



# 3644 Series, Round, 100-Ohm, Discrete, Twisted Pair Cable

3M™ 3644 Series cable is an excellent choice for digital communications applications requiring 100-Ohm impedance. It combines all the features that make for superior performance and easier handling in applications.

The 3644 cable uses a dual shielding of aluminum/polyester film foil and tinned copper braid for excellent EMI/ESD protection. Its twisted pair configuration reduces crosstalk for balanced drive applications, resulting in higher quality communications. Its 28 AWG stranded, discrete color-coded wire is flexible and easy to use.

The 3644 cable is an optimal cost/performance solution for LVDS digital 100-Ohm transmission applications where the cable length is less than four meters and transmission speeds are under 700 Mbytes per second. Applications include:

- Routers
- Switches
- Device-to-device digital communications
- Desktop monitors
- Factory automation equipment
- Medical equipment
- Kiosk displays and flat panel displays

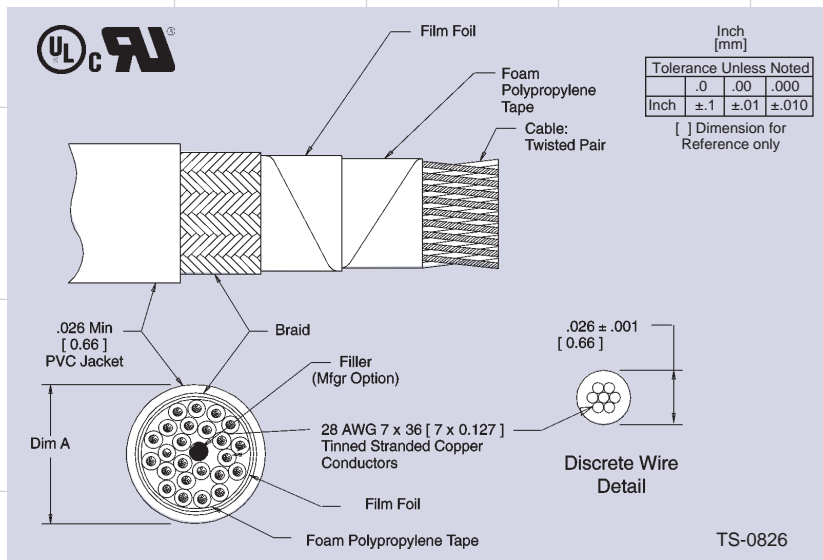
## Solid Company, Superior Technology

3M promises innovative, quality products and service that make your life easier and better, from a company you can trust. 3M is a company of creative problem-solvers. Whether the challenge is precise signal transmission requirements, fast moving schedules on a production line or just-in-time delivery to manufacturing sites around the world, 3M's research, engineering, production and sales staff have the experience and tools to do the job. The 3644 Series Cable extends 3M's family of excellent cable and cable assemblies, offering you even more options in digital design.

## Features

- Color-coded twisted pairs provide easy identification for connector termination
- Dual shielding of aluminum/polyester film foil and tinned copper braid
- UL Listed Power Limited Circuit Cable (CL2)
- Cable meets USA National Electrical Code requirements for external wiring





Number of Conductors	3M Part Number	Dimension A .02
14 (7 Pair)	3644X/14	.22 [ 5.6 ]
16 (8 Pair)	3644x/16	.23 [ 5.8 ]
20 (10 Pair)	3644X/20	.24 [ 6.1 ]
26 (13 Pair)	3644X/26	.25 [ 6.4 ]
36 (18 Pair)	3644X/36	.29 [ 7.4 ]
40 (20 Pair)	3644X/40	.30 [ 7.6 ]
50 (25 Pair)	3644X/50	.32 [ 8.1 ]
68 (34 Pair)	3644X/68	.37 [ 9.4 ]
80 (40 Pair)	3600X/80	.39 [ 9.9 ]
100 (50 Pair)	3600X/100	.44 [ 11.2 ]

## Electrical

**Voltage Rating:** USA: N.E.C. 725, CL2 Canada: 150V EU: <50V

**Insulation Resistance:** (Primary Cable)  $>1 \times 10^{10} \Omega / 10 \text{ ft. [ 3m ]}$

**Unbalanced**

**Characteristic Impedance:** 63  $\Omega$  100  $\Omega$

**Capacitance:** 24.2 pF/ft. [ 79.4 pF/m ] 15.3 pF/ft. [ 50.2 pF/m ]

**Inductance:** .10  $\mu\text{H}/\text{ft. [ 0.33 } \mu\text{H/m ]}$  .15  $\mu\text{H}/\text{ft. [ 0.49 } \mu\text{H/m ]}$

**Propagation Delay:** 1.54 ns/ft. [ 5.05 ns/m ] 1.54 ns/ft. [ 5.05 ns/m ]

**Velocity of Propagation:** 66% 66%

Note: Unbalanced is measured between conductors within a pair with one conductor connected to the shield. Balanced is measured between conductors within a pair with the shield floating.

Pair Identification						
Pairs	Cond	1st Conductor		Cond	2nd Conductor	
		Solid	Band		Solid	Band
1	1	White	Tan	2	Tan	White
2	3	White	Brown	4	Brown	White
3	5	White	Pink	6	Pink	White
4	7	White	Orange	8	Orange	White
5	9	White	Yellow	10	Yellow	White
6	11	White	Green	12	Green	White
7	13	White	Blue	14	Blue	White
8	15	White	Violet	16	Violet	White
9	17	White	Gray	18	Gray	White
10	19	Tan	Brown	20	Brown	Tan
11	21	Tan	Pink	22	Pink	Tan
12	23	Tan	Orange	24	Orange	Tan
13	25	Tan	Yellow	26	Yellow	Tan
14	27	Tan	Green	28	Green	Tan
15	29	Tan	Blue	30	Blue	Tan
16	31	Tan	Violet	32	Violet	Tan
17	33	Tan	Gray	34	Gray	Tan
18	35	Brown	Pink	36	Pink	Brown
19	37	Brown	Orange	38	Orange	Brown
20	39	Brown	Yellow	40	Yellow	Brown
21	41	Brown	Green	42	Green	Brown
22	43	Brown	Blue	44	Blue	Brown
23	45	Brown	Violet	46	Violet	Brown
24	47	Brown	Gray	48	Gray	Brown
25	49	Pink	Orange	50	Orange	Pink
26	51	Pink	Yellow	52	Yellow	Pink
27	53	Pink	Green	54	Green	Pink
28	55	Pink	Blue	56	Blue	Pink
29	57	Pink	Violet	58	Violet	Pink
30	59	Pink	Gray	60	Gray	Pink
31	61	Orange	Yellow	62	Yellow	Orange
32	63	Orange	Green	64	Green	Orange
33	65	Orange	Blue	66	Blue	Orange
34	67	Orange	Violet	68	Violet	Orange
35	69	Orange	Gray	70	Gray	Orange
36	71	Yellow	Green	72	Green	Yellow
37	73	Yellow	Blue	74	Blue	Yellow
38	75	Yellow	Violet	76	Violet	Yellow
39	77	Yellow	Gray	78	Gray	Yellow
40	79	Green	Blue	80	Blue	Green
41	81	Green	Violet	82	Violet	Green
42	83	Green	Gray	84	Gray	Green
43	85	Blue	Violet	86	Violet	Blue
44	87	Blue	Gray	88	Gray	Blue
45	89	Violet	Gray	90	Gray	Violet
46	91	White	—	92	Tan	—
47	93	Gray	—	94	Brown	—
48	95	Blue	—	96	Pink	—
49	97	Violet	—	98	Orange	—
50	99	Green	—	100	Yellow	—

**For ordering information, technical information, and product information, you can reach us at:**

**Phone: 1-800-225-5373**

**Fax: 1-800-325-5329**

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