

## LNA for Mobile Communication Infrastructure

### LNA A 1012

#### Applications:

Base Transceiver Stations, Tower Mounted Amplifier, Repeater

#### Major Characteristics

- Matched amplifier with low noise and high gain
- Off-the-shelf component, tape & reel packaged
- SMT compatible outline shape (Leadless Chip Carrier)
- Small footprint (9 mm by 11 mm)

#### Key Benefits

- Reduced handset transmit power
- Fully characterized component for reduced development effort
- Shorter design-to-market cycles
- Applied cost saving in production, quality and sourcing

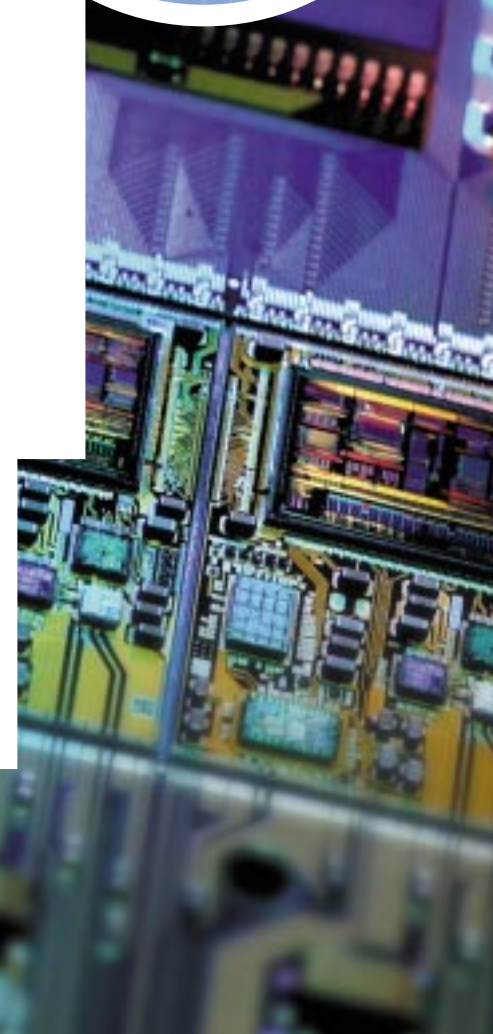
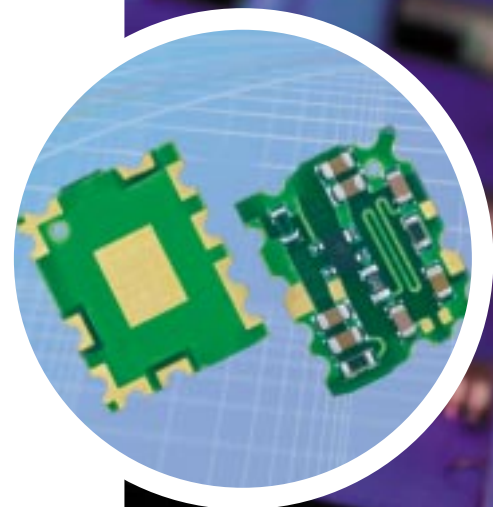
#### Technical Data<sup>1)</sup>

		DCS			PCS			UMTS		
		min.	typ.	max.	min.	typ.	max.	min.	typ.	max.
Frequency Range	MHz	1710		1790	1850		1910	1920		1980
Gain	dB	12,7	13,7		12,2	13,2		12,2	13,0	
Gain Ripple	dB			±0,2			±0,2			±0,2
Noise figure	dB		0,55	0,7		0,55	0,7		0,55	0,7
OIP 3	dBm	26	29		26	29		28	31	
Isolation	dB	16			16			16		
S <sub>11</sub>	dB	-7	-10		-7	-10		-7	-10	
S <sub>22</sub>	dB	-14	-20		-14	-20		-14	-20	
P <sub>out</sub> (1dB comp. Point)	dBm		16,2			16,3			16,5	
Operating Voltage	V		4,2	5		4,2	5		4,2	5
Current Consumption	mA	34	37	40	34	37	40	34	37	40

#### Environmental Specifications

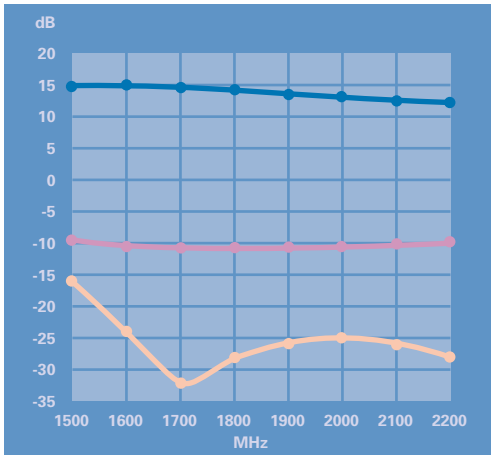
- Operating temperature -40°C...+85°C
- Storage temperature -40°C...+85°C
- Max. peak temperature during reflow +235°C
- Max. storage duration on air before reflow<sup>2)</sup> 1 year<sup>3)</sup>

1) Z<sub>0</sub> = 50 Ohm at input and output, P<sub>in</sub> = -10 dBm, V<sub>cc</sub> = 4,2 V, 25°C  
 2) storage in dry nitrogen atmosphere is recommended before reflow  
 3) approved by tests according to JEDEC 113-A standard, Level 2



# Typical Performance Curves<sup>4)</sup>

Figure 1: S-Parameter vs. Frequency

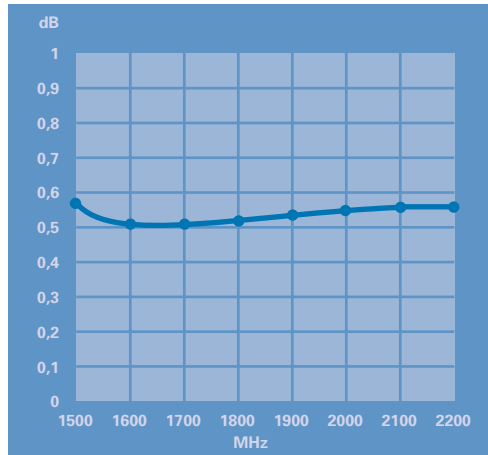


gain

S<sub>11</sub>

S<sub>22</sub>

Figure 2: Noise vs. Frequency



noise figure

# Product Consistency Distribution Charts<sup>5)</sup>

Fig. 3: Typ. distribution of NF @ 1950 MHz

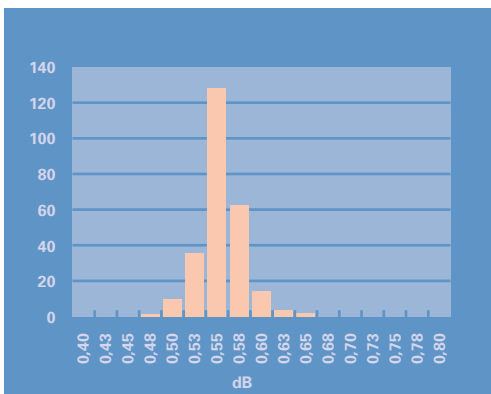
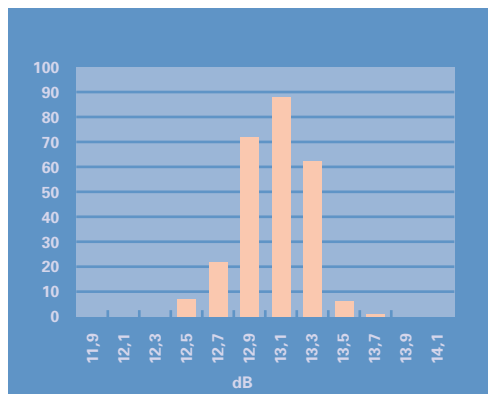


Fig. 4: Typ. distribution of gain @ 1950 MHz



**Tyco Electronics**  
**Electronic Modules**  
 Rupert - Mayer Str. 44  
 D - 81359 Munich, Germany  
 Tel.: +49 (0)89 722 - 39001  
 Fax: +49 (0)89 722 - 43791  
<http://www.em.tycoelectronics.com>  
[microsystems@tycoelectronics.com](mailto:microsystems@tycoelectronics.com)

4) Z<sub>0</sub> = 50 Ohm at input and output, P<sub>in</sub> = -10 dBm, V<sub>ds</sub> = 4,2 V, 25°C  
 5) Distribution data sample size is 250 samples taken from 4 different transistor lots. Future transistors allocated to this product may have nominal values anywhere within the upper and lower spec limits.

The information provided herein is believed to be reliable at press time. Tyco Electronics, Electronic Modules assumes no responsibility for inaccuracies or omissions. Tyco Electronics, Electronic Modules assumes no responsibility for the use of this information, and all such information shall be entirely at the users own risk. Prices and specifications are subject to change without notice. Tyco Electronics, Electronic Modules does not authorize or warrant any of its products for use in life-support devices and / or systems.