

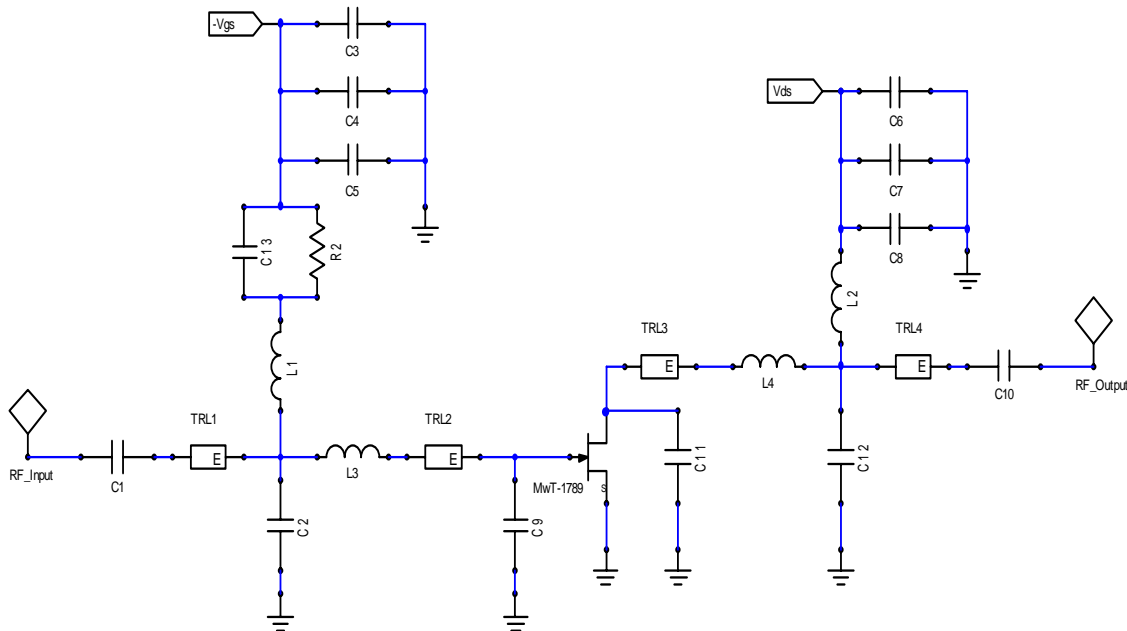
Application Circuits For Low Noise:

Typical RF Performance bias at $V_{ds}=5V$, $I_{ds}=200mA$, $T_a=25^\circ C$

Parameter		Units		Typical Data	
Test Frequency	MHz	870-960	1800-2100	2400-2600	3400-3600
Gain	dB	18	16	13	10
Output IP3	dBm	43	43	45	45
Noise Figure(*)	dB	0.8	1.3	1.5	2.2

* NF measure at $I_{ds}=100mA$

Circuit Schematic:

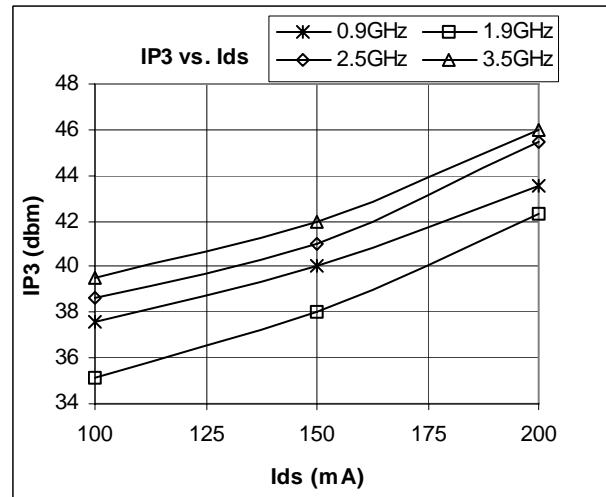
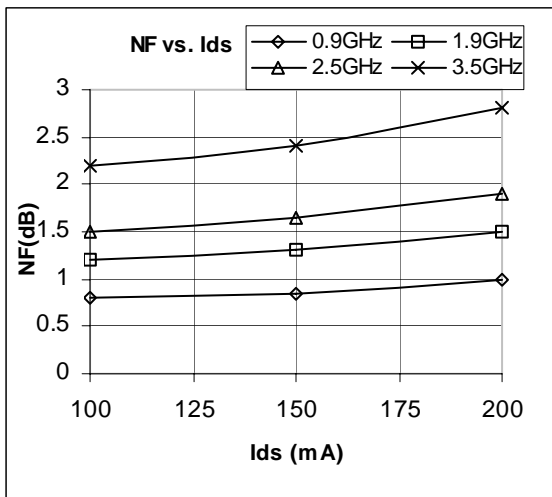


1. This circuit requires a balanced configuration for good return losses.
2. The information and the circuit provided in this note intend to show the capability of MwT-1789LN and to help customers use the device in their designs. It is a reference only.

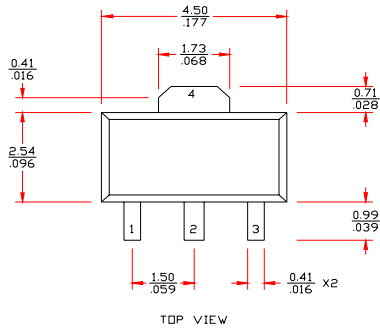
Bill of Material

Reference Designator	Value				Unit	part	Size
	0.87 – 0.96	1.8 – 2.1	2.4 – 2.6	3.4 – 3.6			
C5, C8	100	100	100	100	pF	Chip capacitor	0505
C4, C7	1000	1000	1000	1000	pF	Chip capacitor	0505
C3, C6	0.1	0.1	0.1	0.1	uF	Chip capacitor	1111
C1	100	22	4.7	2.2	pF	Chip capacitor	0505
C2	0.8	2	1.5	NI	pF	Chip capacitor	0505
C9	NI	NI	NI	1.5	pF	Chip capacitor	0505
C10	100	22	4.7	3.3	pF	Chip capacitor	0505
C11	NI	NI	NI	1.0	pF	Chip Capacitor	0505
C12	1.6	NI	1.2	NI	pF	Chip capacitor	0505
C13	NI	47	NI	NI	pF	Chip capacitor	0505
L1	100	82	18	10	nH	Chip Inductor	0603
L2	100	82	18	15	nH	Chip Inductor	0603
L3	6.8	0	0	0	nH	Chip Inductor	0603
L4	5.1	0	0	0	nH	Chip Inductor	0603
R1	51	150	51	150	Ohm	Chip Resistor	0603
TRL1	15	21	30	35	Deg.	50 Ohm TRL	
TRL2	0	16	20	25	Deg.	50 Ohm TRL	
TRL3	0	16	20	25	Deg.	50 Ohm TRL	
TRL4	15	21	30	35	Deg.	50 Ohm TRL	
Q	MwT-17	MwT-17	MwT-17	MwT-17		Mwt1789LN	SOT89

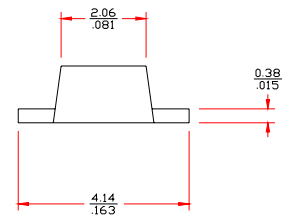
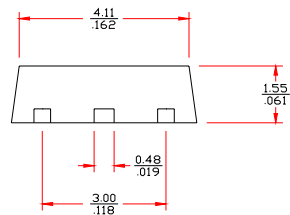
NI: Not Installed



OUTLINE DRAWING



mm
inch



Recommended PCB Layout: (via holes and backside metal as the heat sink, Unit is mm/inch)

