ROHS Compliance, The RF MOSFET Line, Enhancement Mode

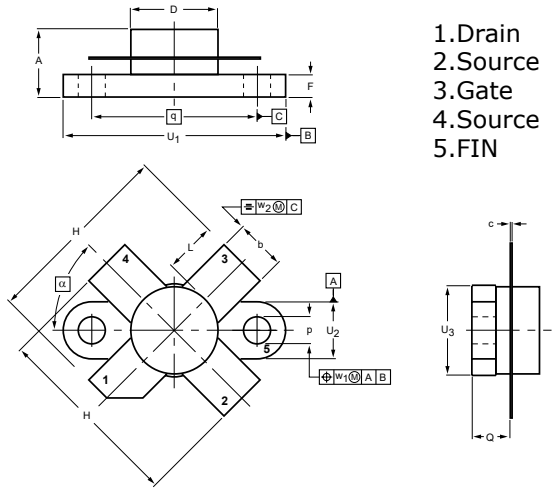
HG Semiconductors

MRF137

Silicon MOS N-CHANNEL RF POWER TRANSISTOR

DESCRIPTION

Silicon N-channel enhancement mode vertical D-MOS transistor is designed for wideband large–signal output and driver stages up to 400 MHz range.



1.Drain
2.Source
3.Gate
4.Source
5.FIN

FEATURES

- Output Power: 30 W
- Power Gain: 16 dB Typ@150M, 28V
  7.7 dB Typ@400M, 28V
- Efficiency: 60% Typ

DIMENSIONS

NOTE: ALL ELECTRODES ARE ISOLATED FROM FLANCE.

UNIT	A	b	c	D	D_1	F	H	L	p	Q	q	U_1	U_2	U_3	w_1	w_2	α
mm	7.47 6.37	5.82 5.56	0.18 0.10	9.73 9.47	9.63 9.42	2.72 2.31	20.71 19.93	5.61 5.16	3.33 3.04	4.63 4.11	18.42	25.15 24.38	6.61 6.09	9.78 9.39	0.51	1.02	45°
inches	0.294 0.251	0.229 0.219	0.007 0.004	0.383 0.373	0.397 0.371	0.107 0.091	0.815 0.785	0.221 0.203	0.131 0.120	0.182 0.162	0.725	0.99 0.96	0.26 0.24	0.385 0.370	0.02	0.04	

MAXIMUM RATINGS

CHARACTERISTICS	SYMBOL	RATINGS	UNITS
Drain–Source Voltage	V_{DSS}	65	V
Gate–Source Voltage	V_{GS}	±40	V
Drain Current — Continuous	I_D	5	A
Total Device Dissipation	P_D	100	W
Junction Temperature	T_J	200	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=10mA,V_{GS}=0	65	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V,V_{DS}=28V	-	-	4	mAdc
Gate–Source Leakage Current	I_{GSS}	V_{GS}=20V,V_{DS}=0V	-	-	1	uAdc
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = 10 V, I_D = 25mA	1.0	3.0	6.0	V
Forward Transconductance	gfs	V_{DS} = 10 V, I_D = 0.5A	0.5	0.75	-	mhos
Input Capacitance	Ciss	V_{DS} = 28 V,V_{GS} = 0 V, f = 1.0 MHz	-	45	-	pF
Output Capacitance	Coss		-	38	-	pF
Reverse Transfer Capacitance	Crss		-	3.8	-	pF
Common Source Power Gain	G_{PS}	V_{DD}=28V,P_{OUT}=30W, f=400MHz,I_{DQ} = 25 mA	-	7.7	-	dB
Common Source Power Gain	G_{PS}	V_{DD}=28V,P_{OUT}=30W,	13.0	16.0	-	dB
Drain Efficiency	η_D	f=150MHz,I_{DQ} = 25 mA	50.0	60.0	-	%

Note : Above parameters , ratings , limits and conditions are subject to change.