

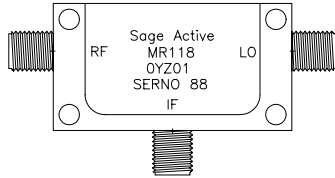


**SPECIFICATION
BULLETIN**

**MR118 HIGH DYNAMIC RANGE MIXER
RF/LO: 2 to 18 GHz IF: 10 to 5000 MHz**

Standard Product Features:

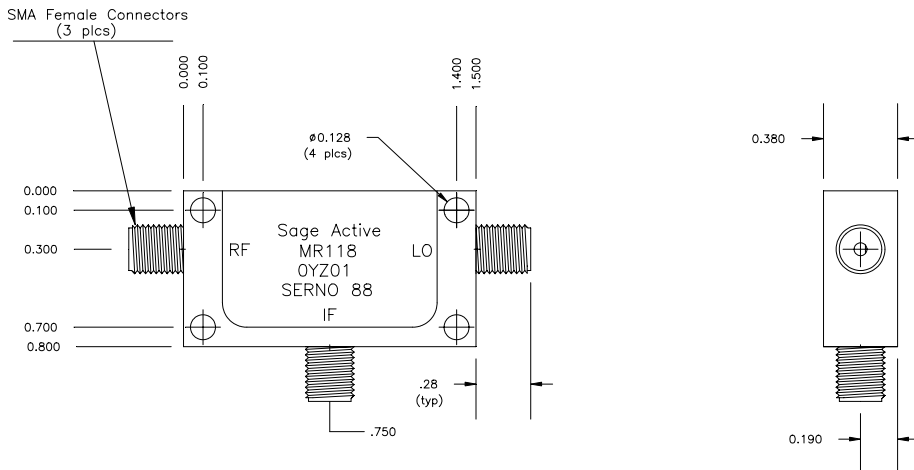
- +28 dBm IP3 Intercept Point
- Triple Balanced Design
- Broadband Performance
- 6.5 dB Typical Conversion Loss
- 30 dB Typical Isolation
- Broadband IF Coverage
- Low Cost



| Specifications | Typical | Min. | Max. |
|-------------------------------------|---------|--------|----------|
| RF/LO Frequency Range | ---- | 2 GHz | 18 GHz |
| IF Frequency Range (3 dB Bandwidth) | ---- | 10 | 5000 MHz |
| Conversion Loss (2 to 3 GHz) | 8.5 dB | ---- | 10.0 dB |
| (3 to 18 GHz) | 5.5 dB | --- | 9.0 dB |
| LO Drive Level | 22 dBm | 20 dBm | 24 dBm |
| Isolation, LO to RF | 30 dB | 20 dB | --- |
| LO to IF | 25 dB | 15 dB | --- |
| VSWR, RF | 2.2:1 | --- | --- |
| LO | 1.8:1 | --- | --- |
| Input 1 dB Compression | 16 dBm | 12 dBm | --- |
| Input Two-Tone Third Order IP (IP3) | 28 dBm | 22 dBm | --- |
| Operating Temperature Range | --- | -54 C | +75 C |
| Storage Temperature Range | --- | -65 C | +125 C |

Custom designs also available. Consult factory for assistance on your requirements.

OUTLINE DRAWING

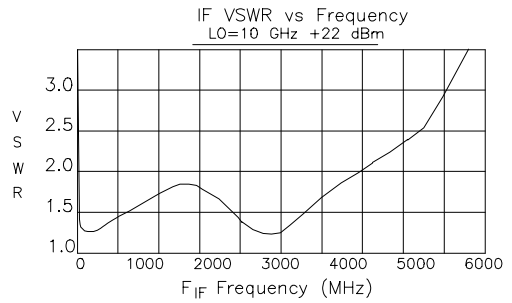
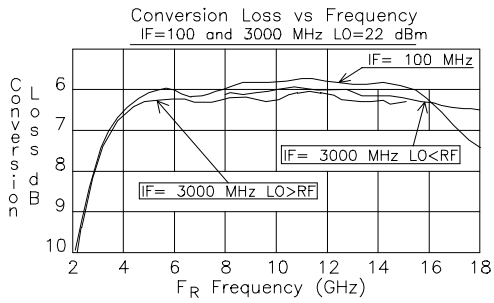
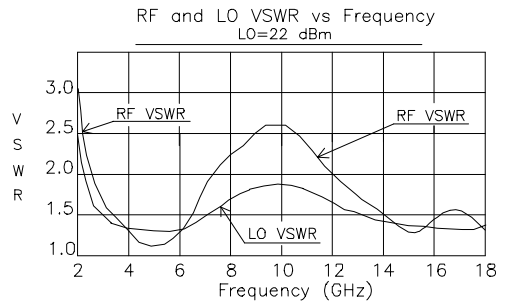
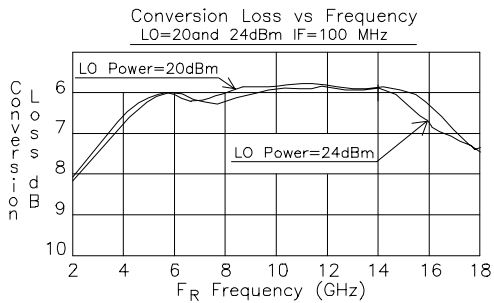


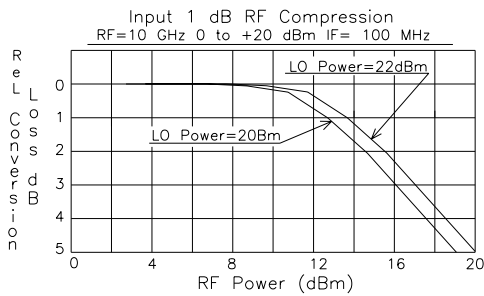
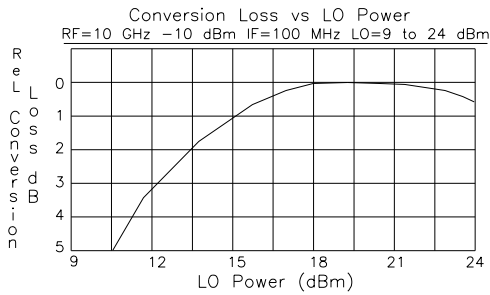
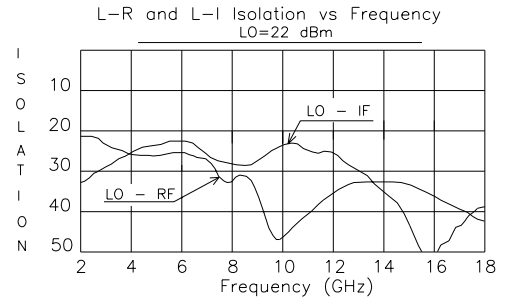
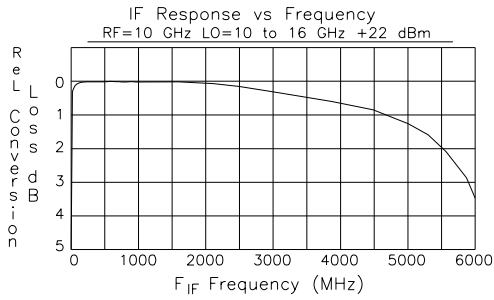


TYPICAL PERFORMANCE @ 25° C

MR118
(Triple Balanced Mixer)
High Drive

| Operating Parameters | |
|----------------------|----------------|
| Freq. RF= | 2 to 18 GHz |
| LO= | 2 to 18 GHz |
| IF= | 10 to 5000 MHz |
| LO Power= | 20 to 24dBm |





Single Tone Intermodulation Products

Test Conditions:
Frequency RF= 4.0 GHz LO= 4.5 GHz

| Single Tone f_R f_L | RF = 0dBm LO=20dBm LO=22dBm | | RF = -5dBm LO=20dBm LO=22dBm | |
|----------------------------|--------------------------------|-----|---------------------------------|-----|
| | 1×2 | 28 | 27 | 27 |
| 2×2 | 55 | 55 | 59 | 60 |
| 3×2 | 56 | 60 | 64 | 69 |
| 3×1 | 59 | 63 | 69 | 76 |
| 3×3 | 51 | 52 | 62 | 63 |
| 4×1 | >80 | >80 | >80 | >80 |
| 4×3 | 75 | >80 | >80 | >80 |
| 4×4 | 68 | 74 | >80 | >80 |
| 5×1 | >80 | >80 | >80 | >80 |
| 5×2 | >80 | >80 | >80 | >80 |
| 5×3 | >80 | >80 | >80 | >80 |

RF= 4.4 GHz LO= 4.0 GHz

| Single Tone f_R f_L | RF = 0dBm LO=20dBm LO=22dBm | | RF = -5dBm LO=20dBm LO=22dBm | |
|----------------------------|--------------------------------|-----|---------------------------------|-----|
| | 1×3 | 16 | 16 | 16 |
| 1×4 | 35 | 36 | 36 | 37 |
| 1×5 | 32 | 31 | 32 | 32 |
| 2×1 | 56 | 60 | 65 | 67 |
| 2×2 | 54 | 56 | 60 | 64 |
| 2×3 | 60 | 71 | 68 | 75 |
| 2×5 | 50 | 52 | 57 | 59 |
| 3×2 | 76 | >80 | >80 | >80 |
| 3×3 | 53 | 54 | 65 | 65 |
| 3×4 | 67 | 68 | >80 | >80 |
| 3×5 | >80 | >80 | >80 | >80 |
| 4×4 | >80 | >80 | >80 | >80 |
| 4×5 | >80 | >80 | >80 | >80 |