REPLACEMENT PART REFERENCE GUIDE, ZHL-100W-242+ and ZHL-100W-242X+

AN-60-118

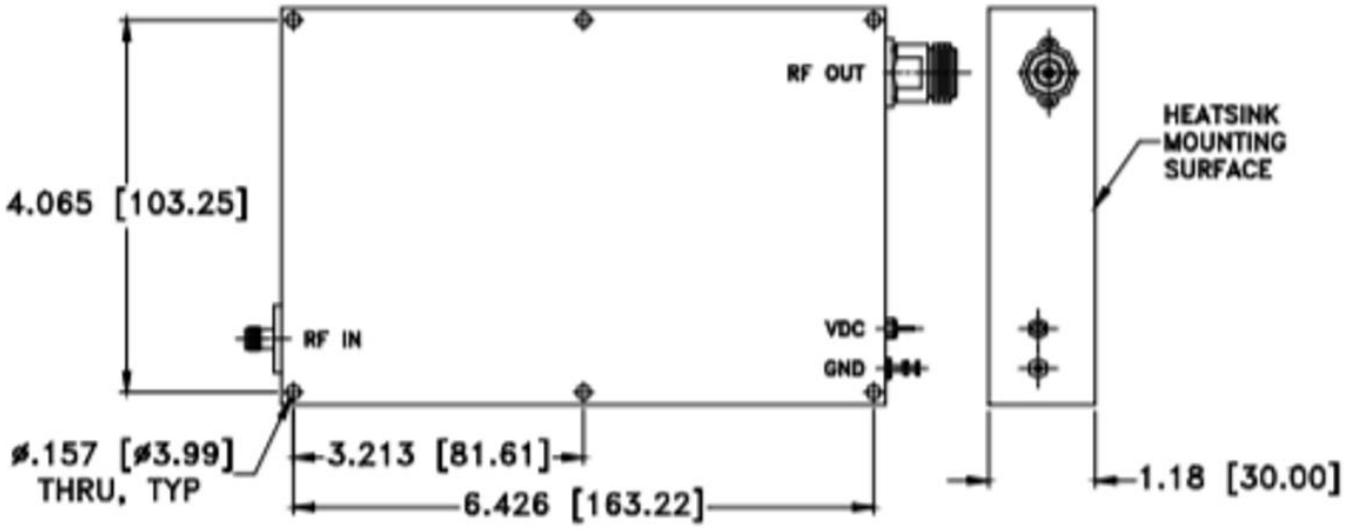
Replacement Part has been judged by Mini-Circuits Engineering as a suitable replacement to Original Part

Original Part	**ZHL-100W-242+** **ZHL-100W-242X+**	
Replacement Part	**ZHL2G02G4125+** **ZHL2G02G4125X+**	

Note: This replacement part reference guide is applicable for the ZHL-100W-242X+ (amplifier without heatsink) and the ZHL-100W-242+ (amplifier with heatsink). The heatsink properties and dimensions for the original part and the replacement part are the same.

1. MECHANICAL DIMENSIONS

Original Part: ZHL-100W-242X+	**Replacement Part: ZHL2G02G4125X+**
Case Style: BT1689	**Case Style: BT1689**



Conclusion: Original and Replacement Part have the same exact Case Style and Mechanical Dimensions.

2. ELECTRICAL PERFORMANCE:

SUMMARY ELECTRICAL PERFORMANCE CHARACTERISTICS		
Parameter	**Original Part ZHL-100W-242X+**	**Replacement Part ZHL2G02G4125X+**
Frequency (MHz)	2000-2400MHz	2000-2400
Output Power at 1dB Compression (dBm)	>+48, typ. 49.5	>+49, typ. 49.5
Output Power at 3dB Compression (dBm)	>+48.5, typ. 50	>+50 >+51 (2000-2120MHz)
Small Signal Gain (dB)	>45, typ. 50	>47, typ. 52
Small Signal Gain Gain Flatness (dB)	<+/-1.7	<+/-1.5
Power Gain (dB)	Not specified	>46, typ. 51
Noise Figure (dB)	<10, typ. 7.8	typ. 7
Input VSWR (:1)	<2.1, typ. 1.65	<2.0
Output VSWR (:1)	<2.0	Not specified
Maximum Input Power (dBm)	+7	+20
DC Supply Voltage (V)	typ. 28, max 30	typ. 28, max 30
DC Supply Current (A) *1	typ. 11, max 12	typ. 16, max. 17
Operating Mounting Base Temperature (^{o}C)	-20 to +45	-20 to +80
*1: Due to higher Pout capability		

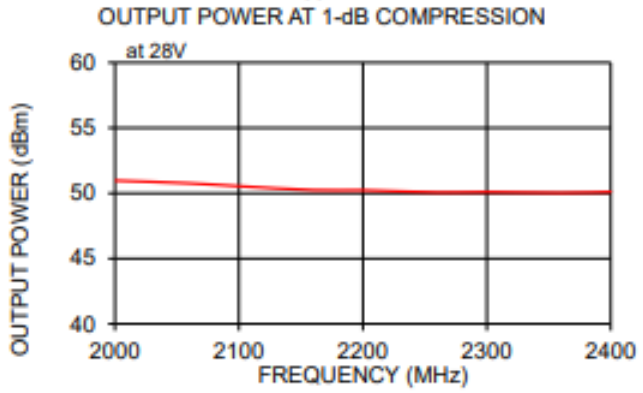
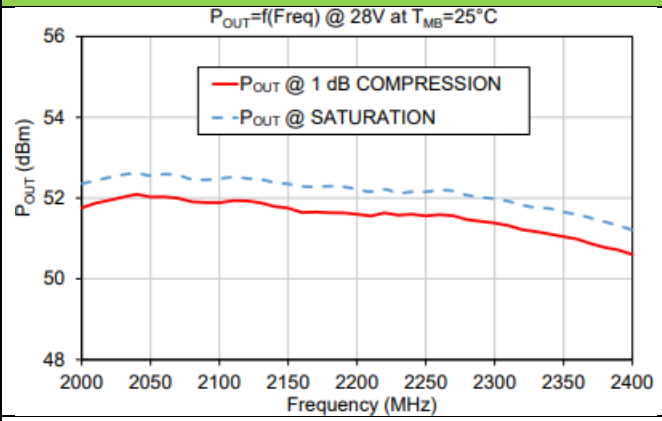
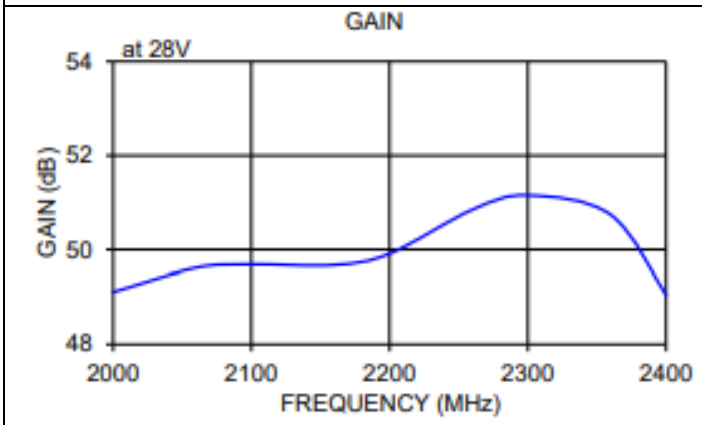
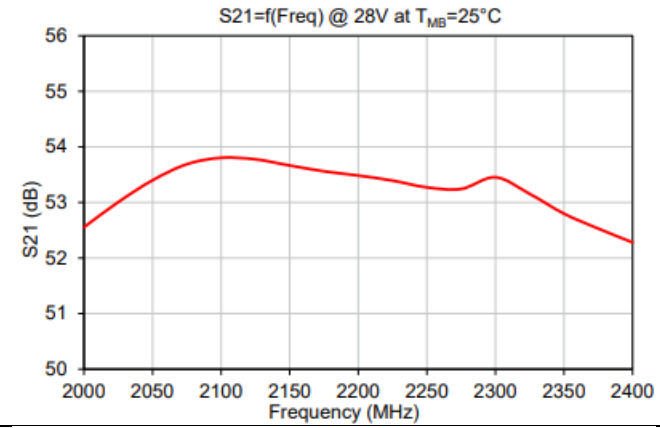
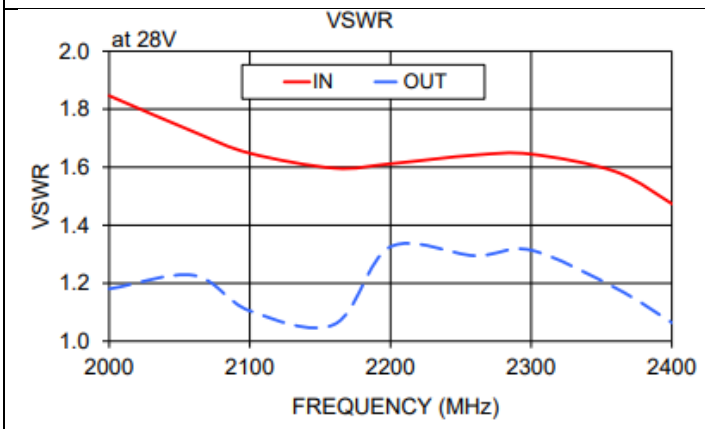
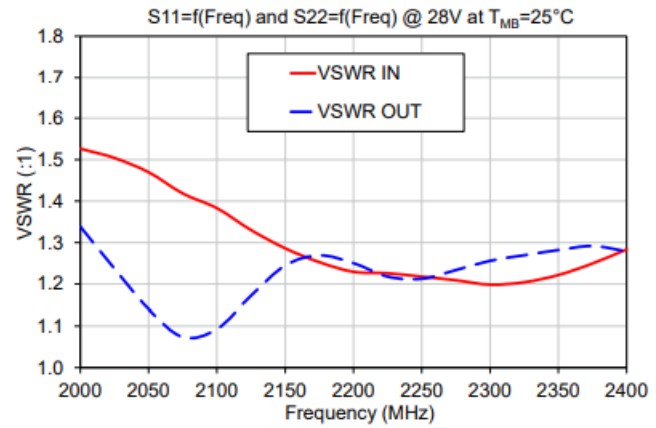
Compared to the ZHL-100W-242X+, the ZHL2G02G4125X+ has the following differences:

- The ZHL-2G02G4125X+ has a higher power capability.
- The ZHL-2G02G4125X+ draws more current as a result of the higher power capability.
- The ZHL-2G02G4125X+ can withstand higher input power under input overdrive situations.
- The ZHL-2G02G4125X+ has a built-in current limiter to protect the amplifier under input overdrive situations.

Please note that the table above is compiled for the ZHL-100W-242X+ and ZHL2G02G4125X+. Both products do not have a heatsink. One can expect a similar comparison for the products with a heatsink, i.e. ZHL-100W-242+ and ZHL2G02G4125+.

Paragraph 3 shows typical performance graphs.

3. TYPICAL PERFORMANCE GRAPHS

TYPICAL PERFORMANCE GRAPHS	
Original Part ZHL-100W-242X+	**Replacement Part ZHL2G02G4125X+**
	
	
	
More performance graphs can be found on the Mini Circuits website.	

4 CONCLUSION

It can be concluded that the ZHL2G02G4125X+ is an excellent replacement for the ZHL-100W-242X+. The ZHL2G02G4125X+ provides more output power while internal circuitry provides protection against input overdrive and excessive output power.