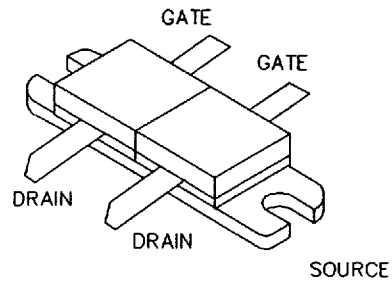
POLYFET RF DEVICES F1225

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 TO 600 MHZ

Gemini
Package Style AK

ABSOLUTE MAXIMUM RATINGS (T_C = 25 °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
170 Watts	1.05 °C/W	200 °C	-65 °C to 150 °C	8 A	45 V	45 V	40 V

RF CHARACTERISTICS (25 WATTS OUTPUT)

SYMBOL	PARAMETER	MINIMUM	TYPICAL	MAXIMUM	UNITS	TEST CONDITIONS
G_{ps}	Common Source Power Gain	12			dB	I_{DQ} =1.6A, V_{DS} = 12.5V, F = 325 Mhz
η	Drain Efficiency		60		%	I_{DQ} =1.6A, V_{DS} = 12.5V, F = 325 Mhz
VSWR	Load Mismatch Tolerance			20 : 1	Relative	I_{DQ} =1.6A, V_{DS} = 12.5V, F = 325 Mhz

ELECTRICAL CHARACTERISTICS (EACH SIDE)

SYMBOL	PARAMETER	MINIMUM	TYPICAL	MAXIMUM	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} = 40V
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} = 12.5V, I_D =2.0A F=120 Htz
C_{iss}	Common Source Input Capacitance		80		pFD	V_{DS} = 12.5V, V_{GS} = 0V, F = 1 MHz
C_{rss}	Common Source Feedback Capacitance		12		pFD	V_{DS} = 12.5V, V_{GS} = 0V, F = 1 MHz
C_{oss}	Common Source Output Capacitance		60		pFD	V_{DS} = 12.5V, V_{GS} = 0V, F = 1 MHz

POLYFET RF DEVICES
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