |
| Output Capacitance ($V_{DS} = 28$ V, $V_{GS}=0$ V, $f = 1$ MHz) | C_{OSS} | — | 14 | — | pF |
| Reverse Transfer Capacitance ($V_{DS} = 28$ V, $V_{GS}=0$ V, $f = 1$ MHz) | C_{RSS} | — | 1.5 | — | pF |
| Power Gain ($V_{DS} = 28$ V, $P_{OUT} = 5$ W, $I_{DQ} = 50$ mA, $f = 500$ MHz) | G_p | 13 | 15 | — | dB |
| Drain Efficiency ($V_{DS} = 28$ V, $P_{OUT} = 5$ W, $I_{DQ} = 50$ mA, $f = 500$ MHz) | η_D | 50 | 55 | — | % |

ZAO 'SynteZ Microelectronics'

119V Leninsky Prospekt, Voronezh 394007, Russia • Tel +7-4732-379-101 Fax +7-4732-266-057

exim@syntezmicro.ru

www.syntezmicro.ru

Specification is subject to change without notice