

ZHL-2+ PCN Report

AN-60-069

As a result of the introduction of a RoHS compliant version (+) and assembly option at an alternate qualified Mini-Circuits facility, the replacement part has been judged by the Mini-Circuits Engineering team as a suitable replacement for the existing ZHL-2.

CASE STYLE

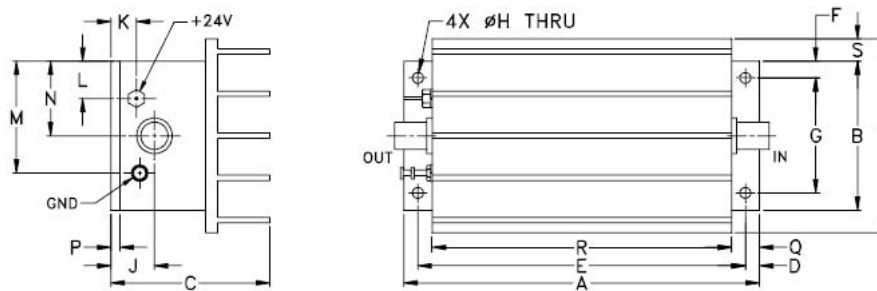
ORIGINAL PART: ZHL-2

REPLACEMENT PART: ZHL-2+

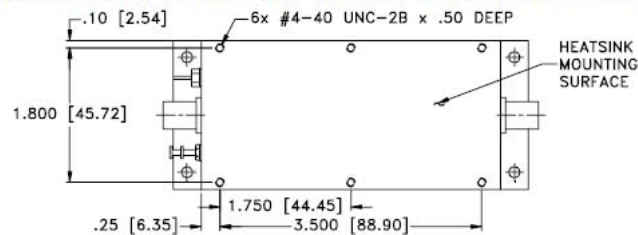
CASE STYLE: T34, No change



Outline Drawing for models with heatsink



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



Outline Dimensions (Inch/mm)

| A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | T | wt |
|--------|-------|-------|------|--------|------|-------|------|-------|------|-------|-------|-------|------|------|--------|------|-------|-----------------------------|
| 4.75 | 2.00 | 2.12 | .19 | 4.375 | .23 | 1.540 | .144 | .58 | .34 | .50 | 1.50 | 1.00 | .12 | .38 | 4.00 | .30 | 2.60 | grams* |
| 120.65 | 50.80 | 53.85 | 4.83 | 111.13 | 5.84 | 39.12 | 3.66 | 14.73 | 8.64 | 12.70 | 38.10 | 25.40 | 3.05 | 9.65 | 101.60 | 7.62 | 66.04 | 440.0 |
| | | | | | | | | | | | | | | | | | | *325 grams without heatsink |

- a. Suitability within a particular system must be determined by and is solely the responsibility of the customer based on, among other things, electrical performance criteria, stimulus conditions, application, compatibility with other components and environmental conditions and stresses.

CONCLUSION:

- 1) No change in FIT and FORM
- 2) Functional changes as follows:

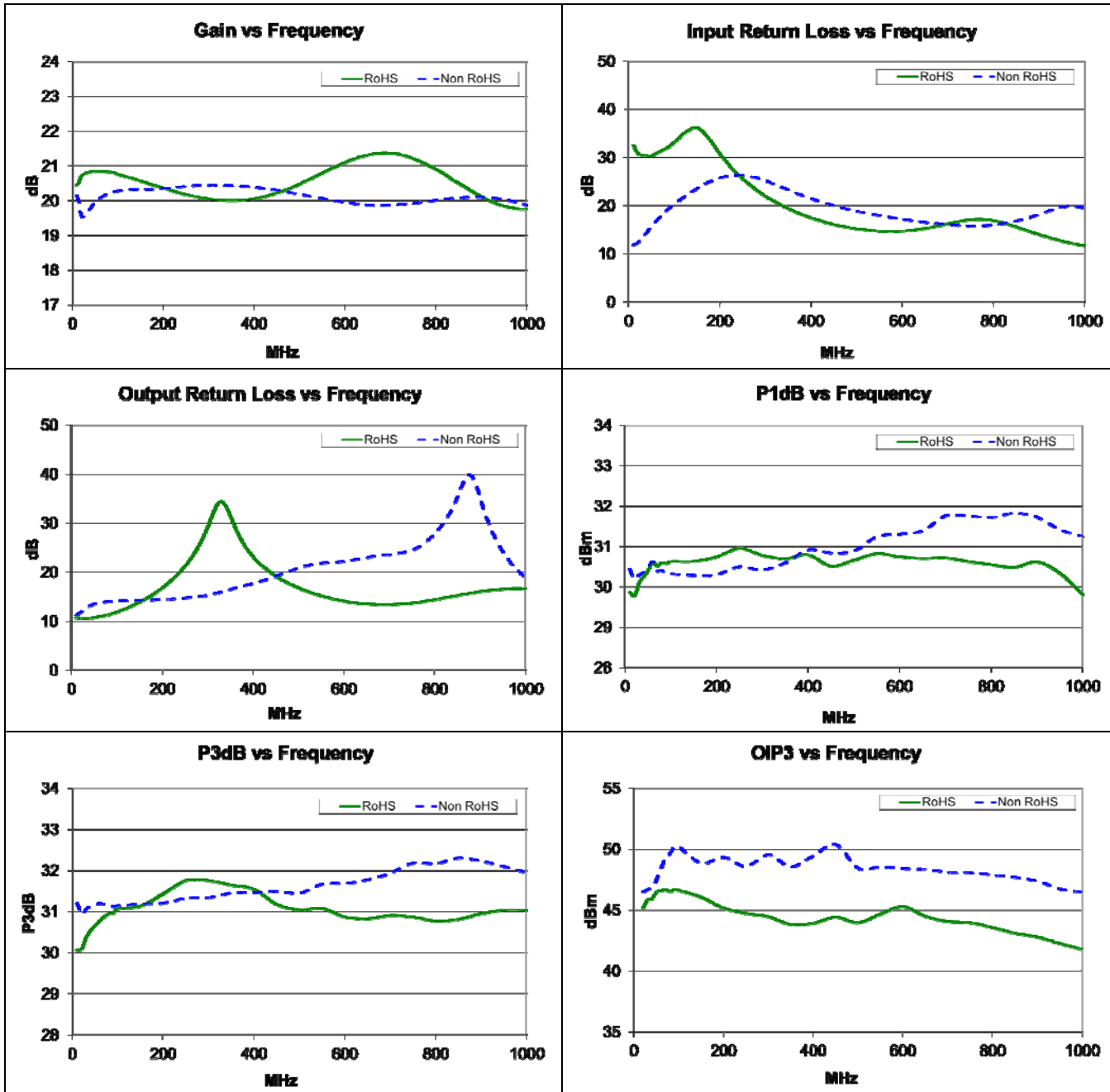
| Parameter | Original Part, ZHL-2 | Replacement Part, ZHL-2+ |
|---------------|----------------------|----------------------------|
| Gain Flatness | +/-1dB max | +/-1.4dB max, +/-0.9dB typ |
| Output VSWR | 2.0:1 max | 2.1:1 max |
| P1dB | 29dBm min | 28dBm min, 29dBm typ |
| P3dB | N/A | 29dBm min, 30dBm typ |
| OIP3 | 38dBm typ | 42dBm typ |

- 3) TYPICAL PERFORMANCE COMPARISON_a: T_{AMB}=25°C

| Parameter | Freq (MHz) | Non RoHS | | RoHS | |
|--------------------|------------|----------|---------|-------|---------|
| | | Min | Max | Min | Max |
| Gain (dB) | 10-1000 | 19.56 | 20.45 | 19.76 | 21.94 |
| Gain Flatness (dB) | 10-1000 | ----- | +/-0.45 | ----- | +/-0.82 |
| Input VSWR (:1) | 10-1000 | ----- | 1.68 | ----- | 1.71 |
| Output VSWR (:1) | 10-1000 | ----- | 1.76 | ----- | 1.84 |
| Pout 1dB (dBm) | 10-1000 | 30.21 | ----- | 29.78 | ----- |
| Pout 3dB (dBm) | 10-1000 | 30.94 | ----- | 30.06 | ----- |
| OIP3 (dBm) | 10-1000 | 45.76 | ----- | 41.66 | ----- |
| Noise Figure (dB) | 10-1000 | ----- | 10.08 | ----- | 9.51 |
| DC Voltage (V) | ----- | ----- | 24 | ----- | 24 |
| Supply Current (A) | ----- | ----- | 0.51 | ----- | 0.46 |

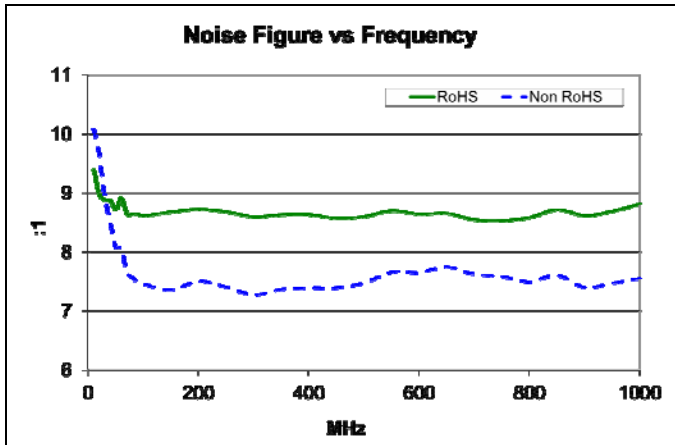
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COMPARISON PERFORMANCE CURVES^a: T_{AMB}=25°C



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COMPARISON PERFORMANCE CURVES^a (Continued):



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