



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 >> 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	4-way	6-way	8-way
	3DSS2 3DSS2-B 3DSE2 3DSV2	3DSS3 3DSS3-B 3DSE3	3DSV3	Unbalanced 3DSS3U 3DSS3U-B 3DSE3U	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 3DTS106	8 dB 3DTS108	10 dB 3DTE110 3DTS110	12 dB 3DTS112	16 dB 3DTS116	20 dB 3DTS120	24 dB 3DTS124
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INSERTION LOSS (dB, Max.) - IN TO OUT

Frequency (MHz)							
5 - 10	2.8	1.8	1.8	1.0	0.9	0.9	0.9
10 - 65	2.8	1.8	1.8	1.0	0.9	0.9	0.9
65 - 470	2.8	1.8	1.8	1.0	0.9	0.9	0.9
470 - 862	2.9	2.2	2.1	1.5	1.2	1.2	1.2
862 - 1006	3.2	2.4	2.3	1.7	1.4	1.4	1.4
1006 - 1218	3.5	2.7	2.6	2.2	1.7	1.5	1.5

TAP LOSS (dB) - 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
3DTS20810 dB
3DTE210
3DTS21012 dB
3DTS21216 dB
3DTS21620 dB
3DTS220

INSERTION LOSS (dB, Max.) - IN TO OUT

Frequency (MHz)	8 dB 3DTS208	10 dB 3DTE210 3DTS210	12 dB 3DTS212	16 dB 3DTS216	20 dB 3DTS220
5 - 10	4.8	2.7	1.9	1.7	1.2
10 - 65	4.4	2.7	1.6	1.4	1.2
65 - 470	4.3	3.0	1.7	1.6	1.2
470 - 862	4.3	3.4	1.9	1.8	1.4
862 - 1006	4.4	3.5	2.4	1.9	1.7
1006 - 1218	5.2	4.3	3.2	2.5	2.3

TAP LOSS (dB) - IN TO TAP

Frequency (MHz)	8 dB 3DTS208	10 dB 3DTE210 3DTS210	12 dB 3DTS212	16 dB 3DTS216	20 dB 3DTS220
5 - 65	8.5 ± 1.5	10.0 ± 1.0	12.0 ± 1.5	16.0 ± 1.0	20.0 ± 1.0
65 - 1006	8.5 ± 1.5	10.0 ± 1.0	12.0 ± 1.0	16.0 ± 1.0	20.0 ± 1.0
1006 - 1218	8.5 ± 2.0	10.0 ± 1.5	12.0 ± 2.0	16.0 ± 2.0	20.0 ± 2.0

RETURN LOSS (dB, Min.) - ALL PORTS

Frequency (MHz)	8 dB 3DTS208	10 dB 3DTE210 3DTS210	12 dB 3DTS212	16 dB 3DTS216	20 dB 3DTS220
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

Frequency (MHz)	8 dB 3DTS208	10 dB 3DTE210 3DTS210	12 dB 3DTS212	16 dB 3DTS216	20 dB 3DTS220
5 - 10	25.0	28.0	30.0	32.0	35.0
10 - 65	27.0	29.0	31.0	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

Frequency (MHz)	8 dB 3DTS208	10 dB 3DTE210 3DTS210	12 dB 3DTS212	16 dB 3DTS216	20 dB 3DTS220
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	32.0	32.0	32.0	32.0	32.0
862 - 1006	30.0	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 3DTV412	16 dB 3DTV416	20 dB 3DTV420	14 dB 3DTV814	16 dB 3DTV816	20 dB 3DTV820
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INSERTION LOSS (dB, Max.) - IN TO OUT

Frequency (MHz)							
5 - 10	4.3	4.3	2.8	1.5	4.3	3.0	2.0
10 - 65	4.1	4.1	2.7	1.3	4.3	3.0	2.0
65 - 470	4.5	3.9	2.4	1.3	4.3	3.3	2.6
470 - 862	4.6	3.9	2.6	1.6	4.8	3.6	2.8
862 - 1006	4.6	4.5	2.6	1.8	4.8	3.6	2.8
1006 - 1218	4.9	4.7	2.9	3.2	5.1	3.9	3.1

TAP LOSS (dB) - IN TO TAP

5 - 10	10.0 ± 1.5	12.5 ± 1.5	16.0 ± 1.5	19.5 ± 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	19.5 ± 1.0	14.0 ± 1.0	16.0 ± 1.0	19.5 ± 1.0
65 - 470	10.5 ± 1.0	12.5 ± 1.0	16.5 ± 1.0	19.5 ± 1.0	14.0 ± 1.0	16.0 ± 1.0	20.0 ± 1.0
470 - 862	11.0 ± 1.0	12.5 ± 1.0	16.5 ± 1.0	19.5 ± 1.0	14.0 ± 1.5	16.0 ± 1.0	20.0 ± 1.5
862 - 1006	11.0 ± 1.0	12.5 ± 1.0	16.5 ± 1.0	19.5 ± 1.0	14.5 ± 1.5	16.0 ± 1.0	20.0 ± 1.5
1006 - 1218	11.0 ± 1.5	12.5 ± 1.5	16.5 ± 1.5	19.5 ± 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⁾

ISOLATION (dB, Min.) - OUT TO TAP

5 - 10	30.0	32.0	32.0	35.0	30.0	30.0	30.0
10 - 65	30.0	32.0	35.0	40.0	30.0	30.0	34.0
65 - 470	28.0	32.0	32.0	35.0	28.0	28.0	34.0
470 - 862	24.0	27.0	30.0	32.0	24.0	24.0	34.0
862 - 1006	24.0	27.0	30.0	30.0	24.0	24.0	33.0
1006 - 1218	24.0	24.0	28.0	28.0	24.0	24.0	30.0

ISOLATION (dB, Min.) - TAP TO TAP

5 - 10	22.0	22.0	22.0	22.0	22.0	22.0	22.0
10 - 65	30.0	30.0	30.0	30.0	32.0	32.0	32.0
65 - 470	28.0	28.0	28.0	28.0	28.0	28.0	28.0
470 - 862	25.0	25.0	25.0	25.0	25.0	25.0	25.0
862 - 1006	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



ELECTRICAL SPECIFICATIONS - 3D-LINE MULTITAPS

4-way
3DMV45-way
3DMV5T6-way
3DMV68-way
3DMV8

INSERTION LOSS (dB, Max.) - IN TO OUT

Frequency (MHz)	4-way 3DMV4	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8
5 - 10	4.6	-	7.8	9.5
10 - 65	4.6	-	7.5	9.3
65 - 470	4.7	-	7.3	8.5
470 - 862	4.7	-	7.5	9.5
862 - 1006	4.7	-	8.0	9.5
1006 - 1218	5.1	-	8.3	10.0

TAP LOSS (dB) - IN TO TAP

Frequency (MHz)	Port	4-way 3DMV4	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8
5 - 65	Port1	12.5	12.5	12.5	12.5
± 1.5	Port2	13.5	12.5	13.5	13.5
65 - 1006	Port3	14.5	12.5	14.5	14.5
± 1.5	Port4	15.5	12.5	15.5	15.5
1006 - 1218	Port5	-	12.5	16.5	16.5
± 1.5	Port6	-	-	17.5	17.5
	Port7	-	-	-	18.5
	Port8	-	-	-	19.5

RETURN LOSS (dB, Min.) - ALL PORTS

Frequency (MHz)	4-way 3DMV4	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8
5 - 1218	22.0 ⁽¹⁾	22.0 ⁽¹⁾	22.0 ⁽¹⁾	22.0 ⁽¹⁾

ISOLATION (dB, Min.) - OUT TO TAP

Frequency (MHz)	4-way 3DMV4	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8
5 - 10	26.0	-	26.0	26.0
10 - 65	26.0	-	26.0	26.0
65 - 470	30.0	-	30.0	30.0
470 - 862	26.0	-	25.0	26.0
862 - 1006	24.0	-	25.0	26.0
1006 - 1218	22.0	-	22.0	24.0

ISOLATION (dB, Min.) - TAP TO TAP

Frequency (MHz)	4-way 3DMV4	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8
5 - 10	36.0	28.0	36.0	36.0
10 - 65	40.0	30.0	40.0	40.0
65 - 470	32.0	28.0	32.0	32.0
470 - 1006	30.0	25.0	30.0	30.0
1006 - 1218	25.0	20.0	25.0	25.0

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	95.0
300-470	90.0
470-950	85.0
950-1218	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:

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

o The 3D models with the “-B” behind the product name features the BarrIER Lite Technology

o 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.

MECHANICAL SPECIFICATIONS

Housing	Material	Zinc die cast, NiSn plating
Back Cover	Construction	Machine Soldered
	Material	Brass, Nickel plating
Connectors	Material	Zinc die cast
	Port spacing	22 mm
	Protection cap	Yes
	Physical dimensions	ANSI/SCTE 01 2006 IEC 61169-24
	Rotational Torque	≥10 Nm
F-Spring	Material	Phosphor Bronze
	Plating	Silver
	Test pin acceptance	0.51 mm - 1.3 mm
	Insertion & Withdrawal force	Withdrawal ≥0.30N Insertion ≤25N
Grounding Block	Yes	
Salt mist cyclic test	IEC 60068-2-52: 1996	672 hrs Number of cycles: 4 Severity: 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	

The length can be different according to the model in the range.

” 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.

