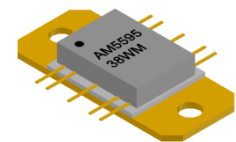
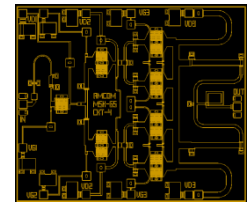


DESCRIPTION

AMCOM's AM559538WM is a broadband GaAs MMIC Power Amplifier. It has a nominal CW performance of 24dB small signal gain, and 38dBm (6W) saturated output power over the 5.5 to 9.5GHz band. The MMIC is offered in both chip (-00-R) and package (-SN-R) forms. The AM559538WM-SN-R is in a ceramic package with a flange and straight RF and DC leads for drop-in assembly. Because of high DC power dissipation, good heat sinking is required, and the chip MMIC has to be mounted using eutectic soldering directly on a metal ridge. Both chip and package are RoHS compliant.



FEATURES

- Wide bandwidth from 5.5 to 9.5GHz
- 38dBm of saturated CW output power
- High gain, 24dB
- Input /Output matched to 50 Ohms

APPLICATIONS

- Commercial telecom transmission equipment
- Fixed microwave backhaul
- Commercial 2-way radio

TYPICAL PERFORMANCE * ($V_{ds1,2,3} = 8V$, $I_{dsq1} = 0.25A$, $I_{dsq2} = 0.66A$, $I_{dsq3} = 1.6A$)

Parameters	Minimum	Typical **	Maximum
Frequency	6 – 9 GHz	5.5 – 9.5 GHz	
Small Signal Gain	20 dB	24 dB	28 dB
Gain Ripple		± 3 dB	± 5.0 dB
P_{1dB}		37 dBm	
P_{3dB}	36 dBm	38 dBm	
Efficiency @ P_{3dB}		25%	
Noise Figure		-	10 dB
IP3 @ 7.5GHz		TBD	
Input Return Loss		10 dB	
Output Return Loss		6 dB	
Thermal Resistance		4.1 °C/W	

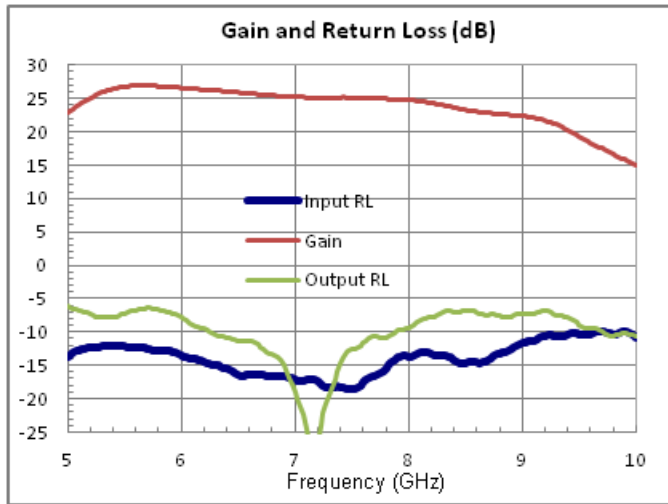
*Notes:

- 1- Specifications are subject to change without notice.
- 2- $V_{gs1,2,3}$ should be adjusted to -0.89V approximately to get the specified currents, and will vary slightly from one unit to another.
- 3- Measurements are done in CW mode.

ABSOLUTE MAXIMUM RATING

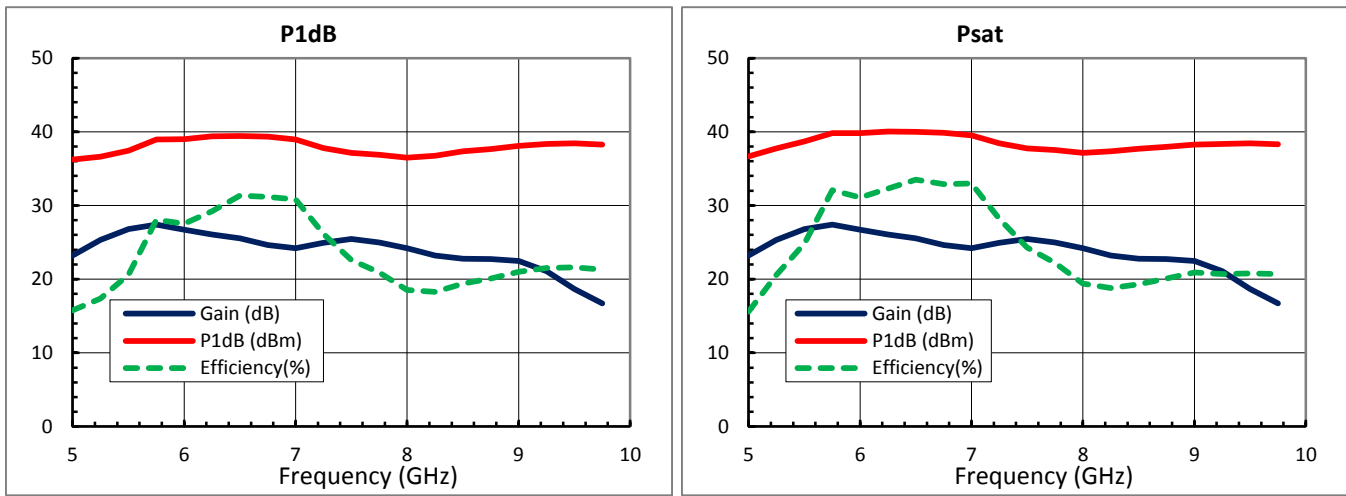
Parameters	Symbol	Rating
Drain source voltage	$V_{ds1,2,3}$	9V
Gate source voltage	$V_{gs1,2,3}$	-3V
Drain source current	I_{dsq1}	0.3A
Drain source current	I_{dsq2}	1.0A
Drain source current	I_{dsq3}	2.0A
Continuous dissipation at 25°C	P_t	37W
Channel temperature	T_{ch}	175°C
Operating temperature	T_{op}	-55°C to +85°C
Storage temperature	T_{sto}	-55°C to +135°C

SMALL SIGNAL DATA*



* Data shown is for packaged version (SN-R) of the MMIC biased at $V_{ds1,2,3}=8V$, $I_{dsq1}=0.25A$, $I_{dsq2}=0.66A$, $I_{dsq3}=1.6A$.

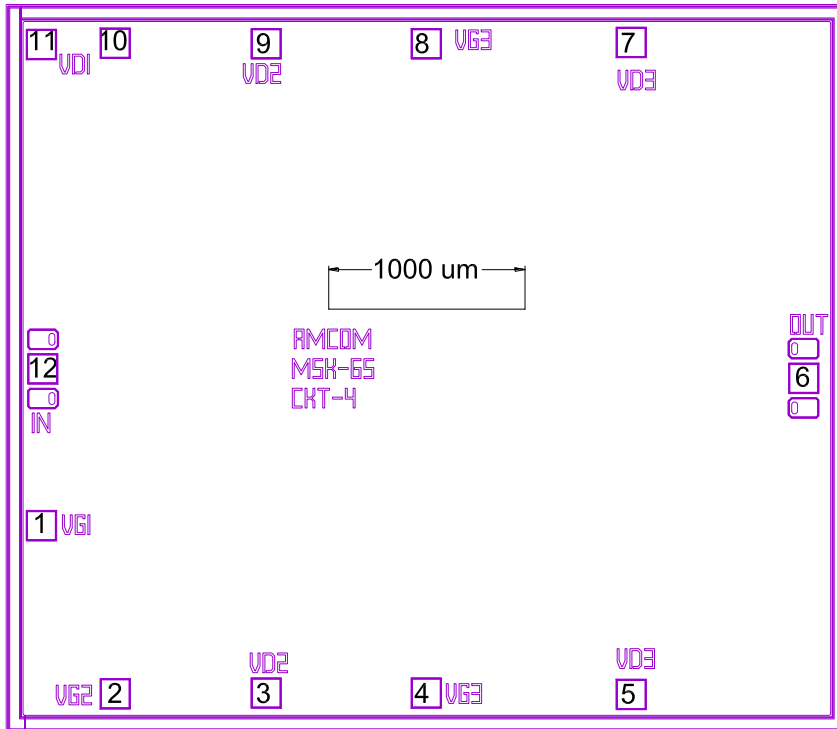
POWER DATA *



* Data shown is for packaged version (SN-R) of the MMIC biased at $V_{ds1,2,3}=8V$, $I_{dsq1}=0.25A$, $I_{dsq2}=0.66A$, $I_{dsq3}=1.6A$.

CHIP OUTLINE

Dim X*Y: 4200X3600 um^2

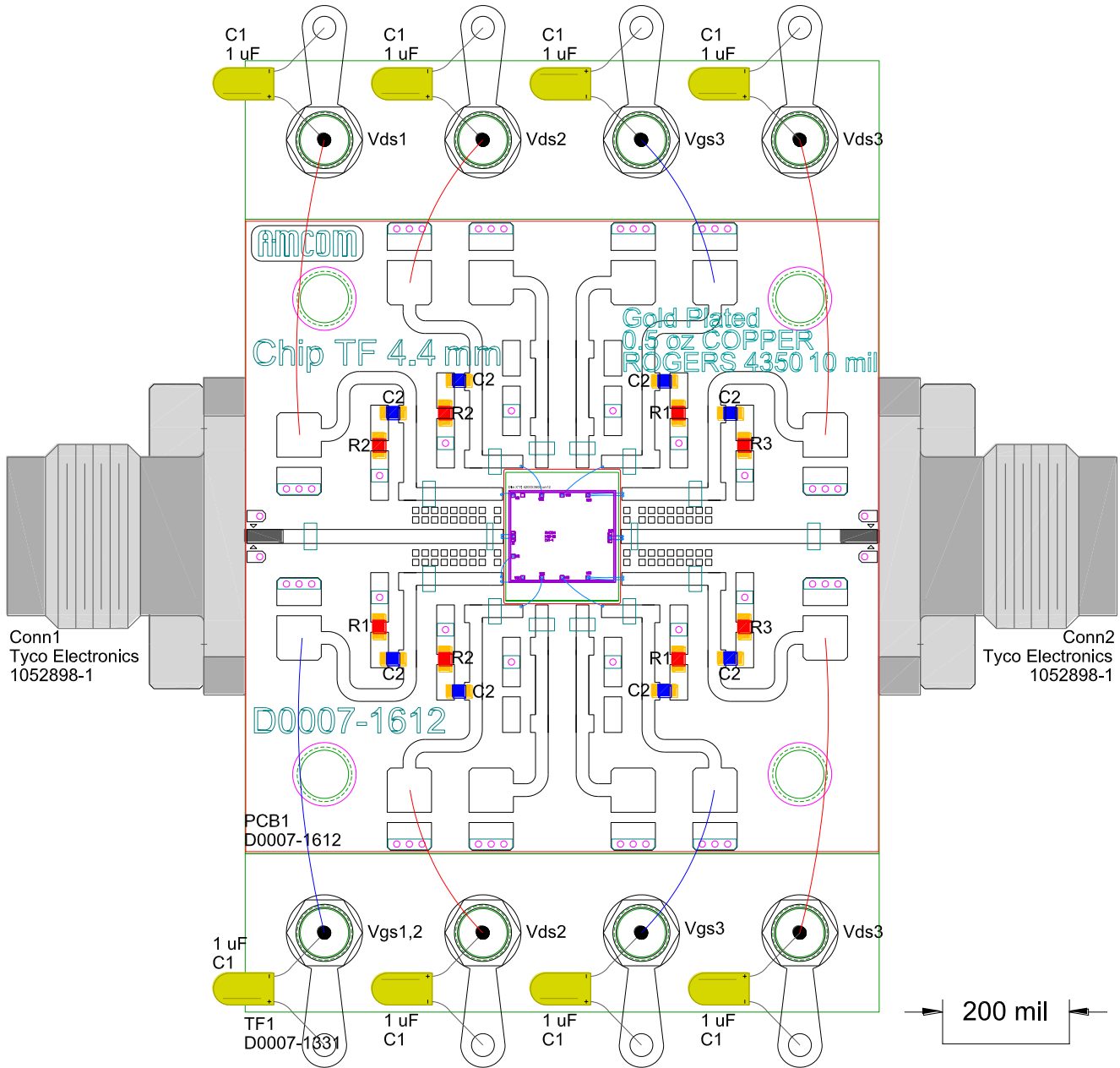


Pin No.	Function	Bias
1	V_{gs1}	-0.89V
2	V_{gs2}	-0.89V
3	V_{ds2}	+8V
4	V_{gs3}	-0.89V
5	V_{ds3}	+8V
6	RF out	NA
7	V_{ds3}	+8V
8	V_{gs3}	-0.89V
9	V_{ds2}	+8V
10	V_{gs2}	-0.89V
11	V_{ds1}	+8V
12	RF in	NA

*Notes:

- 1- It is necessary to connect drain biases $V_{ds1,2,3}$ to both the upper and lower bonding pads.
- 2- $V_{gs1,2,3}$ bias values are for reference only and will vary slightly from one unit to another.

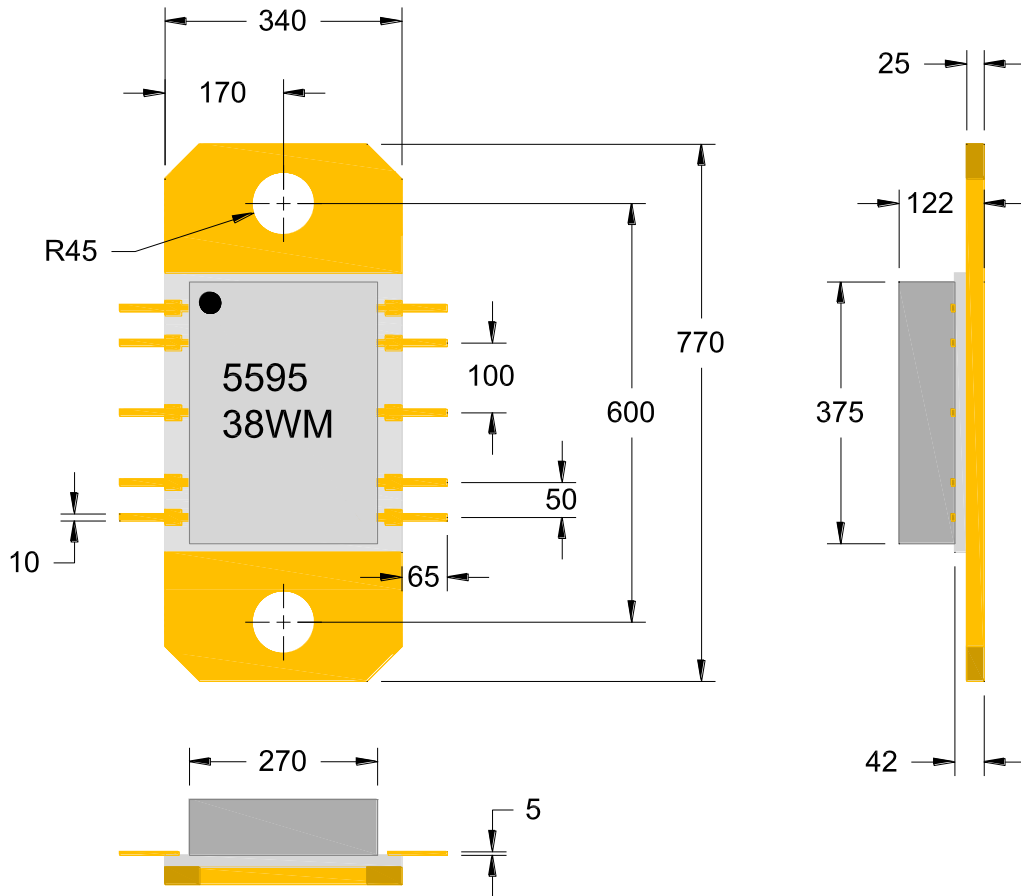
CHIP TEST FIXTURE



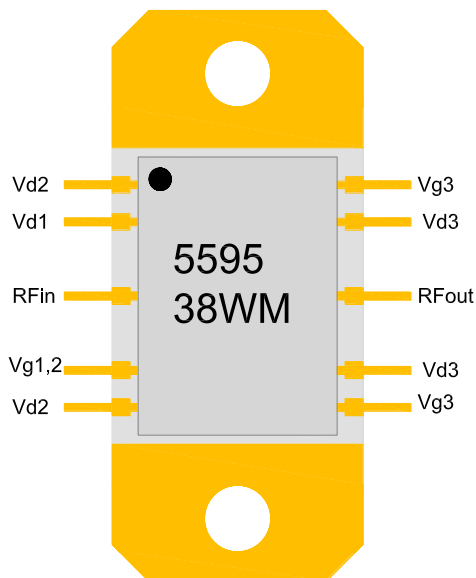
Notes:

- 1- Use epoxy to mount PCB, and eutectic soldering to mount chip.
- 2- C1=1uF, C2=1000pF, C3=20pF, R1=50ohms, R2=10ohms, R3=5ohms.
- 3- All SMT Caps & Resistors are 0402 size.
- 4- Don't apply $V_{ds1,2,3}$ without proper negative voltages on corresponding gates.

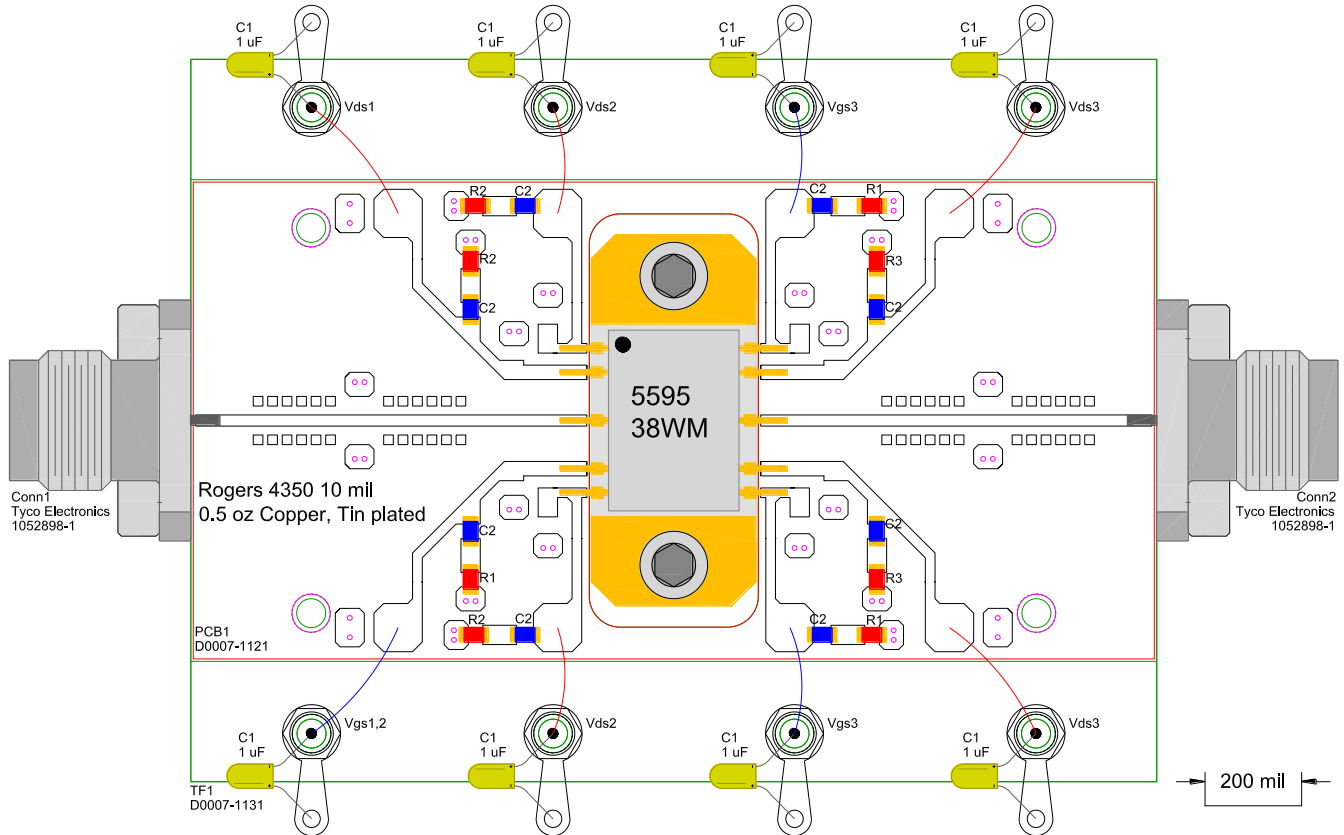
SN PACKAGE OUTLINE (Dimensions in mils)



Pin Layout



SN Package TEST FIXTURE



Notes:

- 1- Use epoxy to mount PCB.
- 2- C1=1uF, C2=1000pF, R1=50ohms, R2=10ohms, R3=5ohms.
- 3- All SMT Caps & Resistors are 0603 size.
- 4- Don't apply $V_{ds1,2,3}$ without proper negative voltages on corresponding gates.