

# BLF278

## SILICON MOS N-CHANNEL POWER TRANSISTOR 250 W, up to 225 MHz, Enhancement Mode

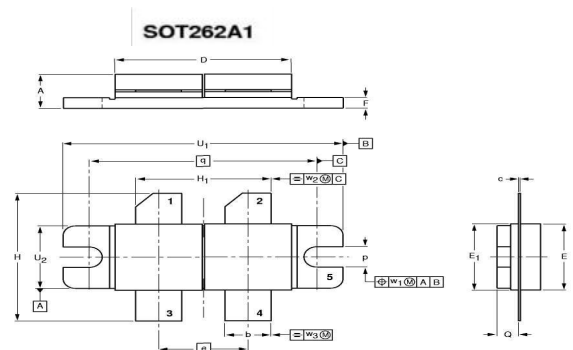
The silicon MOS push pull transistor designed for 225 MHz, 250 W Transmitter and Amplifier Applications.

### Features:

- Power Gain: 14 dB Min
- Output Power: 250 W
- Efficiency: 50 % Min

### Absolute Maximum Ratings

Parameters	Sym	Value	Unit
Drain-Source Voltage	$V_{DSS}$	125	$V_{DC}$
Drain Current-Continuous	$I_D$	40	$A_{DC}$
Gate-source Voltage	$V_{GS}$	$\pm 40$	$V_{DC}$
Operation Junction Temperature	$T_j$	$-65 \div +200$	$^{\circ}C$
Storage Temperature Range	$T_{STG}$	$-65 \div +150$	$^{\circ}C$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.35	$^{\circ}C/W$
Total Power Dissipation	$P_D$	500	W



PINNING - SOT262 A1

PIN	DESCRIPTION
1	drain 1
2	drain 2
3	gate 1
4	gate 2
5	source

0 5 10 mm  
scale

DIMENSIONS (millimetre dimensions are derived from the original inch dimensions)

UNIT	A	b	c	D	e	E	E <sub>1</sub>	F	H	H <sub>1</sub>	p	Q	q	U <sub>1</sub>	U <sub>2</sub>	w <sub>1</sub>	w <sub>2</sub>	w <sub>3</sub>
mm	5.77	5.65	0.10	21.90	11.05	10.27	10.29	1.78	20.50	17.02	3.20	2.95	27.94	34.17	9.91	0.51	1.02	0.25
inches	0.227	0.230	0.006	0.865	0.435	0.404	0.405	0.070	0.81	0.67	0.129	0.112	1.100	1.345	0.390	0.02	0.04	0.01
	0.197	0.220	0.004	0.855		0.396	0.395	0.080	0.79	0.65	0.119	0.102		1.335	0.380			

### Parameters

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage ( $I_{DS}=100 \text{ mA}$ , $V_{GS}=0 \text{ V}$ )	$V_{(BR)DSS}$	125	—	—	$V_{DC}$
Gate-Source Leakage Current ( $V_{GS}=20 \text{ V}$ , $V_{DS}=0 \text{ V}$ )	$I_{GSS}$	—	—	1	$\mu A_{DC}$
Zero Gate Voltage Drain Leakage Current ( $V_{DS} = 50 \text{ V}$ , $V_{GS}=0 \text{ V}$ )	$I_{DSS}$	—	—	5	$mA_{DC}$
Gate Threshold Voltage ( $V_{DS} = 10 \text{ V}$ , $I_D = 100 \text{ mA}$ )	$V_{GS(TH)}$	1	—	5	$V_{DC}$
Forward Transconductance ( $V_{DS} = 10 \text{ V}$ , $I_D = 5 \text{ A}$ )	$G_{FS}$	5	—	—	mhos
Input Capacitance ( $V_{DS} = 50 \text{ V}$ , $V_{GS}=0 \text{ V}$ , $f = 1 \text{ MHz}$ )	$C_{ISS}$	—	350	—	pF
Output Capacitance ( $V_{DS} = 50 \text{ V}$ , $V_{GS}=0 \text{ V}$ , $f = 1 \text{ MHz}$ )	$C_{OSS}$	—	250	—	pF
Reverse Transfer Capacitance ( $V_{DS} = 50 \text{ V}$ , $V_{GS}=0 \text{ V}$ , $f = 1 \text{ MHz}$ )	$C_{RSS}$	—	15	—	pF
Power Gain ( $V_{DS} = 50 \text{ V}$ , $P_{OUT} = 250 \text{ W}$ , $I_{DQ} = 2 \times 0.5 \text{ A}$ , $f = 225 \text{ MHz}$ )	$G_p$	14	16	—	dB
Drain Efficiency ( $V_{DS} = 50 \text{ V}$ , $P_{OUT} = 250 \text{ W}$ , $I_{DQ} = 2 \times 0.5 \text{ A}$ , $f = 225 \text{ MHz}$ )	$\eta_D$	50	55	—	%

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Specification is subject to change without notice