

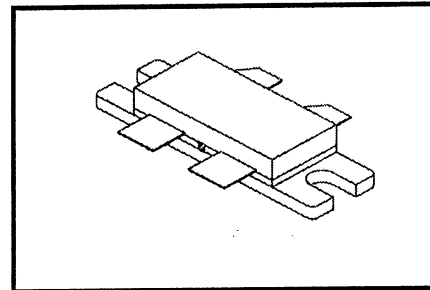
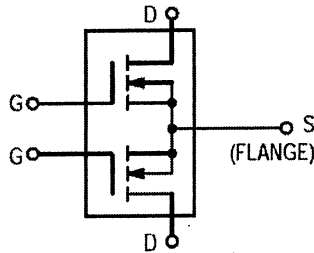
150W, 500MHz,

BLF548

Designed primarily for wideband large-signal output and driver stages from 100 – 500 MHz.

N-Channel enhancement mode

- Guaranteed performance @ 500 MHz, 28 Vdc  
Output power — 150 W  
Power gain — 10 dB (min.)  
Efficiency — 50% (min.)
- 100% tested for load mismatch at all phase angles with VSWR 30:1



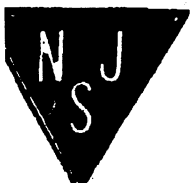
**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Drain-Source Voltage	V <sub>DSS</sub>	65	Vdc
Drain-Gate Voltage (R <sub>GS</sub> = 1.0 MΩ)	V <sub>DGR</sub>	65	Vdc
Gate-Source Voltage	V <sub>GS</sub>	±40	Adc
Drain Current — Continuous	I <sub>D</sub>	26	Adc
Total Device Dissipation @ T <sub>C</sub> = 25°C Derate above 25°C	P <sub>D</sub>	400 2.27	Watts W/°C
Storage Temperature Range	T <sub>stg</sub>	-65 to +150	°C
Operating Junction Temperature	T <sub>J</sub>	200	°C

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	0.44	°C/W

**NOTE - CAUTION** - MOS devices are susceptible to damage from electrostatic charge. Reasonable precautions in handling and packaging MOS devices should be observed.



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**ELECTRICAL CHARACTERISTICS** ( $T_C = 25^\circ\text{C}$  unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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**OFF CHARACTERISTICS (1)**

Drain-Source Breakdown Voltage ( $V_{GS} = 0, I_D = 50 \text{ mA}$ )	$V_{(BR)DSS}$	65	—	—	Vdc
Zero Gate Voltage Drain Current ( $V_{DS} = 28 \text{ V}, V_{GS} = 0$ )	$I_{DSS}$	—	—	1	mA
Gate-Source Leakage Current ( $V_{GS} = 20 \text{ V}, V_{DS} = 0$ )	$I_{GSS}$	—	—	1	$\mu\text{A}$

**ON CHARACTERISTICS (1)**

Gate Threshold Voltage ( $V_{DS} = 10 \text{ V}, I_D = 100 \text{ mA}$ )	$V_{GS(th)}$	1.5	2.5	4.5	Vdc
Drain-Source On-Voltage ( $V_{GS} = 10 \text{ V}, I_D = 5 \text{ A}$ )	$V_{DS(on)}$	0.5	0.9	1.5	Vdc
Forward Transconductance ( $V_{DS} = 10 \text{ V}, I_D = 2.5 \text{ A}$ )	$g_{fs}$	3	3.75	—	mhos

**DYNAMIC CHARACTERISTICS (1)**

Input Capacitance ( $V_{DS} = 28 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$ )	$C_{iss}$	—	135	—	pF
Output Capacitance ( $V_{DS} = 28 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$ )	$C_{oss}$	—	140	—	pF
Reverse Transfer Capacitance ( $V_{DS} = 28 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$ )	$C_{rss}$	—	17	—	pF

**FUNCTIONAL CHARACTERISTICS (2)** (Figure 1)

Common Source Power Gain ( $V_{DD} = 28 \text{ V}, P_{out} = 150 \text{ W}, f = 500 \text{ MHz}, I_{DQ} = 2 \times 100 \text{ mA}$ )	$G_{ps}$	10	11.2	—	dB
Drain Efficiency ( $V_{DD} = 28 \text{ V}, P_{out} = 150 \text{ W}, f = 500 \text{ MHz}, I_{DQ} = 2 \times 100 \text{ mA}$ )	$\eta$	50	55	—	%
Electrical Ruggedness ( $V_{DD} = 28 \text{ V}, P_{out} = 150 \text{ W}, f = 500 \text{ MHz}, I_{DQ} = 2 \times 100 \text{ mA},$ $V_{SWR} 30:1$ at all Phase Angles)	$\psi$	No Degradation in Output Power			

1. Each side of device measured separately.
2. Measured in push-pull configuration.