

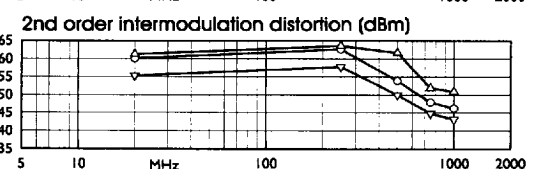
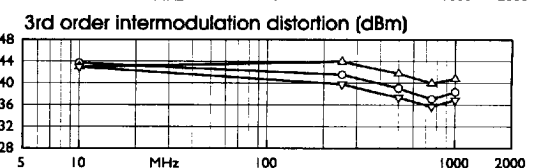
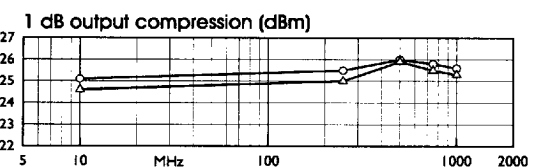
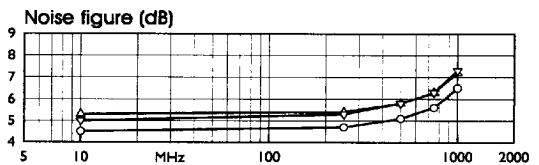
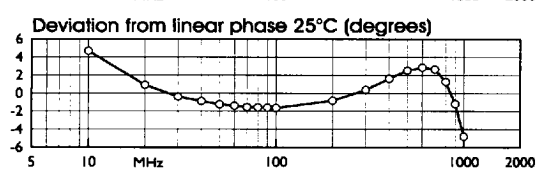
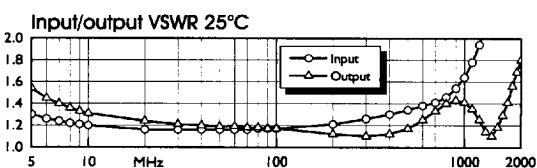
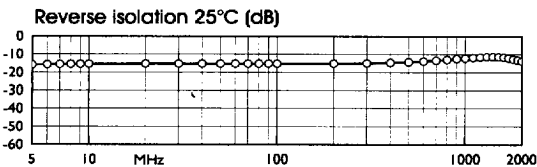
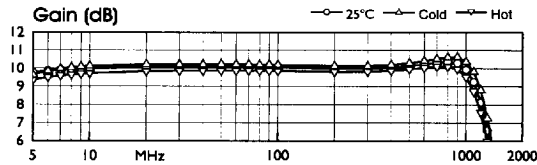
# 10 - 1000 MHz Standard Hybrid Amplifier

# QBH-814

- **10-1000 MHz bandwidth**
- **Low input and output VSWR**
- **Low profile TO-8 package**
- **Excellent 3rd order intercept point**

| Parameters             | Specification limit                 |            | Units       |
|------------------------|-------------------------------------|------------|-------------|
| Temperature            | +25                                 | -55 to +85 | °C          |
| Frequency range        | 10 - 1000                           |            | MHz         |
| Small signal gain      | 10.2 ± 0.5                          |            | dB          |
| Gain vs. temperature   |                                     | +0.6/-0.8  | dB Max      |
| Gain flatness          | 0.6                                 | 0.8        | dB Max p-p  |
| Reverse isolation      | 12                                  | 12         | dB Min      |
| VSWR Input             | 1.8:1                               | 1.8:1      | Max         |
| Output                 | 1.8:1                               | 1.8:1      | Max         |
| 1 dB compression       | +24.5                               | +24        | dBm Min     |
| Output intercept point |                                     |            |             |
| 3rd Order              | +36                                 | +34        | dBm Min     |
| 2nd Order              | +44                                 | +42        | dBm Min     |
| Noise figure           | 9.0                                 | 10.0       | dB Max      |
| DC power @ 15 Vdc ± 1% | 155                                 | 160        | mA Max      |
| Gain vs. Vdc           | 0.15                                |            | dB/Volt Max |
| Housing                | TO-8 LP (see page P-13 for details) |            |             |

HYBRID



Typical S-Parameter Data

| MHz  | S11   |        | S21  |        | S12   |        | S22   |       |
|------|-------|--------|------|--------|-------|--------|-------|-------|
|      | dB    | Ang    | dB   | Ang    | dB    | Ang    | dB    | Ang   |
| 10   | -20.9 | -127.0 | 10.0 | -174.8 | -15.3 | 6.7    | -17.4 | 145.7 |
| 50   | -22.6 | -162.2 | 10.1 | 168.5  | -15.2 | -4.4   | -21.1 | 161.9 |
| 100  | -22.0 | -169.2 | 10.0 | 154.7  | -15.2 | -11.4  | -22.3 | 162.3 |
| 200  | -20.3 | 35.9   | 10.0 | 128.7  | -15.1 | -23.7  | -24.7 | 162.8 |
| 400  | -17.8 | 146.9  | 10.1 | 77.5   | -14.6 | -48.1  | -25.1 | 164.1 |
| 600  | -16.0 | 105.4  | 10.2 | 25.1   | -13.9 | -74.7  | -19.1 | 164.0 |
| 800  | -14.5 | 55.3   | 10.4 | -30.1  | -13.0 | -104.3 | -15.7 | 169.1 |
| 1000 | -12.3 | -1.9   | 9.9  | -89.8  | -12.2 | -137.3 | -15.3 | 125.2 |

ABSOLUTE MAXIMUM RATINGS

|                                      |               |
|--------------------------------------|---------------|
| Power supply voltage                 |               |
| Sustaining .....                     | +17.5 Vdc     |
| Pulse (transient) .....              | +20.0 Vdc     |
| Temperature                          |               |
| Operating .....                      | -55 to +125°C |
| Storage .....                        | -65 to +150°C |
| Maximum input drive .....            | 2.5 VRMS      |
| Thermal rise, junction-to-case ..... | +35°C         |

H91-0814.0495, Revision E1

Q-bit Corporation • Main ☎ 407/727-1838 • Toll Free Sales ☎ 800/226-1772 • FAX ☎ 407/727-3729

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