

PRODUCT FAMILY	PRODUCT MODEL
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SPLITTER AND TAPS	3D-LINE
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	FEATURES
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- >> 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® technique for ingress/egress protection

SPECIFICATIONS

	ELECTRICAL SPECIFICATIONS - 3D-LINE SPLITTERS					
	2-way 3DSS2 3DSS2-B	3-way 3DSS3 3DSS3-B 3DSV3	3-way unbalanced 3DSS3U 3DSS3U-B	4-way 3DSS4 3DSS4-B 3DSV4	6-way 3DSV6	8-way 3DSV8

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

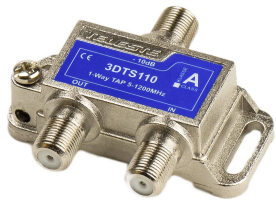
Frequency (MHz)	2-way	3-way	3-way unbalanced	4-way	6-way	8-way
5 - 10	3.5	6.0	3.8 7.2	7.3	9.2	10.8
10 - 65	3.7	6.0	3.8 7.0	7.3	9.0	10.8
65 - 470	3.8	6.1	3.8 7.0	7.3	9.3	10.8
470 - 862	4.1	6.1	4.0 7.5	7.5	10.4	11.4
862 - 1006	4.3	6.5	4.2 8.0	8.0	10.6	12.0
1006 - 1218	4.6	7.0	4.5 8.5	8.5	11.5	13.0

RETURN LOSS (dB, Min.) - ALL PORTS

Frequency (MHz)	2-way	3-way	3-way unbalanced	4-way	6-way	8-way
5 - 1006	22 (1)	22 (1)	22 (1)	22 (1)	22 (1)	22 (1)
1006 - 1218	16 (2)	16 (2)	16 (2)	16 (2)	16 (2)	16 (2)

ISOLATION (dB, Min.) - OUT TO OUT

Frequency (MHz)	2-way	3-way	3-way unbalanced	4-way	6-way	8-way
5 - 10	30	30	30	30	28	28
10 - 65	35	35	35	35	32	32
65 - 470	26	28	28	30	28	28
470 - 862	26	28	28	26	25	25
862 - 1006	25	26	26	25	24	24
1006 - 1218	21	21	21	21	21	21



ELECTRICAL SPECIFICATIONS - 3D-LINE 1-WAY TAPS

3DTS106 3DTS108 3DTS110 3DTS112 3DTS116 3DTS120 3DTS124

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

Frequency (MHz)	3DTS106	3DTS108	3DTS110	3DTS112	3DTS116	3DTS120	3DTS124
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 - 10	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
10 - 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

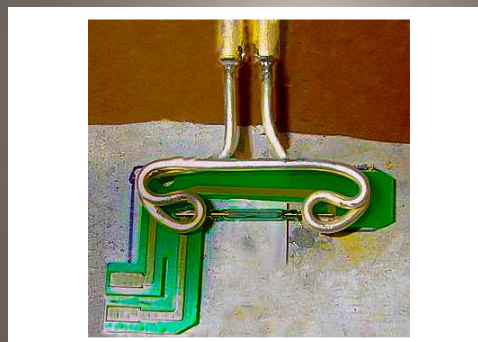
5 - 1006	22 (1)	22 (1)	22 (1)	22 (1)	22 (1)	22 (1)	22 (1)
1006 - 1218	16 (2)	16 (2)	16 (2)	16 (2)	16 (2)	16 (2)	16 (2)

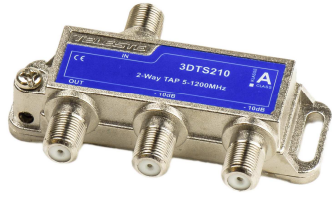
ISOLATION (dB, Min.) - OUT TO TAP

5 - 10	20	22	25	25	32	35	38
10 - 65	25	28	30	30	35	38	42
65 - 470	23	25	27	30	32	35	38
470 - 862	20	20	22	25	30	32	35
862 - 1006	20	20	22	25	28	30	32
1006 - 1218	18	18	20	20	25	26	28

“ 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
3DTS208

10 dB
3DTS210

12 dB
3DTS212

16 dB
3DTS216

20 dB
3DTS220

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

Frequency (MHz)	8 dB 3DTS208	10 dB 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	4.1	3.0	1.7	1.6	1.2
470 - 862	4.1	3.4	1.9	1.8	1.4
862 - 1006	4.4	3.5	2.4	1.9	1.5
1006 - 1218	5.2	4.3	3.2	2.5	2.2

TAP LOSS (dB) - IN TO TAP

Frequency (MHz)	8 dB 3DTS208	10 dB 3DTS210	12 dB 3DTS212	16 dB 3DTS216	20 dB 3DTS220
5 - 10	8.5 ± 1.5	10.0 ± 1.0	12.0 ± 1.5	16.0 ± 1.0	20.0 ± 1.0
10 - 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 3DTS210	12 dB 3DTS212	16 dB 3DTS216	20 dB 3DTS220
5 - 1006	22 (1)	22 (1)	22 (1)	22 (1)	22 (1)
1006 - 1218	16 (2)	16 (2)	16 (2)	16 (2)	16 (2)

ISOLATION (dB, Min.) - OUT TO TAP

Frequency (MHz)	8 dB 3DTS208	10 dB 3DTS210	12 dB 3DTS212	16 dB 3DTS216	20 dB 3DTS220
5 - 10	25	28	30	32	35
10 - 65	27	29	31	35	39
65 - 470	24	26	28	32	36
470 - 862	22	24	26	30	34
862 - 1006	20	22	24	28	32
1006 - 1218	20	20	22	26	28

ISOLATION (dB, Min.) - TAP TO TAP

Frequency (MHz)	8 dB 3DTS208	10 dB 3DTS210	12 dB 3DTS212	16 dB 3DTS216	20 dB 3DTS220
5 - 10	36	36	36	36	36
10 - 65	40	40	40	40	40
65 - 470	36	36	36	36	36
470 - 862	32	32	32	32	32
862 - 1006	30	30	30	30	30
1006 - 1218	30	30	30	30	30



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)	10 dB 3DTV410	12 dB 3DTV412	16 dB 3DTV416	20 dB 3DTV420	14 dB 3DTV814	16 dB 3DTV816	20 dB 3DTV820
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	20.5 ± 1.5	13.5 ± 1.0	16.0 ± 1.5	19.5 ± 1.5
10 - 65	10.0 ± 1.0	12.5 ± 1.0	16.0 ± 1.0	20.5 ± 1.0	13.5 ± 1.0	16.0 ± 1.0	19.5 ± 1.0
65 - 470	10.5 ± 1.0	12.5 ± 1.0	16.5 ± 1.0	20.5 ± 1.0	13.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0
470 - 862	11.0 ± 1.0	12.5 ± 1.0	16.5 ± 1.0	20.5 ± 1.0	14.0 ± 1.0	16.0 ± 1.0	20.0 ± 1.0
862 - 1006	11.0 ± 1.0	12.5 ± 1.0	16.5 ± 1.0	20.5 ± 1.0	14.5 ± 1.0	16.0 ± 1.0	20.0 ± 1.0
1006 - 1218	11.0 ± 1.5	12.5 ± 1.5	16.5 ± 1.5	20.5 ± 2.0	15.5 ± 1.5	17.0 ± 1.5	20.0 ± 2.0

RETURN LOSS (dB, Min.) - ALL PORTS

5 - 1006	22 (1)	22 (1)	22 (1)	22 (1)	22 (1)	22 (1)	22 (1)
1006 - 1218	16 (2)	16 (2)	16 (2)	16 (2)	16 (2)	16 (2)	16 (2)

ISOLATION (dB, Min.) - OUT TO TAP

5 - 10	30	32	36	41	30	30	33
10 - 65	30	32	36	41	30	30	33
65 - 470	28	32	43	46	28	28	34
470 - 862	24	27	36	39	24	24	36
862 - 1006	24	27	36	39	24	24	36
1006 - 1218	24	27	36	39	24	24	36

ISOLATION (dB, Min.) - TAP TO TAP

5 - 10	22	22	22	22	22	22	22
10 - 65	35	35	35	35	35	32	35
65 - 470	28	28	28	28	28	28	28
470 - 862	25	25	25	25	25	25	25
862 - 1006	22	22	22	22	22	22	22
1006 - 1218	20	20	20	20	20	20	20



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)	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	4.9	-	8.3	9.8

TAP LOSS (dB) - IN TO TAP

Frequency (MHz)	Port	4-way 3DMV4	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8
5 - 1006 ± 1.0 1006 - 1218 ± 1.5	Port1	12.5 ± 1.0	12.5 ± 1.0	12.5 ± 1.0	12.5 ± 1.0
	Port2	13.5 ± 1.0	12.5 ± 1.0	13.5 ± 1.0	13.5 ± 1.0
	Port3	14.5 ± 1.0	12.5 ± 1.0	14.5 ± 1.0	14.5 ± 1.0
	Port4	15.5 ± 1.0	12.5 ± 1.0	15.5 ± 1.0	15.5 ± 1.0
	Port5	-	12.5 ± 1.0	16.5 ± 1.0	16.5 ± 1.0
	Port6	-	-	17.5 ± 1.0	17.5 ± 1.0
	Port7	-	-	-	18.5 ± 1.0
	Port8	-	-	-	19.5 ± 1.0

RETURN LOSS (dB, Min.) - ALL PORTS

Frequency (MHz)	4-way 3DMV4	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8
5 - 1006	22 (1)	22 (1)	22 (1)	22 (1)
1006 - 1218	16 (2)	16 (2)	16 (2)	16 (2)

ISOLATION (dB, Min.) - OUT TO TAP

Frequency (MHz)	4-way 3DMV4	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8
5 - 10	26	-	26	26
10 - 65	26	-	26	26
65 - 470	30	-	30	30
470 - 862	26	-	26	26
862 - 1006	26	-	26	26
1006 - 1218	26	-	26	26

ISOLATION (dB, Min.) - TAP TO TAP

Frequency (MHz)	4-way 3DMV4	5-way 3DMV5T	6-way 3DMV6	8-way 3DMV8
5 - 10	36	28	36	36
10 - 65	40	30	40	40
65 - 470	32	28	32	32
470 - 1006	30	25	30	30
1006 - 1218	25	20	25	25

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. ⁽³⁾ (dB, Min.)	
5-300	95
300-470	90
470-950	85
950-1218	75
Surge immunity ⁽⁴⁾ Each port (Min.)	1 kV
Intermodulation ⁽⁵⁾ (2f1, f1+f2, 2f2) (dB,Min.)	-122 dBc ^(a) -115 dBc ^(b) -105 dBc ^(c)

” PURE-FERRITE DESIGN...

Our Inter Modulation (IM) performance is reached with the “pure-ferrite” design instead of multiple components and complex filters.

In practice it means less components, higher Mean-Time-Between-Failures (MTBF) and better RF performance. In old-fashioned passives the saturation of ferrites is solved with additional components and filters. The old approach, however, is only medicine while we have cured the disease itself.

NOTES:

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

- (1) At F≥40 MHz -1.5 dB per octave, with a minimum of 16 dB.
- (2) Degrading to 14.5 dB @1218 MHz
- (3) Exceeding Class A, according to IEC 60728-2 2010 (new 2012), EMC
- (4) 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
- (5) 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.
- (c) Measured after 1pulse 1kV (1,2/50μS) has been applied to each port. In accordance with IEC 60728-4

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 (1/2)

Housing	Material	Zinc die cast
	Plating	Nickel / NiSn
Back Cover	Construction	Machine Soldered
	Material	Brass
	Plating	Nickel

MECHANICAL SPECIFICATIONS (2/2)

Connectors	Material	Zinc die cast
	Plating	Nickel / NiSn
	Port spacing	22 mm
	Protection cap	Yes
	Physical dimensions	ANSI/SCTE 01 2006 IEC 61169-24
	Rotational Torque	≥10 Nm
F-Spring	Material	Phosphore Bronze
	Plating	Silver / NiSn
	Test pin acceptance	0.51 mm - 1.3 mm
	Insertion & Withdrawal force	Withdrawal ≥0.30N Insertion ≤25N
ABS click-on mounting feet	Cable under pass	Optional 7 mm
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

” 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.

