TELESTE

PRODUCT FAMILY	DESCRIPTION
INDOOR RF PASSIVES	3D-LINE SPLITTERS AND TAPS

FEATURES

- >> **DOCSIS® 3.1** compliant with frequency range up to **1218 MHz**
- >> Electromagnetic compatibility **EXCEEDING CLASS A** (+10 dB)
- >> Very good **INTERMODULATION** performance
- >> **SUPERIOR** housing design ensures fast and easy installation
- >> Optional **BarrIER®** technology for ingress/egress protection

SPECIFICATIONS

ELECTRICAL SPECIFICATIONS - 3D-LINE SPLITTERS

2-way	3-way	3-way	3-way unbalanced	4-way	6-way	8-way
3DSS2 3DSS2-B 3DSE2 3DSV2	3DSS3 3DSS3-B 3DSE3	3DSV3	3DSS3U 3DSS3U-B 3DSE3U 3DSV3U	3DSS4 3DSS4-B 3DSE4 3DSV4	3DSV6	3DSV8

PORT LOSS (dB, Max.) **- IN TO PORT**

Frequency (MHz)							
5 - 10	3.5	6.0	6.0	3.8 7.2	7.3	9.2	10.8
10 - 65	3.7	6.0	6.0	3.8 7.0	7.3	9.0	10.8
65 - 470	3.8	6.1	6.5	3.8 7.0	7.3	9.3	10.8
470 - 862	4.1	6.1	6.5	4.0 7.5	7.5	10.4	11.4
862 - 1006	4.3	6.5	6.8	4.2 8.0	8.0	10.6	12.0
1006 - 1218	4.6	7.0	7.3	4.5 8.5	8.5	11.5	13.0

RETURN LOSS (dB, Min.) **- ALL PORTS**

5 - 1218	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)

ISOLATION (dB, Min.) **- OUT TO OUT**

5 - 10	30.0	28.0	28.0	30.0	30.0	28.0	28.0
10 - 65	35.0	32.0	32.0	35.0	35.0	32.0	32.0
65 - 470	26.0	28.0	28.0	30.0	30.0	28.0	28.0
470 - 862	26.0	26.0	26.0	26.0	26.0	25.0	25.0
862 - 1006	25.0	24.0	24.0	25.0	25.0	24.0	24.0
1006 - 1218	21.0	21.0	21.0	21.0	21.0	21.0	21.0

ELECTRICAL SPECIFICATIONS - 3D-LINE 1-WAY TAPS							
	6 dB	8 dB	10 dB	12 dB	16 dB	20 dB	24 dB
	3DTS106	3DTS108	3DTE110 3DTS110	3DTE112 3DTS112	3DTE116 3DTS116	3DTE120 3DTS120	3DTS124
INSERTION LOSS (dB, Max.) **- IN TO OUT**							
Frequency (MHz)							
5 - 10	2.3	1.6	1.2	0.9	0.8	0.8	0.8
10 - 65	2.3	1.6	1.2	0.9	0.8	0.8	0.8
65 - 470	2.3	1.6	1.2	0.9	0.8	0.8	0.8
470 - 862	2.8	1.8	1.6	1.4	1.0	0.9	0.9
862 - 1006	2.9	2.0	1.8	1.6	1.4	1.2	1.2
1006 - 1218	3.3	2.5	2.3	2.1	1.7	1.5	1.5
TAP LOSS (dB, Min.) **- IN TO TAP**							
5 - 65	6.5 ± 1.5	8.5 ± 1.5	10.5 ± 1.5	12.5 ± 1.5	16.0 ± 1.0	20.0 ± 1.0	24.0 ± 1.0
65 - 1006	6.5 ± 1.0	8.5 ± 1.0	10.5 ± 1.0	12.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0	24.0 ± 1.0
1006 – 1218	6.5 ± 1.5	8.5 ± 1.5	10.5 ± 1.5	12.5 ± 1.5	16.0 ± 2.0	20.0 ± 2.0	24.0 ± 2.0
RETURN LOSS (dB, Min.) **- ALL PORTS**							
5 - 1218	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)
ISOLATION (dB, Min.) **- OUT TO TAP**							
5 - 10	20.0	22.0	25.0	25.0	32.0	35.0	38.0
10 - 65	25.0	28.0	30.0	30.0	35.0	38.0	42.0
65 - 470	23.0	25.0	27.0	30.0	32.0	35.0	38.0
470 - 862	20.0	20.0	22.0	25.0	30.0	32.0	35.0
862 - 1006	20.0	20.0	21.0	22.0	28.0	30.0	32.0
1006 - 1218	18.0	18.0	20.0	20.0	25.0	26.0	28.0

,, HIGH TEMPERATURES CAN DAMAGE SOLDERED COMPONENTS...

We use automated induction soldering meaning shorter exposure for high temperatures. This soldering technology guarantees higher product quality and leads to many benefits such as a better EMC performance.

ELECTRICAL SPECIFICATIONS - 3D-LINE 2-WAY TAPS					
	8 dB	10 dB	12 dB	16 dB	20 dB
	3DTE208 3DTS208	3DTE210 3DTS210	3DTE212 3DTS212	3DTE2016 3DTS216	3DTE220 3DTS220
INSERTION LOSS (dB, Max.) **- IN TO OUT**					
Frequency (MHz)					
5 - 10	4.4	2.7	1.9	1.7	1.3
10 - 65	4.4	2.7	1.6	1.6	1.3
65 - 470	4.3	3.0	1.7	1.6	1.3
470 - 862	4.3	3.4	1.9	1.8	1.6
862 - 1006	4.6	3.6	2.4	2.2	2.0
1006 - 1218	5.4	4.5	3.5	2.7	2.5
TAP LOSS (dB, Min.) **- IN TO TAP**					
5 - 65	8.5 ± 1.5	10.0 ± 1.5	12.0 ± 1.5	16.0 ± 1.5	20.0 ± 1.5
65 - 1006	8.5 ± 1.5	10.0 ± 1.5	12.0 ± 1.5	16.0 ± 1.5	20.0 ± 1.5
1006 – 1218	8.5 ± 2.0	10.0 ± 2.0	12.0 ± 2.0	16.0 ± 2.0	20.0 ± 2.0
RETURN LOSS (dB, Min.) **- ALL PORTS**					
5 - 10	18.0	22.0	22.0	22.0	22.0
10 - 1218	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)
ISOLATION (dB, Min.) **- OUT TO TAP**					
5 - 10	25.0	28.0	26.0	32.0	35.0
10 - 65	27.0	29.0	30.0	35.0	39.0
65 - 470	24.0	26.0	28.0	32.0	36.0
470 - 862	22.0	24.0	26.0	30.0	34.0
862 - 1006	20.0	22.0	24.0	28.0	32.0
1006 - 1218	20.0	20.0	22.0	26.0	28.0
ISOLATION (dB, Min.) **- TAP TO TAP**					
5 - 10	36.0	36.0	36.0	36.0	36.0
10 - 65	40.0	40.0	40.0	40.0	40.0
65 - 470	34.0	36.0	36.0	36.0	36.0
470 - 862	30.0	32.0	32.0	32.0	32.0
862 - 1006	28.0	30.0	30.0	30.0	30.0
1006 - 1218	28.0	30.0	30.0	30.0	30.0

ELECTRICAL SPECIFICATIONS - 3D-LINE 4/8-WAY TAPS

	10 dB 3DTV410	12 dB 3DTE412T	12 dB 3DTV412	16 dB 3DTV416	20 dB 3DTV420	14 dB 3DTV814	16 dB 3DTV816	20 dB 3DTV820
INSERTION LOSS (dB, Max.) **- IN TO OUT**								
Frequency (MHz)								
5 - 10	3.5	12.5 ± 1.5	3.5	1.6	0.9	4.3	3.0	2.0
10 - 65	3.5	12.5 ± 1.0	3.5	1.6	0.9	4.3	3.0	2.0
65 - 470	3.8	12.5 ± 1.0	3.6	1.6	0.9	4.3	3.3	2.6
470 - 862	4.0	12.5 ± 1.0	3.8	1.8	1.4	4.8	3.6	2.8
862 - 1006	4.2	12.5 ± 1.0	4.0	2.0	1.6	4.8	3.6	2.8
1006 - 1218	4.5	12.5 ± 1.5	4.3	2.5	2.1	5.1	3.9	3.1
TAP LOSS (dB, Min.) **- IN TO TAP**								
5 - 10	10.0 ± 1.5	-	12.5 ± 1.5	16.0 ± 1.5	20.5 ± 1.5	14.0 ± 1.0	16.0 ± 1.5	19.5 ± 1.5
10 - 65	10.0 ± 1.0	-	12.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0	14.0 ± 1.0	16.0 ± 1.0	19.5 ± 1.5
65 - 470	10.0 ± 1.0	-	12.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0	14.0 ± 1.0	16.0 ± 1.0	20.0 ± 1.5
470 - 862	11.0 ± 1.0	-	12.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0	14.0 ± 1.5	16.0 ± 1.0	20.0 ± 1.5
862 - 1006	11.0 ± 1.0	-	12.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0	14.5 ± 1.5	16.0 ± 1.5	20.0 ± 1.5
1006 - 1218	11.0 ± 1.5	-	12.5 ± 1.5	16.5 ± 1.5	20.5 ± 2.0	15.5 ± 2.0	17.0 ± 1.5	20.0 ± 2.0
RETURN LOSS (dB, Min.) **- ALL PORTS**								
5 - 1218	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)
ISOLATION (dB, Min.) **- OUT TO TAP**								
5 - 10	30.0	-	32.0	32.0	34.0	27.0	27.0	30.0
10 - 65	30.0	-	32.0	30.0	36.0	30.0	30.0	33.0
65 - 470	28.0	-	32.0	30.0	34.0	28.0	28.0	34.0
470 - 862	24.0	-	27.0	28.0	32.0	23.0	23.0	30.0
862 - 1006	24.0	-	24.0	28.0	30.0	22.0	22.0	28.0
1006 - 1218	22.0	-	22.0	25.0	28.0	21.0	21.0	26.0
ISOLATION (dB, Min.) **- TAP TO TAP**								
5 - 10	25.0	20.0	25.0	25.0	25.0	24.0	24.0	22.0
10 - 47	25.0	20.0	25.0	25.0	25.0	32.0	32.0	32.0
47 - 65	32.0	28.0	32.0	32.0	32.0	32.0	32.0	32.0
65 - 470	32.0	28.0	32.0	32.0	32.0	28.0	28.0	28.0
470 - 862	32.0	25.0	32.0	32.0	32.0	23.0	23.0	23.0
862 - 950	30.0	22.0	30.0	30.0	30.0	22.0	22.0	22.0
950 - 1006	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
1006 - 1218	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0

ELECTRICAL SPECIFICATIONS - 3D-LINE MULTITAPS

		4-way 3DMV4	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8
INSERTION LOSS (dB, Max.) **- IN TO OUT**					
Frequency (MHz)					
5 - 10		3.8	-	5.8	8.5
10 - 65		3.6	-	5.7	8.2
65 - 470		3.6	-	5.8	8.5
470 - 862		4.3	-	6.0	8.9
862 - 1006		4.7	-	7.5	9.2
1006 - 1218		5.2	-	8.2	10.0
TAP LOSS (dB) **- IN TO TAP**					
5 - 65 ± 1.5 65 - 862 ± 1.3 862 - 1218 ± 1.5	Port1	12.5	12.5	12.5	12.5
	Port2	13.5	12.5	13.5	13.5
	Port3	14.5	12.5	14.5	14.5
	Port4	15.5	12.5	15.5	15.5
	Port5	-	12.5	16.5	16.5
	Port6	-	-	17.5	17.5
	Port7	-	-	-	18.5
	Port8	-	-	-	19.5
RETURN LOSS (dB, Min.) **- ALL PORTS**					
5 - 1218		22.0 (1)	22.0 (1)	22.0 (1)	22.0 (1)
ISOLATION (dB, Min.) **- OUT TO TAP**					
5 - 10		26.0	-	26.0	26.0
10 - 65		26.0	-	26.0	26.0
65 - 470		28.0	-	28.0	28.0
470 - 862		24.0	-	24.0	24.0
862 - 1006		22.0	-	22.0	22.0
1006 - 1218		22.0	-	22.0	22.0
ISOLATION (dB, Min.) **- TAP TO TAP**					
5 - 10		36.0	36.0	36.0	36.0
10 - 47		36.0	36.0	36.0	32.0
47 - 470		32.0	32.0	32.0	32.0
470 - 862		32.0	32.0	32.0	32.0
862 - 950		30.0	30.0	30.0	30.0
950 - 1218		22.0	22.0	22.0	22.0

GENERAL SPECIFICATIONS

3D-Line	All Models
Nominal impedance	75 Ohm
Frequency range	5-1218 MHz
Operating temperature range	-25 C° to +70 C°
Electromagnetic comp. [2] (dB, Min.) 5-300 300-470 470-950 950-1218	 95.0 90.0 85.0 75.0
Surge immunity[3] Each port (Min.)	1 kV
Intermodulation[4] (2f1, f1+f2, 2f2) (dB,Min.)	-122.0 dBc[a] -115.0 dBc[b]

PURE-FERRITE DESIGN...

Our Inter Modulation (IM) performance is reached with the "pure-ferrite" design. In practice it means less components and higher Mean-Time-Between-Failures (MTBF). Benefits are not limited to more robust quality because the pure-ferrite approach offers improved RF performance like better flatness as well.

Notes:

(1) At F≥40 MHz -1.5 dB per octave

(2) Exceeding Class A (+10dB), according to IEC 60728-2 2010 (new 2012), EMC

(3) 1 kV, 1,2/50 µs Surge voltage according to IEC 61000-4-5, EMC (class 2, level 2) applied between the inner and outer conductor of each port

(4) Two carriers (60 & 65 MHz), applied to each output port, @120dBµV

(a) No surge

(b) Measured after 10 pulses 25VDC(1,2/500µS) have been applied to each port

Additional Notes:

√ Between 5MHz and 10MHz the above specifications are typical values and not min or max values

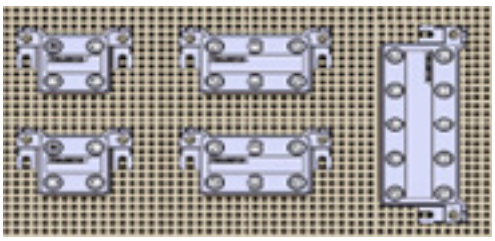
√ The 3D models with "-B" behind the product name features the BarrIER® Lite Technology

√ CableLabs is owner of the trademark DOCSIS®

√ Teleste reserves the rights to alter specifications, features, manufacturing release dates and even the general availability of the products at any time.

DETAILS MATTER...

Our product dimensions are thought out carefully. For example in some countries like in Germany passives can be installed to an existing backplane.
OUR PASSIVES FIT TO THIS GRID SEAMLESSLY.



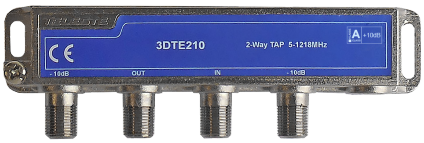
MECHANICAL SPECIFICATIONS		
Housing	Material	Zinc die cast, NiSn plating
Back Cover	Construction Material	Machine Soldered Brass, Nickel plating
Connectors	Material Port spacing Protection cap Physical dimensions Rotational Torque	Zinc die cast 22 mm Yes ANSI/SCTE 01 2006 IEC 61169-24 ≥10 Nm
F-Spring	Material Plating Test pin acceptance Insertion & Withdrawal force	Phosphor Bronze Silver 0.51 mm - 1.3 mm Withdrawal ≥0.30N Insertion ≤25N
Grounding Block	Yes	
Salt mist cyclic test	IEC 60068-2-52: 1996	672 hrs Number of cycles: 4 Severety: 5
Vibration	IEC 60068-2-6: 1995	Frequency range: 10-55 Hz Sweep rate: 1 octave /p/m Sweep cycles: 10 Displacement ampl.: 0.75 mm Axis: 3
Protection	IEC 60529: 1989	IP67

HOUSING STYLE DESCRIPTION

3DSSx

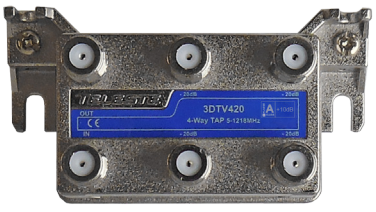
3DSEx

3DSVx



3DTExxx

3DTSxxx



3DTVxxx

3DMVx

NOTE: The width of the housing varies depending on the number of ways/connectors