Syntez Microelectronics

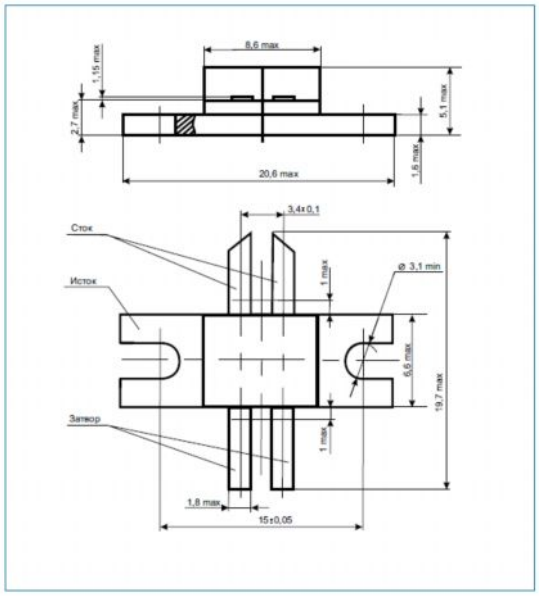
SILICON MOS N-CHANNEL RF POWER TRANSISTOR
20 W, up to 500 MHz, Enhancement Mode

KP981VC

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

Features:

- Performance at 500 MHz, 12.5 Vdc
- Power Gain: 10 dB Min
- Output Power: 20 W
- Efficiency: 50 % Min



Case KT-81

Absolute Maximum Ratings

Parameters	Sym	Value	Unit
Drain-Source Voltage	V_{DSS}	40	V_{DC}
Drain Current-Continuous	I_D	6.0	A_{DC}
Gate-Source Voltage	V_{GS}	±20	V_{DC}
Storage Temperature Range	T_{STG}	-65 tu +150	ºC
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.0	ºC/W
Total Power Dissipation @T_C=25 °C	P_D	87.5	W

Parameters

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage (I_D=5.0 mA, V_{GS}=0 V)	$V_{(BR)DSS}$	40	—	—	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} = 12.5 V, V_{GS}=0 V)	I_{DSS}	—	—	3.0	mA_{DC}
Gate Threshold Voltage (V_{DS} = 10 V, I_D = 20 mA) (1)	$V_{GS(TH)}$	1	—	5	V_{DC}
Forward Transconductance (V_{DS} = 10 V, I_D = 0.3 A) (1)	G_{FS}	0.45	0.5	—	mhos
Input Capacitance (V_{DS} = 12.5 V, V_{GS}=0 V, f = 1 MHz) (1)	C_{ISS}	—	38	—	pF
Output Capacitance (V_{DS} = 12.5 V, V_{GS}=0 V, f = 1 MHz) (1)	C_{OSS}	—	50	—	pF
Reverse Transfer Capacitance (V_{DS} = 12.5 V, V_{GS}=0 V, f = 1 MHz) (1)	C_{RSS}	—	6.3	—	pF
Power Gain (V_{DS} = 12.5 V, P_{OUT} = 20 W, $I_{DQ.}$ = 50 mA, f = 500 MHz)	Gp	10	12	—	dB
Drain Efficiency (V_{DS} = 12.5 8 V, P_{OUT} = 20 W, $I_{DQ.}$ = 50 mA, f = 500MHz)	η_D	50	55	—	%

(1) Each transistor chip measured separately.

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