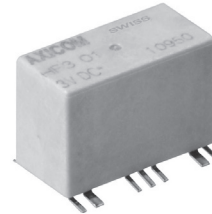


HF3 Relay

- Y-Design
- Frequency range DC to 3GHz
- Impedance 50Ω or 75Ω
- Small dimensions (14.6x7.2x10mm)
- 1 form C contact (1 changeover contact)
- Immersion cleanable
- Low power consumption (≤140mW)

Typical applications

Cable modems and linecards/ CATV, Tabs, measurement and test equipment ATE, satellite / audio / video tuners, wireless base stations and antennas, switching boards



| Contact Data | |
|-----------------------------------|------------------------------|
| Contact arrangement | 1 form C, 1 CO |
| Max. switching voltage | 220VDC, 250VAC |
| Rated current | 2A |
| Limiting continuous current, 23°C | 2A |
| Switching power | 60W, 62.5VA, 50W (2.5GHz) |
| Max. continuous RF-power, 23°C | 50W (2.5GHz) |
| Contact material | Ag, Au covered |
| Minimum switching voltage | 100µV |
| Initial contact resistance | <100mΩ at 10mA, 20mV |
| Operate time | typ. 3ms, max. 5ms |
| Release time | |
| without diode in parallel | typ. 2ms, max. 5ms |
| with diode in parallel | typ. 4ms, max. 6ms |
| Bounce time | typ. 1ms, max. 3ms |
| Duration of set/reset pulse min. | 20ms |
| Mechanical endurance | 10 ⁷ operations |

| Coil Data | |
|--------------------|------------|
| Coil voltage range | 3 to 24VDC |

Coil versions, monostable

| Coil code | Rated voltage VDC | Operate voltage VDC | Limiting voltage VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|--|-------------------|---------------------|----------------------|---------------------|-----------------------|---------------------|
| 50Ω version, monostable, 1 coil | | | | | | |
| 51 | 3 | 2.25 | 6.50 | 0.30 | 64 | 140 |
| 52 | 4.5 | 3.38 | 9.80 | 0.45 | 145 | 140 |
| 53 | 5 | 3.75 | 10.90 | 0.50 | 178 | 140 |
| 54 | 6 | 4.50 | 13.00 | 0.60 | 257 | 140 |
| 55 | 9 | 6.75 | 19.60 | 0.90 | 574 | 140 |
| 56 | 12 | 9.00 | 26.10 | 1.20 | 1028 | 140 |
| 57 | 24 | 18.00 | 52.30 | 2.40 | 4114 | 140 |
| 75Ω version, monostable, 1 coil | | | | | | |
| 01 | 3 | 2.25 | 6.50 | 0.30 | 64 | 140 |
| 02 | 4.5 | 3.38 | 9.80 | 0.45 | 145 | 140 |
| 03 | 5 | 3.75 | 10.90 | 0.50 | 178 | 140 |
| 04 | 6 | 4.50 | 13.00 | 0.60 | 257 | 140 |
| 05 | 9 | 6.75 | 19.60 | 0.90 | 574 | 140 |
| 06 | 12 | 9.00 | 26.10 | 1.20 | 1028 | 140 |
| 07 | 24 | 18.00 | 52.30 | 2.40 | 4114 | 140 |

All figures are given for coil without pre-energization, at ambient temperature +23°C.

Coil Data (continued)

Coil versions, bistable

| Coil code | Rated voltage VDC | Set voltage VDC | Limiting voltage VDC | Reset voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|---------------------------------------|-------------------|-----------------|----------------------|-------------------|-----------------------|---------------------|
| 50Ω version, bistable, 1 coil | | | | | | |
| 71 | 3 | 2.25 | 9.20 | -2.25 | 128 | 70 |
| 72 | 4.5 | 3.38 | 13.85 | -3.38 | 289 | 70 |
| 73 | 5 | 3.75 | 15.30 | -3.75 | 357 | 70 |
| 74 | 6 | 4.50 | 18.50 | -4.50 | 514 | 70 |
| 75 | 9 | 6.75 | 27.70 | -6.75 | 1157 | 70 |
| 76 | 12 | 9.00 | 37.00 | -9.00 | 2057 | 70 |
| 77 | 24 | 18.00 | 74.00 | -18.00 | 8228 | 70 |
| 50Ω version, bistable, 2 coils | | | | | | |
| 91 | 3 | 2.25 | 6.50 | 2.25 | 64 | 140 |
| 92 | 4.5 | 3.38 | 9.80 | 3.38 | 145 | 140 |
| 93 | 5 | 3.75 | 10.90 | 3.75 | 178 | 140 |
| 94 | 6 | 4.50 | 13.00 | 4.50 | 257 | 140 |
| 95 | 9 | 6.75 | 19.60 | 6.75 | 574 | 140 |
| 96 | 12 | 9.00 | 26.10 | 9.00 | 1028 | 140 |
| 97 | 24 | 18.00 | 52.30 | 18.00 | 4114 | 140 |

All figures are given for coil without pre-energization, at ambient temperature +23°C.

Coil Data (continued)

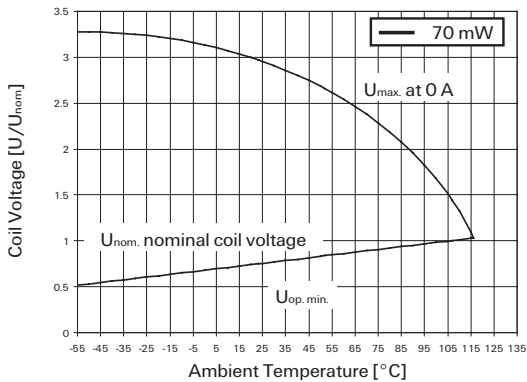
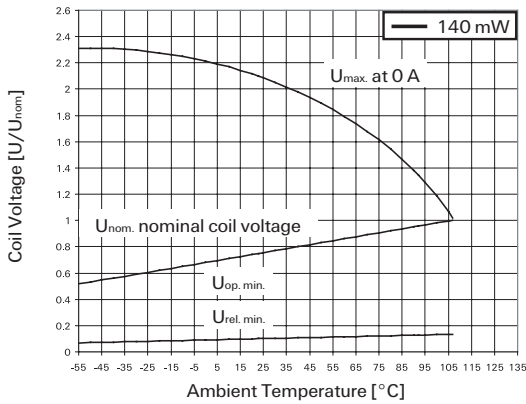
Coil versions, bistable

| Coil code | Rated voltage VDC | Set voltage VDC | Limiting voltage VDC | Reset voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|---------------------------------------|-------------------|-----------------|----------------------|-------------------|-----------------------|---------------------|
| 75Ω version, bistable, 1 coil | | | | | | |
| 21 | 3 | 2.25 | 9.20 | -2.25 | 128 | 70 |
| 22 | 4.5 | 3.38 | 13.85 | -3.38 | 289 | 70 |
| 23 | 5 | 3.75 | 15.30 | -3.75 | 357 | 70 |
| 24 | 6 | 4.50 | 18.50 | -4.50 | 514 | 70 |
| 25 | 9 | 6.75 | 27.70 | -6.75 | 1157 | 70 |
| 26 | 12 | 9.00 | 37.00 | -9.00 | 2057 | 70 |
| 27 | 24 | 18.00 | 74.00 | -18.00 | 8228 | 70 |
| 75Ω version, bistable, 2 coils | | | | | | |
| 41 | 3 | 2.25 | 6.50 | 2.25 | 64 | 140 |
| 42 | 4.5 | 3.38 | 9.80 | 3.38 | 145 | 140 |
| 43 | 5 | 3.75 | 10.90 | 3.75 | 178 | 140 |
| 44 | 6 | 4.50 | 13.00 | 4.50 | 257 | 140 |
| 45 | 9 | 6.75 | 19.60 | 6.75 | 574 | 140 |
| 46 | 12 | 9.00 | 26.10 | 9.00 | 1028 | 140 |
| 47 | 24 | 18.00 | 52.30 | 18.00 | 4114 | 140 |

All figures are given for coil without pre-energization, at ambient temperature +23°C.

HF3 Relay (Continued)

Coil operating Range



RF Data

| | | |
|------------------------------------|----------------|----------------|
| Isolation | | |
| at 100MHz/900MHz | 80dB/72dB | 80dB/72dB |
| at 3GHz | 45dB | 40dB |
| Insertion loss | | |
| at 100MHz/900MHz | 0.03dB/0.12dB | 0.03dB/0.12dB |
| at 3GHz | 0.35dB | 0.40dB |
| Voltage standing wave ratio (VSWR) | | |
| at 100MHz/900MHz/3GHz | 1.05/1.20/1.20 | 1.05/1.20/1.40 |

Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter

| | |
|--|-------------------------------------|
| Ambient temperature | -55°C to +85°C |
| Thermal resistance | <165K/W |
| Category of environmental protection | |
| IEC 61810 | RT III - wash tight |
| Degree of protection, IEC 60529 | IP 67, immersion cleanable |
| Vibration resistance (functional) | 35g, 10 to 1000Hz |
| Shock resistance (functional), half sinus 11ms | 50g |
| Shock resistance (destructive), half sinus 0.5ms | 150g |
| Terminal type | SMT |
| Weight | max. 2.5g |
| Resistance to soldering heat SMT | |
| IEC 60068-2-58 | 265°C/10s |
| Moisture sensitive level, JEDEC J-Std-020D | MSL3 |
| Ultrasonic cleaning | not recommended |
| Packaging/unit | reel/400 pcs., box/400 or 2000 pcs. |

Insulation Data **50Ω version** **75Ω version**

| | |
|---------------------------------|----------------------|
| Initial dielectric strength | |
| between open contacts | 600V _{rms} |
| between contact and coil | 1000V _{rms} |
| Initial surge withstand voltage | |
| between open contacts | 1000V |
| between contact and coil | 1500V |