

Installation taps and splitters

1.8 GHz Core Series Topless 2-way Taps

technetix



- Frequency range 12 - 1825 MHz
- Best in class RF performance
- Modem Safe surge protection on all ports
- CPD Safe corrosion protection using white bronze plating
- F-connectors provide superb retention force



Overview

The Core series is our next generation of installation passives which excel in both electrical and mechanical performance. Though designed for indoor use, they are also specified for use in street-side plant. The products are easy to install with a compact housing, specifically sized to make replacement and upgrade installation simple.

Intermodulation performance, which is an important factor in high-level return path signals, has been greatly improved through newly developed ferrites and specially designed circuits. The intermodulation performance remains very high, even after being exposed to electrical surges from the network on all ports.

The screening effectiveness meets the Class A++ requirements defined in EN 50083-2:2012 across the whole frequency range from 12 to 1825 MHz, providing maximum protection against interference from 4G/5G signals.

Technetix Modem Safe®

Technetix Modem Safe® is a highly effective surge protection solution for sensitive network and in-home CPE. This technology is based on passive circuits and is not reliant on discharge tubes, therefore extending the lifespan of the solution.

- Blocks high and low voltage pulses and unwanted DC voltages
- Prevents internal ferrites within the product from becoming magnetised (avoiding deterioration in the performance of CPE)
- Drives fewer reported faults, improving customer service and reducing truck rolls

Technetix CPD Safe™

Common Path Distortion (CPD) is well known for producing signal interference in the network. It is caused by electrolytic corrosion or the oxidation of dissimilar metals when in close contact. Technetix CPD Safe™ technology protects against CPD.

- Removes a primary cause of CPD
- Reduces signal interference in the network
- Drives fewer reported faults, improving customer service and reducing truck rolls

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Insertion loss (In to out)

| | CTTZ-2-8 | CTTZ-2-10 | CTTZ-2-12 | CTTZ-2-16 | CTTZ-2-20 | CTTZ-2-24 | CTTZ-2-28 | |
|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| Frequency | Max | Max | Max | Max | Max | Max | Max | Notes |
| 12 | 4.5 | 3.3 | 2.1 | 1.7 | 1.5 | 1.5 | 1.5 | 1, 2, 3 |
| 200 | 4.6 | 3.5 | 2.3 | 1.8 | 1.6 | 1.6 | 1.6 | 1, 2, 3 |
| 750 | 5.0 | 4.0 | 2.8 | 2.2 | 2.0 | 2.0 | 2.0 | 1, 2, 3 |
| 860 | 5.1 | 4.1 | 2.8 | 2.3 | 2.1 | 2.1 | 2.1 | 1, 2, 3 |
| 1006 | 5.2 | 4.2 | 3.0 | 2.4 | 2.2 | 2.2 | 2.2 | 1, 2, 3 |
| 1218 | 5.4 | 4.4 | 3.2 | 2.6 | 2.4 | 2.4 | 2.4 | 1, 2, 3 |
| 1825 | 5.8 | 5.0 | 3.7 | 3.0 | 2.8 | 2.8 | 2.8 | 1, 2, 3 |

Insertion loss (In to tap)

| | CTTZ-2-8 | | CTTZ-2-10 | | CTTZ-2-12 | | CTTZ-2-16 | | CTTZ-2-20 | | CTTZ-2-24 | | CTTZ-2-28 | | |
|-----------|----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|---------|
| Frequency | Typ | Max | Typ | Max | Typ | Max | Typ | Max | Typ | Max | Typ | Max | Typ | Max | Notes |
| 12 | 8.5 | 10.0 | 10.0 | 11.5 | 12.5 | 14.0 | 16.0 | 17.5 | 20.0 | 21.5 | 24.0 | 25.5 | 28.0 | 29.5 | 1, 2, 3 |
| 1825 | 8.5 | 10.0 | 10.0 | 11.5 | 12.5 | 14.0 | 16.0 | 17.5 | 20.0 | 21.5 | 24.0 | 25.5 | 28.0 | 29.5 | 1, 2, 3 |

Isolation (Out to tap)

| | CTTZ-2-8 | CTTZ-2-10 | CTTZ-2-12 | CTTZ-2-16 | CTTZ-2-20 | CTTZ-2-24 | CTTZ-2-28 | |
|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| Frequency | Min | Min | Min | Min | Min | Min | Min | Notes |
| 12 | 25 | 26 | 27 | 29 | 35 | 36 | 39 | 1, 2, 3 |
| 47 | 25 | 26 | 27 | 29 | 35 | 36 | 39 | 1, 2, 3 |
| 1218 | 20 | 20 | 20 | 20 | 20 | 24 | 26 | 1, 2, 3 |
| 1825 | 20 | 20 | 20 | 20 | 20 | 24 | 26 | 1, 2, 3 |

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Isolation (Tap to tap)

| | CTTZ-2-8 | CTTZ-2-10 | CTTZ-2-12 | CTTZ-2-16 | CTTZ-2-20 | CTTZ-2-24 | CTTZ-2-28 | |
|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| Frequency | Min | Min | Min | Min | Min | Min | Min | Notes |
| 12 | 38 | 38 | 38 | 38 | 38 | 38 | 41 | 1, 2, 3 |
| 47 | 38 | 38 | 38 | 38 | 38 | 38 | 41 | 1, 2, 3 |
| 1218 | 26 | 27 | 28 | 29 | 30 | 31 | 33 | 1, 2, 3 |
| 1825 | 24 | 24 | 25 | 26 | 27 | 28 | 31 | 1, 2, 3 |

Return loss

| | CTTZ-2-8 | CTTZ-2-10 | CTTZ-2-12 | CTTZ-2-16 | CTTZ-2-20 | CTTZ-2-24 | CTTZ-2-28 | |
|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| Frequency | Min | Min | Min | Min | Min | Min | Min | Notes |
| 12 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 1, 2, 3 |
| 15 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 1, 2, 3 |
| 30 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 1, 2, 3 |
| 100 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 1, 2, 3 |
| 200 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 1, 2, 3 |
| 400 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 1, 2, 3 |
| 800 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 1, 2, 3 |
| 1218 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 1, 2, 3 |
| 1825 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 1, 2, 3 |

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Electrical specifications

| Parameter | | Frequency | Min | Typ | Max | Units | Notes |
|---------------------|-----------------|-----------|---------|-----|------|-----------|-------|
| Frequency | | | 12 | | 1825 | MHz | |
| Impedance | | | | 75 | | Ohm | |
| Surge | All ports | | | | 1 | kV | 7 |
| Intermodulation p+q | Before surge | | | | 122 | dBc | 4 |
| | After 25V surge | | | | 115 | dBc | 5 |
| | After 1kV surge | | | | 115 | dBc | 6 |
| Screening class A++ | | 12-30 | 100/2.5 | | | dB / mΩ/m | 8 |
| | | 30-1000 | 105 | | | dB | 8 |
| | | 1000-1825 | 95 | | | dB | 8 |

Environmental specifications

| Parameter | | Frequency | Min | Typ | Units | Details | Notes |
|-------------|-------------------|----------------------|-----|-----|-------|---------------|-------|
| Temperature | | Operational | -15 | 45 | C | | 2 |
| | | Operational extended | -40 | 85 | C | | 3 |
| | | Storage | -40 | 70 | C | | |
| | Temperature cycle | | | | | EN 60068-2-14 | |

| Parameter | Standard | Severity |
|----------------------------|--------------------|--|
| IP rating | EN 60529 1992 | IP68 |
| Drop test | EN 60068-2-31:2008 | Rough handling shocks (9) |
| Dry heat | EN 60068-2-2 2007 | 85oC, 72 hrs |
| Temp Cycling with Humidity | EN 60068-2-30:2005 | 55 oC, 6 cycles, 95% RH |
| Vibration | EN 60068-2-6 | Amplitude of 0.15mm or 20m/s ² , the frequency varying exponentially with time from 10 Hz and 150 Hz and back. One cycle taking 5 mins. |
| Salt Fog | EN 60068-2-52 2018 | Test method 4 (14 Days) |

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Mechanical specifications

| Parameter | | Details |
|------------------|---------------------------|--|
| Connectors | F-connectors | EN 61169-24 |
| | Conductor size acceptance | 0.64 - 1.30 mm - enhancement on EN 61169-24 |
| | Withdrawal force | 115 grams - cycle 0.7mm, 1.2mm, 0.7mm 1.2mm, 0.7mm |
| Conductors | Inner contact | BeCu silver plated |
| Housing material | Body | Die-cast zinc alloy, white bronze plated |
| | Lid | Mild steel |

Notes

| | |
|---|--|
| 1 | Point to point linear limit line |
| 2 | Deviation over operation temperature range: +/-0.5 dB insertion loss. +2 dB isolation and return loss |
| 3 | Deviation over extended operational temperature: +/-1 dB insertion loss. +5 dB isolation and return loss |
| 4 | Two carriers (60 & 65 MHz), out to out, @ 120 dBuV, fully demagnetized |
| 5 | Two carriers (60 & 65 MHz), out to out, out to tap (worse case), @ 120 dBuV, after 10 pulses (25V/1.2uS rise time / 500uS duration) at all ports. |
| 6 | Two carriers (60 & 65 MHz), out to out, out to tap (worst case), @ 120 dBuV, after 1x positive and 1x negative pulses (1kV/1.2uS rise time / 50uS fall time) at all ports. |
| 7 | Surge pulse 1kV/1.2uS rise time / 50uS fall time (IEC61000-4-5:1995) 2 Ω source impedance (1x positive and 1x negative) |
| 8 | IEC 62153-7 § 5.5, IEC 60728-2 and EN-50083 (transfer impedance method, absorbing clamp) |

Ordering information

| Item number | Item code | Description |
|-------------|-----------|------------------------------------|
| 19014140 | CTTZ-2-8 | CORE 2-WAY TOPLESS TAP 8DB 1.8GHZ |
| 19014141 | CTTZ-2-10 | CORE 2-WAY TOPLESS TAP 10DB 1.8GHZ |
| 19014142 | CTTZ-2-12 | CORE 2-WAY TOPLESS TAP 12DB 1.8GHZ |
| 19014143 | CTTZ-2-16 | CORE 2-WAY TOPLESS TAP 16DB 1.8GHZ |
| 19014144 | CTTZ-2-20 | CORE 2-WAY TOPLESS TAP 20DB 1.8GHZ |
| 19014145 | CTTZ-2-24 | CORE 2-WAY TOPLESS TAP 24DB 1.8GHZ |
| 19014146 | CTTZ-2-28 | CORE 2-WAY TOPLESS TAP 28DB 1.8GHZ |