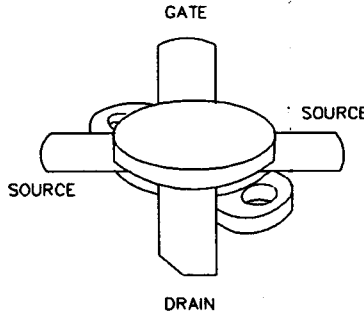


General Description

Silicon vertical DMOS designed specifically for RF applications. Immune to forward and reverse bias secondary breakdown. "POLYFET"™ process features gold metal for greatly extended lifetime. Low output capacitance and high  $F_t$  enhance broad band performance.



PATENTED GOLD METALIZED SILICON RF POWER MOSFET

BROADBAND APPLICATIONS

15 Watts Single Ended Package Style AA

HIGH EFFICIENCY, LINEAR

HIGH GAIN, LOW NOISE

ABSOLUTE MAXIMUM RATINGS ( $T_C = 25\text{ }^\circ\text{C}$ )

Total Device Dissipation	Junction to Case Thermal Resistance	Maximum Junction Temperature	Storage Temperature	DC Drain Current	Drain to Gate Voltage	Drain to Source Voltage	Gate to Source Voltage
90 Watts	1.95 $^\circ\text{C/W}$	200 $^\circ\text{C}$	-65 $^\circ\text{C}$ to 150 $^\circ\text{C}$	4 A	50 V	50 V	30 V

RF CHARACTERISTICS ( 15 WATTS OUTPUT)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
$G_{ps}$	Common Source Power Gain	10			dB	$I_{DS} = 0.8A, V_{DS} = 12.5V, F = 175\text{ MHz}$
$\eta$	Drain Efficiency		60		%	$I_{DS} = 0.8A, V_{DS} = 12.5V, F = 175\text{ MHz}$
VSWR	Load Mismatch Tolerance			20 : 1	Relative	$I_{DS} = 0.8A, V_{DS} = 12.5V, F = 175\text{ MHz}$

ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
$BV_{DSS}$	Drain Breakdown Voltage	40			V	$I_D = 0.1A, V_{GS} = 0V$
$I_{DSS}$	Zero Bias Drain Current			2	mA	$V_{DS} = 12.5V, V_{GS} = 0V$
$I_{GSS}$	Gate Leakage Current			1	uA	$V_{DS} = 0V, V_{GS} = 30V$
$V_{GS}$	Gate Bias for Drain Current	1		7	V	$I_D = 0.2A, V_{GS} = V_{DS}$
$g_M$	Forward Transconductance		1.6		MHO	$V_{DS} = 10V, V_G = 5V$
$R_{ds(on)}$	Saturation Resistance		0.45		OHM	$V_{GS} = 20V, I_{DS} = 16A$
$I_{dsat}$	Saturation Current		15		AMP	$V_{GS} = 20V, V_{DS} = 10V$
$C_{iss}$	Common Source Input Capacitance		80		pFD	$V_{DS} = 12.5V, V_{GS} = 0V, F = 1\text{ MHz}$
$C_{fss}$	Common Source Feedback Capacitance		12		pFD	$V_{DS} = 12.5V, V_{GS} = 0V, F = 1\text{ MHz}$
$C_{oss}$	Common Source Output Capacitance		60		pFD	$V_{DS} = 12.5V, V_{GS} = 0V, F = 1\text{ MHz}$