

RF MOSFET Power Transistor, 75W, 24V

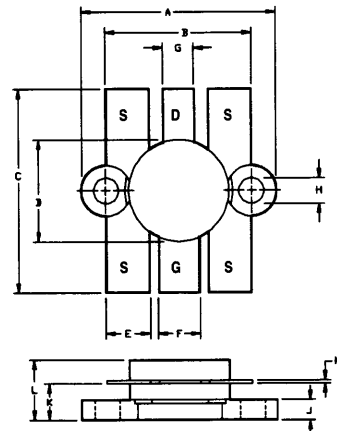
30 - 90 MHz

FH2114

V2.00

Features

- N-Channel Enhancement Mode Device
- Meets CECOM Drawing A3012711
- Designed for Frequency Hopping Systems
- 30-90 MHz
- Lower Capacitances for Broadband Operation
- Lower Noise Figure Than Bipolar Devices



LETTER DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	24.38	25.15	.960	.990
B	18.29	18.54	.720	.730
C	21.36	21.74	.841	.856
D	12.60	12.85	.496	.506
E	5.33	5.59	.210	.220
F	5.08	5.33	.200	.210
G	3.81	4.06	.150	.160
H	3.10	3.15	.122	.128
J	2.51	2.67	.099	.105
K	4.06	4.57	.160	.180
L	6.68	7.49	.263	.295
M	.10	.15	.004	.006

Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	65	V
Gate-Source Voltage	V_{GS}	20	V
Drain-Source Current	I_{DS}	16	A
Power Dissipation	P_D	159	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-55 to +150	°C
Thermal Resistance	θ_{JC}	1.1	°C/W

Electrical Characteristics at 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	65	-	V	$V_{GS}=0.0\text{ V}, I_{DS}=100.0\text{ mA}$
Drain-Source Leakage Current	I_{DSS}	-	2.0	mA	$V_{DS}=24.0\text{ V}, V_{GS}=0.0\text{ V}$
Gate-Source Leakage Current	I_{GSS}	-	4.0	μA	$V_{GS}=20.0\text{ V}, V_{DS}=0.0\text{ V}$
Gate Threshold Voltage	$V_{GS(TH)}$	2.0	7.2	V	$V_{DS}=27.0\text{ V}, I_{DS}=1000.0\text{ mA}$
Forward Transconductance	G_M	1.6	-	S	$V_{DS}=24.0\text{ V}, I_{DS}=1000.0\text{ mA}, \Delta V_{GS}=1.0\text{ V}, 80\text{ }\mu\text{s Pulse}$
Input Capacitance	C_{ISS}	-	210	pF	$V_{DS}=30.0\text{ V}, F=1.0\text{ MHz}$
Output Capacitance	C_{OSS}	-	160	pF	$V_{DS}=30.0\text{ V}, F=1.0\text{ MHz}$
Reverse Capacitance	C_{RSS}	-	25	pF	$V_{DS}=30.0\text{ V}, F=1.0\text{ MHz}$
Power Gain	G_P	13	-	dB	$V_{DD}=24.0\text{ V}, I_{DQ}=1000\text{ mA}, P_{OUT}=75.0\text{ W}, F=88\text{ MHz}$
Drain Efficiency	η_D	65	-	%	$V_{DD}=24.0\text{ V}, I_{DQ}=1000\text{ mA}, P_{OUT}=75.0\text{ W}, F=88\text{ MHz}$
Load Mismatch Tolerance	VSWR-T	-	30:1	-	$V_{DD}=24.0\text{ V}, I_{DQ}=1000\text{ mA}, P_{OUT}=75.0\text{ W}, F=88\text{ MHz}$

Specifications Subject to Change Without Notice.

M/A-COM, Inc.

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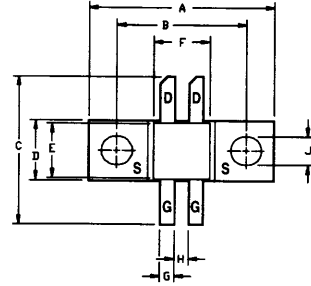
RF MOSFET Power Transistor, 8W, 12V 30 - 90 MHz

FH2164

V2.00

Features

- N-Channel Enhancement Mode Device
- Meets CECOM Drawing A3012715
- Designed for Frequency Hopping Systems
- 30-90 MHz
- Lower Capacitances for Broadband Operation
- Lower Noise Figure Than Bipolar Devices



Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	65	V
Gate-Source Voltage	V_{GS}	20	V
Drain-Source Current	I_{DS}	4*	A
Power Dissipation	P_D	61*	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-55 to +150	°C
Thermal Resistance	θ_{JC}	1.5	°C/W

LETTER DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	20.70	20.96	.815	.825
B	14.35	14.61	.565	.575
C	15.67	17.45	.617	.687
D	6.27	6.53	.247	.257
E	6.22	6.48	.245	.255
F	6.22	6.48	.245	.255
G	1.40	1.65	.055	.065
H	1.40	1.65	.055	.065
J	2.92	3.18	.115	.125
K	1.40	1.65	.055	.065
L	1.96	2.46	.077	.097
M	3.61	4.37	.142	.172
N	.08	.13	.003	.005

Electrical Characteristics at 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	65	-	V	$V_{GS}=0.0\text{ V}, I_{DS}=5.0\text{ mA}^*$
Drain-Source Leakage Current	I_{DSS}	-	1.0	mA	$V_{DS}=28.0\text{ V}, V_{GS}=0.0\text{ V}^*$
Gate-Source Leakage Current	I_{GSS}	-	1.0	μA	$V_{GS}=20.0\text{ V}, V_{DS}=0.0\text{ V}^*$
Gate Threshold Voltage	$V_{GS(TH)}$	2.0	6.0	V	$V_{DS}=10.0\text{ V}, I_{DS}=100.0\text{ mA}^*$
Forward Transconductance	G_M	500	-	mS	$V_{DS}=28.0\text{ V}, I_{DS}=1000.0\text{ mA}, \Delta V_{GS}=1.0\text{ V}, 80\ \mu\text{s Pulse}^*$
Input Capacitance	C_{ISS}	-	45	pF	$V_{DS}=28.0\text{ V}, F=1.0\text{ MHz}^*$
Output Capacitance	C_{OSS}	-	40	pF	$V_{DS}=28.0\text{ V}, F=1.0\text{ MHz}^*$
Reverse Capacitance	C_{RSS}	-	8	pF	$V_{DS}=28.0\text{ V}, F=1.0\text{ MHz}^*$
Power Gain	G_P	13	-	dB	$V_{DD}=12.0\text{ V}, I_{DQ}=600\text{ mA}, P_{OUT}=8.0\text{ W}, F=88\text{ MHz}$
Drain Efficiency	η_D	55	-	%	$V_{DD}=12.0\text{ V}, I_{DQ}=600\text{ mA}, P_{OUT}=8.0\text{ W}, F=88\text{ MHz}$
Load Mismatch Tolerance	VSWR-T	-	20:1	-	$V_{DD}=12.0\text{ V}, I_{DQ}=600\text{ mA}, P_{OUT}=8.0\text{ W}, F=88\text{ MHz}$

* Per side

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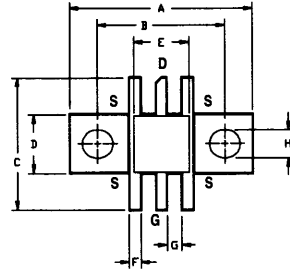
RF MOSFET Power Transistor, 2W, 12V 30 - 90 MHz

FH2165

V2.00

Features

- N-Channel Enhancement Mode Device
- Meets CECOM Drawing A3012716
- Designed for Frequency Hopping Systems
- 30-90 MHz
- Lower Capacitances for Broadband Operation
- Lower Noise Figure Than Bipolar Devices



Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	65	V
Gate-Source Voltage	V_{GS}	20	V
Drain-Source Current	I_{DS}	4	A
Power Dissipation	P_D	61	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-55 to +150	°C
Thermal Resistance	θ_{JC}	2.6	°C/W



LETTER DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	20.70	20.96	.815	.825
B	14.35	14.61	.565	.575
C	14.73	15.24	.580	.600
D	6.27	6.53	.247	.257
E	6.22	6.48	.245	.255
F	1.14	1.40	.045	.055
G	1.52	1.78	.060	.070
H	2.92	3.17	.115	.125
J	1.40	1.65	.055	.065
K	2.03	2.39	.080	.094
L	3.66	4.32	.144	.170
M	.10	.15	.004	.006

Electrical Characteristics at 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	65	-	V	$V_{GS}=0.0\text{ V}, I_{DS}=5.0\text{ mA}$
Drain-Source Leakage Current	I_{DSS}	-	1.0	mA	$V_{DS}=28.0\text{ V}, V_{GS}=0.0\text{ V}$
Gate-Source Leakage Current	I_{GSS}	-	1.0	μA	$V_{GS}=20.0\text{ V}, V_{DS}=0.0\text{ V}$
Gate Threshold Voltage	$V_{GS(TH)}$	2.0	6.0	V	$V_{DS}=10.0\text{ V}, I_{DS}=100.0\text{ mA}$
Forward Transconductance	G_M	500	-	mS	$V_{DS}=28.0\text{ V}, I_{DS}=1000.0\text{ mA}, \Delta V_{GS}=1.0\text{ V}, 80\text{ }\mu\text{s Pulse}$
Input Capacitance	C_{ISS}	-	45	pF	$V_{DS}=28.0\text{ V}, F=1.0\text{ MHz}$
Output Capacitance	C_{OSS}	-	40	pF	$V_{DS}=28.0\text{ V}, F=1.0\text{ MHz}$
Reverse Capacitance	C_{RSS}	-	8	pF	$V_{DS}=28.0\text{ V}, F=1.0\text{ MHz}$
Power Gain	G_p	10	-	dB	$V_{DD}=12.0\text{ V}, I_{DQ}=300\text{ mA}, P_{OUT}=2.0\text{ W}, F=88\text{ MHz}$
Drain Efficiency	η_{DQ}	55	-	%	$V_{DD}=12.0\text{ V}, I_{DQ}=300\text{ mA}, P_{OUT}=2.0\text{ W}, F=88\text{ MHz}$
Load Mismatch Tolerance	VSWR-T	-	20:1	-	$V_{DD}=12.0\text{ V}, I_{DQ}=300\text{ mA}, P_{OUT}=2.0\text{ W}, F=88\text{ MHz}$

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