ROHS Compliance, The RF MOSFET Line, Enhancement Mode

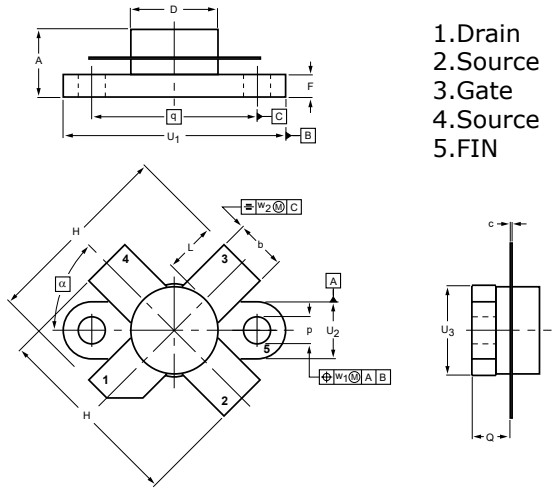
HG Semiconductors

BLF175

Silicon MOS N-CHANNEL RF POWER TRANSISTOR

DESCRIPTION

Silicon N-channel enhancement mode vertical D-MOS transistor designed for large signal amplifier applications in the VHF frequency range.



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

FEATURES

- Output Power: 30 W (PEP)
- Power Gain: 24 dB Typ@28M, 50V
  20 dB Typ@108M, 50V
- Efficiency: 40% Typ@28M, 50V
  65% Typ@108M, 50V

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}	125	V
Gate–Source Voltage	±V_{GS}	20	V
Drain Current — Continuous	I_D	4	A
Total Device Dissipation	P_D	68	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=100mA,V_{GS}=0	125	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V,V_{DS}=50V	-	-	100	uA
Gate–Source Leakage Current	I_{GSS}	V_{GS}=20V,V_{DS}=0V	-	-	1	uA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = 10 V, I_D = 10mA	2.0	-	4.5	V
Forward Transconductance	gfs	V_{DS} = 10 V, I_D = 1 A	1.1	1.6	-	mhos
Input Capacitance	Ciss	V_{DS} = 50 V,V_{GS} = 0 V, f = 1.0 MHz	-	70	-	pF
Output Capacitance	Coss		-	40	-	pF
Reverse Transfer Capacitance	Crss		-	3	-	pF
Common Source Power Gain	G_{PS}	V_{DD}=50V,P_{OUT}=30W, f=28MHz,I_{DQ} = 150 mA	-	24.0	-	dB
Drain Efficiency	η_D		-	40.0	-	%
Common Source Power Gain	G_{PS}	V_{DD}=50V,P_{OUT}=30W, f=108MHz,I_{DQ} = 30 mA	-	20.0	-	dB
Drain Efficiency	η_D		-	65.0	-	%

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