

Passive Frequenzmischer

Grenzwerte

| Parameter | Kurzzeichen | min. | max. | Einheit |
|----------------------------|---------------|------|---------------------------|---------|
| Eingangsleistung am HF-Pin | P_{HF} | | 50 bzw. 200 ¹⁾ | mW |
| Eingangsstrom am ZF-Pin | I_{ZF} | | 40 | mA |
| Lagertemperatur | ϑ_L | -55 | 100 | mW |
| Betriebstemperatur | ϑ_B | -40 | 85 | °C |

¹⁾ siehe Kenndaten

Kurzcharakteristik

- Diodenringmischer
- geringe Mischverluste
- niedrige Gehäusebauformen
- in SMD-Gehäusen verfügbar

Kenndaten

| Bezeichnung | P_{LO} [dBm] | $f_{LO/HF}$ [MHz] $f_{1..f_2}$ | f_{ZF} [MHz] f_x | a_M [dB] bei | | | | a_{LO-ZF} [dB] bei | | | $IP3$ [dBm] | P_{HF} [mW] | A | I | G |
|-------------|-------------------|--------------------------------------|----------------------------|----------------|------------------|------------------|------------------|----------------------|------------------|------------------|----------------|------------------|---|-----------------|---|
| | | | | [dB] | f_L | f_M | f_U | f_L | f_M | f_U | | | | | |
| ADE-1 | +7 | 0,5...500 | 0...500 | 5,0 | 70 | 55 | 45 | 65 | 40 | 30 | 15 | 50 | 1 | 1 | 6 |
| ADE-1ASK | +7 | 2...600 | 0...600 | 5,3 | 55 | 50 | 40 | 50 | 45 | 35 | 16 | 50 | 1 | 1 | 2 |
| ADE-1H | +17 | 0,5...500 | 0...500 | 5,3 | 65 | 52 | 40 | 53 | 42 | 32 | 23 | 200 | 1 | 1 | 6 |
| ADE-1HW | +17 | 5...750 | 0...750 | 6,0 | 64 | 48 | 42 | 50 | 40 | 30 | 26 | 200 | 1 | 1 | 2 |
| ADE-1L | +3 | 2...500 | 0...500 | 5,2 | 68 | 55 | 44 | 55 | 45 | 35 | 16 | 50 | 1 | 1 | 2 |
| ADE-1LH | +10 | 0,5...500 | 0...500 | 5,0 | 65 | 55 | 47 | 52 | 45 | 34 | 15 | 50 | 1 | 1 | 6 |
| ADE-1MH | +13 | 2...500 | 0...500 | 5,2 | 60 | 50 | 48 | 55 | 45 | 40 | 17 | 200 | 1 | 1 | 2 |
| ADE-1MHW | +13 | 0,5...600 | 0...600 | 5,2 | 63 | 53 | 43 | 56 | 44 | 30 | 17 | 200 | 1 | 1 | 2 |
| ADE-2 | +7 | 5...1000 | 0...1000 | 6,67 | 60 | 47 | 32 | 62 | 45 | 32 | 20 | 50 | 1 | 1 | 2 |
| ADE-2ASK | +7 | 1...1000 | 0...1000 | 5,4 | 55 | 45 | 36 | 50 | 32 | 22 | 12 | 50 | 1 | 1 | 2 |
| ADE-2M | +7 | 5...1000 | 0...1000 | 6,67 | 60 | 40 | 25 | 55 | 30 | 20 | 17 | 200 | 2 | 2 | 2 |
| ADE-3G | +7 | 2300...2700 | 0...400 | 5,8 | – | 35 ²⁾ | – | – | 26 ²⁾ | – | 13 | 50 | 1 | 1 | 2 |
| ADE-3GL | +7 | 2100...2600 | 0...600 | 6,0 | – | 34 ²⁾ | – | – | 20 ²⁾ | – | 17 | 50 | 3 | 1 | 1 |
| ADE-4 | +7 | 200...1000 | 0...800 | 6,8 | 60 ⁵⁾ | 53 ⁶⁾ | 45 ⁷⁾ | 45 ⁵⁾ | 40 ⁶⁾ | 35 ⁷⁾ | 15 | 50 | 1 | 1 | 2 |
| ADE-5 | +7 | 5...1500 | 0...1000 | 6,6 | 50 | 40 | 33 | 50 | 30 | 20 | 15 | 50 | 1 | 1 | 2 |
| ADE-6 | +7 | 0,05...250 | 0...200 | 4,6 | 62 | 40 | 40 | 58 | 45 | 25 | 10 | 50 | 1 | 1 | 7 |
| ADE-10H | +17 | 400...1000 | 0...500 | 7,0 | – | 39 ²⁾ | – | – | 25 ²⁾ | – | 30 | 200 | 3 | 1 | 2 |
| ADE-10MH | +13 | 800...1000 | 10...200 | 7,0 | – | 34 ²⁾ | – | – | 29 ²⁾ | – | 26 | 200 | 1 | 3 | 6 |
| ADE-11X | +7 | 10...2000 | 5...1000 | 7,1 | 62 | 36 | 27 | 60 | 37 | 38 | 9 | 50 | 1 | 1 ¹⁾ | 2 |
| ADE-12 | +7 | 50...1000 | 0...1000 | 7,0 | 40 ³⁾ | – | 33 ⁴⁾ | 44 ³⁾ | – | 37 ⁴⁾ | 17 | 50 | 4 | 1 | 1 |
| ADE-12H | +17 | 500...1200 | 0...250 | 6,7 | – | 34 ²⁾ | – | – | 28 ²⁾ | – | 28 | 200 | 4 | 1 | 2 |
| ADE-12MH | +13 | 10...1200 | 0...1200 | 6,3 | 62 | 45 | 40 | 68 | 42 | 30 | 22 | 200 | 1 | 1 | 2 |
| ADE-13 | +7 | 50...1600 | 50...1000 | 8,1 | 50 | 40 | 33 | 49 | 35 | 32 | 11 | 50 | 1 | 1 | 1 |
| ADE-14 | +7 | 800...1000 | 0...200 | 7,4 | – | 32 ²⁾ | – | – | 34 ²⁾ | – | 17 | 50 | 4 | 1 | 1 |
| ADE-17H | +17 | 100...1700 | 50...1500 | 7,2 | 32 ⁸⁾ | – | 36 ⁴⁾ | 32 ⁸⁾ | – | 37 ⁴⁾ | 25 | 200 | 1 | 3 | 2 |
| ADE-18W | +7 | 1750...3500 | 0...700 | 5,4 | – | 33 ²⁾ | – | – | 12 ²⁾ | – | 11 | 50 | 3 | 1 | 2 |
| ADE-20 | +7 | 1500...2000 | 0...300 | 5,4 | – | 31 ²⁾ | – | – | 28 ²⁾ | – | 14 | 50 | 4 | 3 | 2 |
| ADE-25MH | +13 | 5...2500 | 5...1500 | 6,9 | 47 | 34 | 34 | 34 | 32 | 23 | 18 | 200 | 1 | 3 | 2 |
| ADE-30 | +7 | 200...3000 | 0...1000 | 4,5 | – | 35 ²⁾ | – | – | 20 ²⁾ | – | 14 | 50 | 1 | 1 | 2 |
| ADE-30W | +7 | 300...4000 | 0...950 | 6,8 | – | 35 ²⁾ | – | – | 16 ²⁾ | – | 12 | 50 | 1 | 1 | 2 |
| ADE-35 | +7 | 1600...3500 | 0...1500 | 6,3 | – | 25 ²⁾ | – | – | 22 ²⁾ | – | 11 | 50 | 4 | 1 | 2 |
| ADE-35MH | +13 | 5...3500 | 5...2500 | 6,9 | 47 | 33 | 38 | 34 | 28 | 23 | 18 | 200 | 1 | 3 | 2 |
| ADE-42MH | +13 | 5...4200 | 5...3500 | 7,5 | 47 | 29 | 30 | 34 | 26 | 23 | 17 | 200 | 1 | 3 | 2 |
| ADE-901 | +7 | 800...1000 | 0...200 | 5,9 | – | 32 ²⁾ | – | – | 26 ²⁾ | – | 13 | 50 | 4 | 1 | 2 |
| ADE-R1 | +7 | 1...500 | 0...500 | 5,0 | 75 | 60 | 45 | 65 | 45 | 30 | 15 | 50 | 1 | 1 | 6 |
| ADE-R1L | +3 | 2...500 | 0...500 | 5,6 | 68 | 55 | 44 | 60 | 45 | 35 | 14 | 50 | 1 | 1 | 2 |
| ADE-R1LH | +10 | 1...500 | 0...500 | 5,2 | 70 | 60 | 47 | 65 | 45 | 34 | 15 | 50 | 1 | 1 | 6 |
| ADE-R1MHW | +13 | 5...600 | 0...600 | 5,2 | 63 | 53 | 43 | 56 | 44 | 30 | 18 | 200 | 1 | 1 | 2 |
| ADE-R2ASK | +7 | 2...1000 | 0...1000 | 5,4 | 65 | 48 | 36 | 55 | 32 | 22 | 14 | 50 | 1 | 1 | 2 |
| ADE-R2ASKLH | +10 | 2...1000 | 0...1000 | 5,7 | 68 | 45 | 36 | 55 | 32 | 22 | 15 | 50 | 1 | 1 | 2 |
| ADE-R3GLH | +10 | 2000...2700 | 0...700 | 5,2 | – | 35 ²⁾ | – | – | 23 ²⁾ | – | 14 | 50 | 1 | 1 | 2 |
| ADE-R5LH | +10 | 10...1500 | 0...1000 | 7,2 | 65 | 55 | 42 | 50 | 45 | 30 | 15 | 50 | 1 | 1 | 2 |
| ADE-R6 | +7 | 0,15...250 | 0...200 | 4,6 | 70 | 55 | 42 | 65 | 45 | 32 | 10 | 50 | 1 | 1 | 7 |
| ADE-R6LH | +10 | 0,2...250 | 0...200 | 4,9 | 70 | 50 | 40 | 65 | 45 | 33 | 16 | 50 | 1 | 1 | 7 |
| ADE-R11X | +7 | 10...2000 | 10...1000 | 7,5 | 62 | 40 | 30 | 60 | 42 | 33 | 10 | 50 | 1 | 1 ¹⁾ | 2 |

weiter S. 966

Kennwerte (Fortsetzung)

| Bezeichnung | P_{LO} [dBm] | $f_{LO/HF}$ [MHz] $f_1 \dots f_2$ | f_{ZF} [MHz] f_x | a_M [dB] | | | | a_{LO-ZF} [dB] bei | | | $IP3$ [dBm] | P_{HF} [mW] | A | I | G |
|-------------|-------------------|---|----------------------------|---------------|-------|------------------|-------|----------------------|------------------|----|----------------|------------------|---|---|---|
| | | | | f_L | f_M | f_U | f_L | f_M | f_U | | | | | | |
| ADE-R11XLH | +10 | 10...2000 | 10...1000 | 7,5 | 55 | 36 | 28 | 65 | 45 | 38 | 11 | 50 | 1 | 1 | 2 |
| ADE-R12MH | +13 | 10...1200 | 0...1200 | 6,8 | 62 | 50 | 40 | 68 | 42 | 30 | 22 | 50 | 1 | 1 | 2 |
| ADE-R18WLH | +10 | 1750...3500 | 0...700 | 5,4 | - | 33 ²⁾ | - | - | 12 ²⁾ | - | 11 | 50 | 3 | 1 | 2 |
| ADE-R20 | +7 | 1500...2800 | 0...500 | 5,8 | - | 30 ²⁾ | - | - | 28 ²⁾ | - | 12 | 50 | 4 | 1 | 2 |
| ADE-R20LH | +10 | 1500...2800 | 0...500 | 6,0 | - | 32 ²⁾ | - | - | 28 ²⁾ | - | 14 | 50 | 4 | 1 | 2 |
| ADE-R30W | +7 | 300...4000 | 0...950 | 6,0 | - | 38 ²⁾ | - | - | 13 ²⁾ | - | 12 | 50 | 1 | 1 | 2 |
| ADE-R30WLH | +10 | 300...4000 | 0...950 | 7,5 | - | 40 ²⁾ | - | - | 16 ²⁾ | - | 15 | 50 | 1 | 1 | 2 |
| ADE-R35LH | +10 | 1800...3500 | 0...1000 | 6,8 | - | 25 ²⁾ | - | - | 22 ²⁾ | - | 14 | 50 | 4 | 1 | 2 |
| ADE-R272MH | +13 | 1300...2700 | 0...600 | 5,6 | - | 34 ²⁾ | - | - | 25 ²⁾ | - | 18 | 50 | 1 | 1 | 6 |
| ADE-R901 | +7 | 300...1000 | 0...200 | 5,9 | - | 38 ²⁾ | - | - | 28 ²⁾ | - | 13 | 50 | 4 | 1 | 2 |
| ADE-R901LH | +10 | 300...1000 | 0...800 | 6,4 | - | 42 ²⁾ | - | - | 35 ²⁾ | - | 18 | 50 | 4 | 1 | 2 |
| ADEX-10 | +7 | 10...1000 | 0...800 | 6,8 | 80 | 60 | 47 | 40 | 33 | 24 | 16 | 50 | 1 | 1 | 2 |
| ADEX-10H | +17 | 10...1000 | 0...800 | 7,0 | 68 | 55 | 47 | 46 | 32 | 26 | 22 | 200 | 1 | 1 | 2 |
| ADEX-10L | +4 | 10...1000 | 0...800 | 7,2 | 75 | 60 | 47 | 40 | 33 | 24 | 16 | 50 | 1 | 1 | 2 |
| ADEX-R10 | +7 | 10...1000 | 0...800 | 6,8 | 70 | 60 | 47 | 40 | 33 | 26 | 16 | 50 | 1 | 1 | 2 |
| ADEX-R10LH | +10 | 10...1000 | 0...800 | 7,0 | 70 | 60 | 47 | 45 | 35 | 26 | 16 | 50 | 1 | 1 | 2 |

$f_L = f_1 \dots 10 \cdot f_1$; $f_M = 10 \cdot f_1 \dots 0,5 \cdot f_2$; $f_U = 0,5 \cdot f_2 \dots f_2$; $f_x = 2 \cdot f_1 \dots 0,5 \cdot f_2$

¹⁾ Anschlüsse HF und ZF getauscht; ²⁾ $f_1 \dots f_2$; ³⁾ $f_1 \dots 10 \cdot f_1$; ⁴⁾ $0,5 \cdot f_2 \dots f_2$; ⁵⁾ 200 ... 400; ⁶⁾ 400 ... 500; ⁷⁾ 500 ... 1000; ⁸⁾ 100 ... 850

Innenschaltung

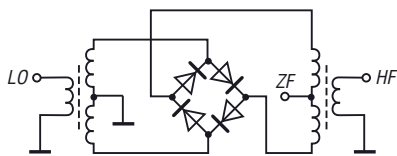


Bild 1:
Innenschaltung 1;
ein ZF-Anschluss liegt
auf Masse.

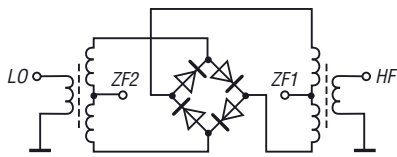


Bild 2:
Innenschaltung 2;
beide ZF-Anschlüsse sind
frei zugänglich.

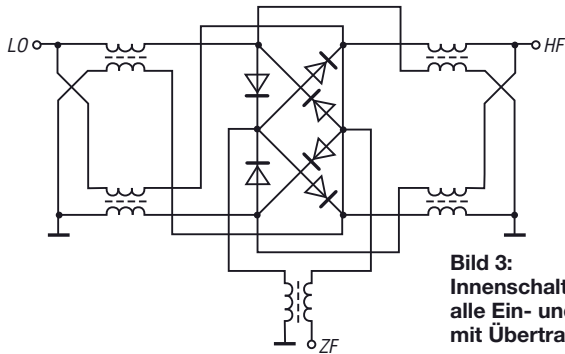


Bild 3:
Innenschaltung 3;
alle Ein- und Ausgänge sind
mit Übertragern beschaltet.

Legende

P_{LO} : Eingangsleistung am LO-Anschluss
 $f_{LO/HF}$: LO-Frequenz und HF
 f_{ZF} : Zwischenfrequenz
 a_M : Mischdämpfung
 a_{LO-HF} : Isolation zwischen LO- und HF-Anschluss
 a_{LO-ZF} : Isolation zwischen LO- und ZF-Anschluss
 P_{HF} : maximale HF-Eingangsleistung
A: Anschlussbelegung
I: Innenschaltung
G: Gehäuseform

Hersteller

Mini-Circuits, P.O. Box 350166, Brooklyn, New York, 11235-0003, USA,
www.minicircuits.com

Bezugsquelle

FA-Leserservice *ADE-1*
Hinweis: Der FA-Leserservice ist kein Distributor von Mini-Circuits.

Anschlussbelegungen

Variante 1

Masse: Pin 1, 4, 5 HF: Pin 3
ZF: Pin 2 LO: Pin 6

Variante 2

Masse: Pin 1, 4 ZF2: Pin 5
ZF1: Pin 2 HF: Pin 6
LO: Pin 3

Variante 3

Masse: Pin 1, 2, 5 LO: Pin 4
ZF: Pin 3 HF: Pin 6

Variante 4

Masse: Pin 1, 2, 5 HF: Pin 4
ZF: Pin 3 LO: Pin 6

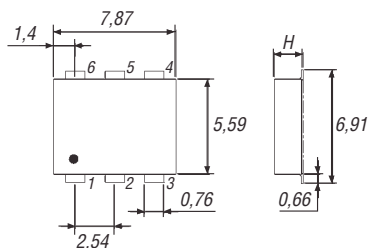


Bild 4: Anschlussbelegung
und Abmessungen

Gehäuseformen

| Nr. | Gehäuse | H [mm] |
|-----|---------|--------|
| 1 | CD541 | 2,08 |
| 2 | CD542 | 2,84 |
| 6 | CD636 | 4,11 |
| 7 | CD637 | 5,23 |



Bild 5: Gehäuse CD636