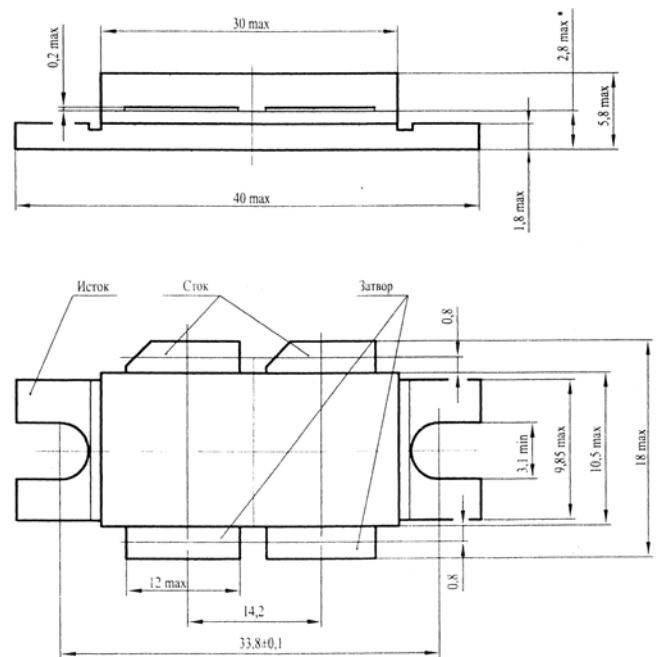


SILICON LDMOS MICROWAVE POWER TRANSISTOR 500 W, up to 500 MHz

Designed primarily for wideband applications with frequencies up to 500 MHz. Device is unmatched and is suitable for use in broadcast applications

Typical Pulsed Performance: $V_{DD} = 50$ Volts, $I_{DQ} = 200$ mA,
 $P_{out} = 500$ Watts Peak, $f = 500$ MHz,
 Power Gain 19 dB
 Drain Efficiency . 49%
 Pulse Width = 300 μ sec, Duty Cycle = 10%



Absolute Maximum Ratings

Parameters	Sym	Value	Unit
Drain-Source Voltage	V_{DSS}	100	V_{DC}
Drain Current-Continuous	I_D	19	A_{DC}
Gate-Source Voltage	V_{GS}	-0.5, +20	V_{DC}
Operation Junction Temperature	T_j	-65 ÷ +200	$^{\circ}C$
Storage Temperature Range	T_{STG}	-65 ÷ +150	$^{\circ}C$
Thermal Resistance, Junction to Case, Pulsed, 300 μ sec Pulse Width, 10% Duty Cycle	$R_{\theta JC}$	0.07	$^{\circ}C/W$
Total Power Dissipation, Pulsed, 300 μ sec Pulse Width, 10% Duty Cycle	P_D	2500	W

Parameters

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage ($I_{DS}=20$ mA, $V_{GS}=0$ V)	$V_{(BR)DSS}$	100	—	—	V_{DC}
Gate-Source Leakage Current ($V_{GS}=20$ V, $V_{DS}=0$ V) ⁽¹⁾	I_{GSS}	—	—	2	μA_{DC}
Zero Gate Voltage Drain Leakage Current ($V_{DS} = 50$ V, $V_{GS}=0$ V) ⁽¹⁾	I_{DSS}	—	—	2	mA_{DC}
Gate Threshold Voltage ($V_{DS} = 10$ V, $I_D = 100$ mA)	$V_{GS(TH)}$	2	—	5	V_{DC}
Drain-Source on-state resistance ($V_{GS} = 10$ V, $I_D = 5$ A) ⁽¹⁾	R_{DSon}	—	0.25	—	Ω
Dynamic Characteristics					
Input Capacitance ($V_{DS} = 50$ V, $V_{GS}=0$ V, $f = 1$ MHz) ⁽¹⁾	C_{ISS}	—	210	—	pF
Output Capacitance ($V_{DS} = 50$ V, $V_{GS}=0$ V, $f = 1$ MHz) ⁽¹⁾	C_{OSS}	—	150	—	pF
Reverse Transfer Capacitance ($V_{DS} = 50$ V, $V_{GS}=0$ V, $f = 1$ MHz) ⁽¹⁾	C_{RSS}	—	2.0	—	pF
Functional Characteristics (Pulsed, 300 μsec Pulse Width, 10% Duty Cycle)					
Power Gain ($V_{DS} = 50$ V, $P_{OUT} = 500$ W, $I_{DQ} = 200$ mA, $f = 500$ MHz)	Gp	18	19	—	dB
Drain Efficiency ($V_{DS} = 50$ V, $P_{OUT} = 500$ W, $I_{DQ} = 200$ mA, $f = 500$ MHz)	η_D	45	49	—	%

1. Each side of device measured separately.

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