

COMMON MODE CHOKE CATALOG
Suited for LAN and Telecom Applications



T A B L E o f C O N T E N T S

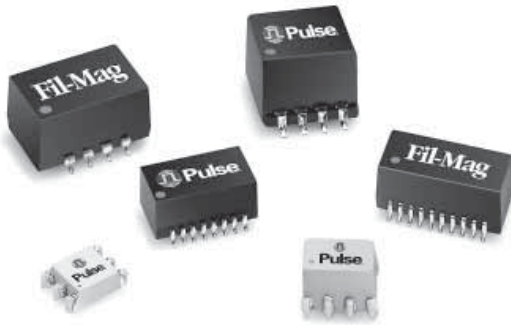
Common Mode Chokes for Datacom Applications

Surface Mount Common Mode Chokes2-6

Through Hole Common Mode Chokes7-12

SURFACE MOUNT COMMON MODE CHOKES

Suited for LAN and Telecom Applications



-  Reduces radiated EMI emissions
-  Filters common mode noise for EMI reduction
-  Common mode attenuation from 100 kHz to 1 GHz
-  Tape & Reel packaging available for surface mount parts*

Electrical Specifications @ 25°C

Part Number	No. of Ports	Primary Inductance OCL (μH MIN)	Common Mode Attenuation (db TYP)									DCR (Ω MAX)	Page Number Mech & Schem
			100 KHz	1 MHz	10 MHz	30 MHz	50 MHz	100 MHz	300 MHz	500 MHz	1 GHz		
PE-68624	2	47	11	27	40	44	42	36	26	17	—	0.40	2
PE-65855	2	4700	41	43	49	39	34	26	20	20	12	1.0	4
B2013	2	6300	46	47	43	32	25	29	21	14	16	1.0	3
B4003	2	4700	42	41	48	38	33	21	22	23	17	1.0	6
23Z87SM	3	69	9	24	31	30	29	27	21	16	—	0.20	4
PE-65857	4	22.5	7	20	30	37	38	34	24	13	—	0.22	4
PE-68627	4	24	8	21	32	36	37	36	30	20	—	0.25	4
T8003	4	33	9	13	32	32	30	27	16	17	13	0.20	6
23Z4000SMD	4	36	7	23	35	38	38	36	29	24	—	0.50	5
PE-65854	4	47	3	19	32	36	35	29	12	6	—	0.40	3
23Z104SM	4	68	8	22	28	28	27	25	20	15	—	0.20	5
PE-67540	4	100	14	33	44	48	49	44	34	29	20	0.60	4
PE-65853	4	4700	40	51	38	30	25	20	14	13	—	1.20	3
23Z106SM	6	68	8	22	29	30	30	29	24	19	—	0.20	5
PE-69011	8	36	8	24	36	39	35	29	18	11	—	0.35	3
23Z105SM	8	68	8	24	30	29	27	24	16	11	—	0.20	5
23Z109SM	10	7.5	4	9	20	25	26	24	16	11	—	0.20	5
T8008	16	47	7	27	40	44	42	36	26	—	—	0.40	6

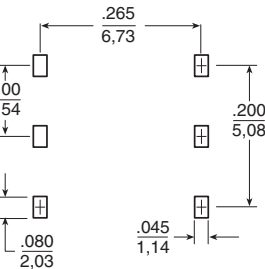
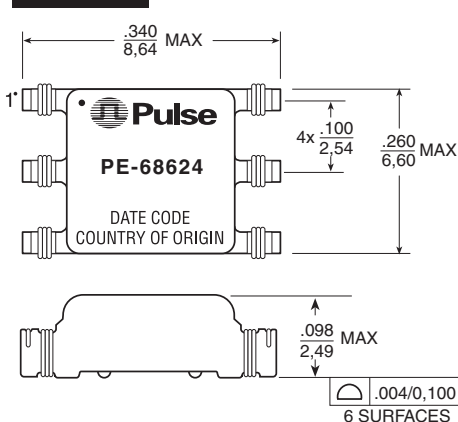
* When ordering Tape & Reel packaging, add a "T" at the end of the part number (i.e. PE-65738T or 23Z106SMT).

NOTE: Additional common mode chokes are available. Please contact Applications Engineering.

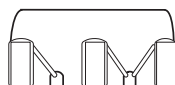
Mechanical

Schematic

PE-68624



SUGGESTED PAD LAYOUT



PE-68624



Weight 0.17 grams
Tape & Reel 1500/reel
Tube 85/tube

SURFACE MOUNT COMMON MODE CHOKES

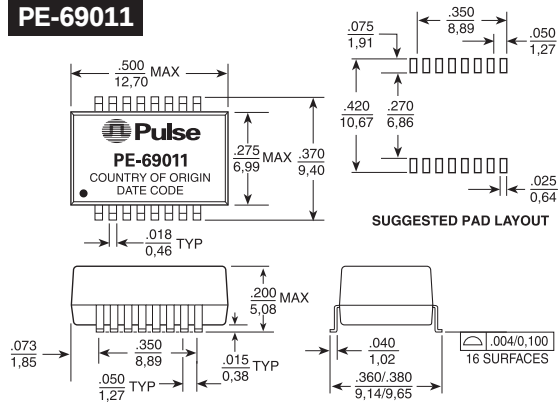
Suited for LAN and Telecom Applications



Mechanical

Schematic

PE-69011



Dimensions: Inches
mm

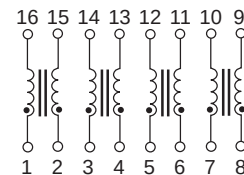
Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 0.83 grams

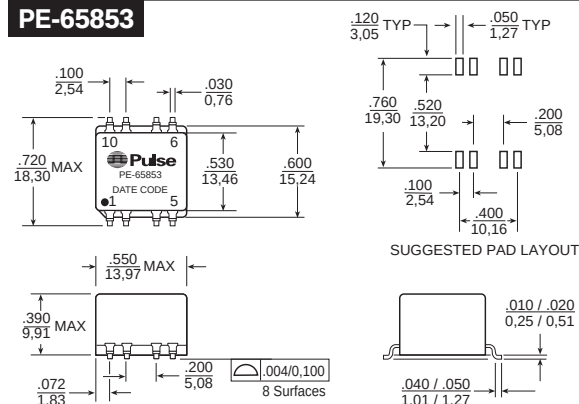
Tape & Reel 900/reel

Tube 40/tube

PE-69011



PE-65853



Dimensions: Inches
mm

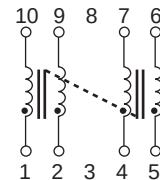
Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 4.0 grams

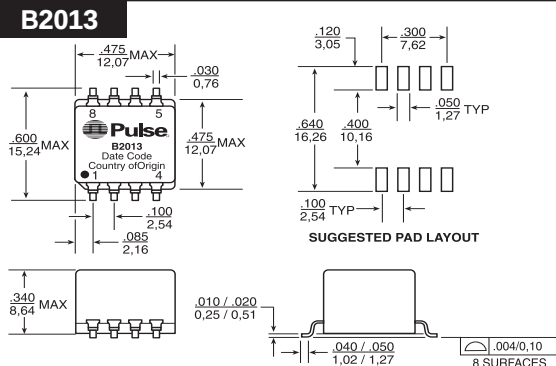
Tape & Reel 150/reel

Tube 35/tube

PE-65853



B2013



Dimensions: Inches
mm

Unless otherwise specified,
all tolerances are $\pm .010$
0,25

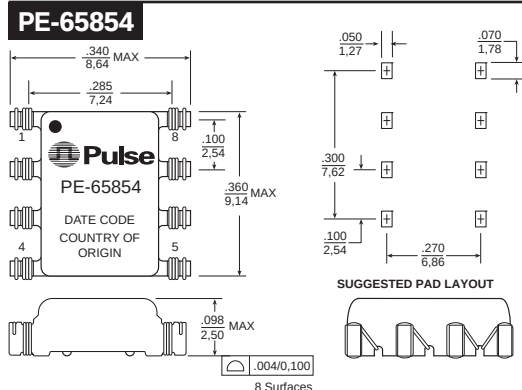
Weight 9.5 grams

Tray 30/tray

B2013



PE-65854



Dimensions: Inches
mm

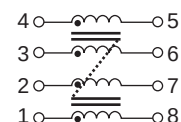
Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 0.3 grams

Tape & Reel 1500/reel

Tube 60/tube

PE-65854



SURFACE MOUNT COMMON MODE CHOKES

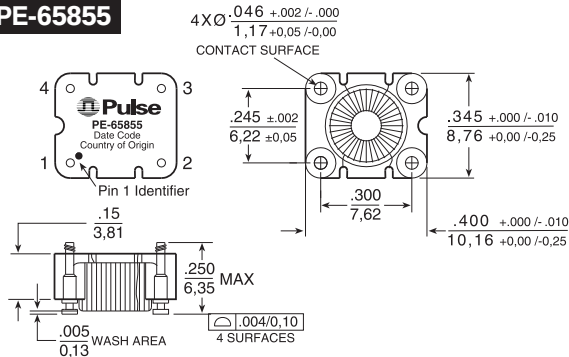
Suited for LAN and Telecom Applications



Mechanical

Schematic

PE-65855



Dimensions: Inches
mm

Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 0.69 grams

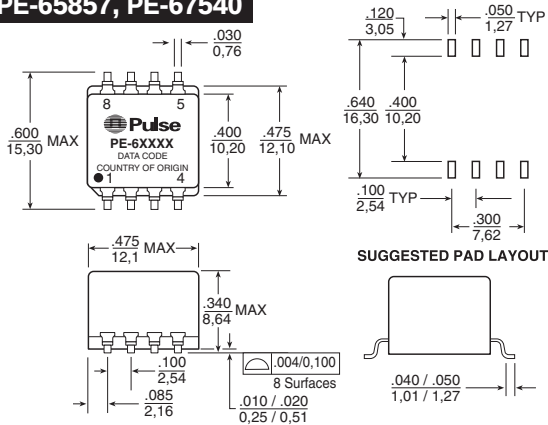
Tape & Reel 800/reel

Tube 40 /tube

PE-65855



PE-65857, PE-67540



Dimensions: Inches
mm

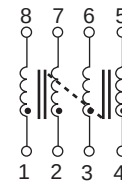
Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 2.0 grams

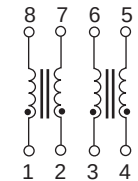
Tape & Reel 250/reel

Tube 40/tube

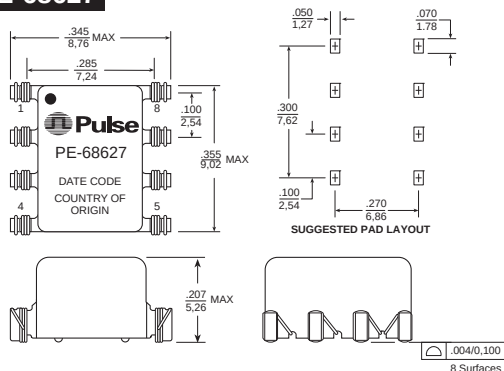
PE-65857



PE-67540



PE-68627



Dimensions: Inches
mm

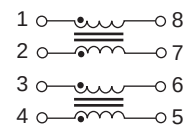
Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 0.3 grams

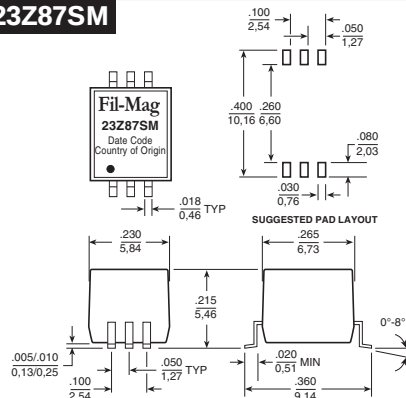
Tape & Reel 1500/reel

Tube 55/tube

PE-68627



23Z87SM



Dimensions: Inches
mm

Unless otherwise specified,
all tolerances are $\pm .005$
0,13

Weight 0.5 grams

Tape & Reel 750/reel

Tube 100/tube

23Z87SM



Mechanical



23Z104SM

Fil-Mag
23Z104SM
 Data Code
 Country of
 Origin

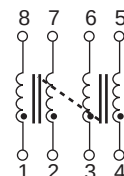
SUGGESTED PAD LAYOUT

Dimensions (inches / millimeters):

- Top view: .100 / 2.54, .050 / 1.27, .400 / 10.16, .260 / 6.60, .030 / 0.76, .080 / 2.03, .018 / 0.46 TYP, .230 / 5.84, .215 / 5.46, .050 / 1.27 TYP, .020 / 0.51 MIN, .360
- Side view: 0"-8"

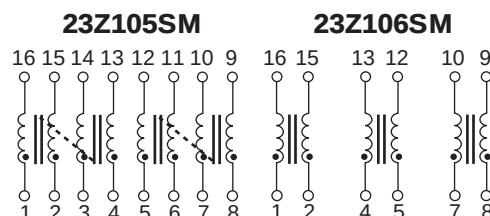
Unless otherwise specified,
all tolerances are $\pm 0,13$

23Z104SM

[illegible]

Unless otherwise specified,
all tolerances are $\pm \frac{.005}{0.13}$

23Z105SM 23Z106SM



Fil-Mag
23Z109SM
 Date Code Country of Origin

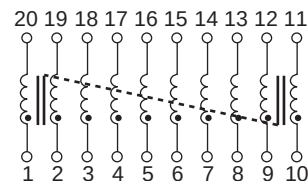
SUGGESTED PAD LAYOUT

Dimensions (inches / millimeters):

- Top View:
 - Overall Width: .600 (15.24)
 - Overall Height: .280 (7.11)
 - Pin Pitch: .050 (1.27) TYP
 - Pin Width: .018 (0.46) TYP
 - Pin Spacing: .030 (0.76)
 - Pin Height: .090 (2.29)
- Side View:
 - Overall Height: .215 (5.46)
 - Pin Height: .010 (0.25) MIN
 - Pin Spacing: .050 (1.27) TYP
 - Pin Width: .030 (0.76) MIN
 - Pin Height: .040 (10.67)
 - Pin Spacing: .450 (11.43)
- Bottom View:
 - Overall Width: .600 (15.24)
 - Overall Height: .295 (7.49)
 - Pin Pitch: .050 (1.27) TYP
 - Pin Width: .018 (0.46) TYP
 - Pin Spacing: .030 (0.76)
 - Pin Height: .090 (2.29)

Unless otherwise specified,
all tolerances are $\pm .005$
0.13

23Z109SM



Fil-Mag
23Z4000SMD
 Date Code
 Country of Origin

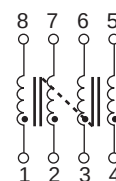
SUGGESTED PAD LAYOUT

Dimensions (inches / millimeters):

- Top View:
 - Overall Width: .600 (15.24)
 - Overall Height: .270 (6.86)
 - Pin Spacing: .300
 - Pin Width: .100 (TYP)
 - Pin Pitch: .018 (0.46 TYP)
- Side View:
 - Overall Height: .540 (13.72)
 - Top Flange Thickness: .080 (2.03)
 - Lead Thickness: .030 (0.76)
 - Lead Length: .380 (9.65)
- Suggested Pad Layout:
 - Pad Width: .395 (10.03)
 - Pad Thickness: .020 (0.51) MIN
 - Pad Spacing: .500 (12.70)
 - Lead Angle: 0°-8°

Unless otherwise specified,
all tolerances are $\pm \frac{.005}{.013}$

23Z4000SMD



SURFACE MOUNT COMMON MODE CHOKES

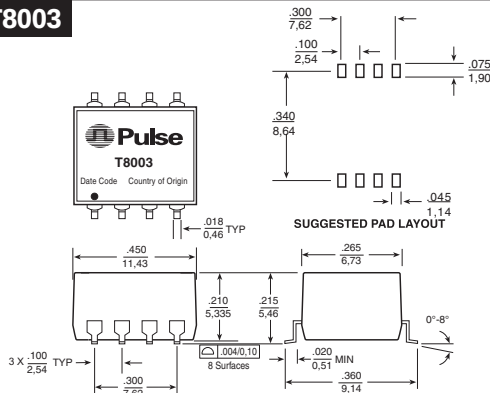
Suited for LAN and Telecom Applications



Mechanical

Schematic

T8003

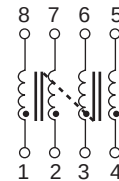


Dimensions: $\frac{\text{Inches}}{\text{mm}}$

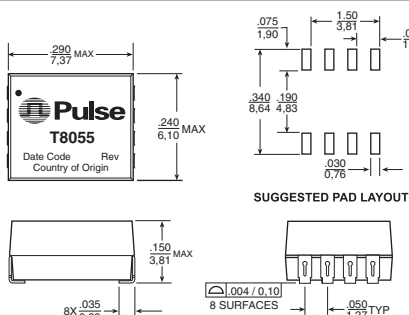
Unless otherwise specified,
all tolerances are $\pm .005$ -
 0.13

Weight 0.84 grams
Tape & Reel 750/reel
Tube 100/tube

T8003



T8055

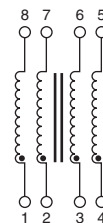


Dimensions: $\frac{\text{Inches}}{\text{mm}}$

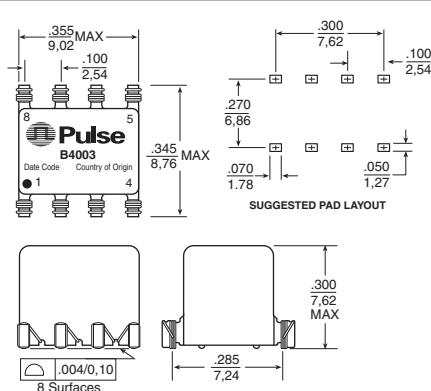
Unless otherwise specified,
all tolerances are $\pm .010$ -
 0.25

Weight 0.2 grams
Tape & Reel 1750/reel
Tube 80/tube

T8055



B4003

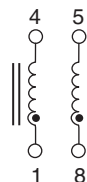


Dimensions: $\frac{\text{Inches}}{\text{mm}}$

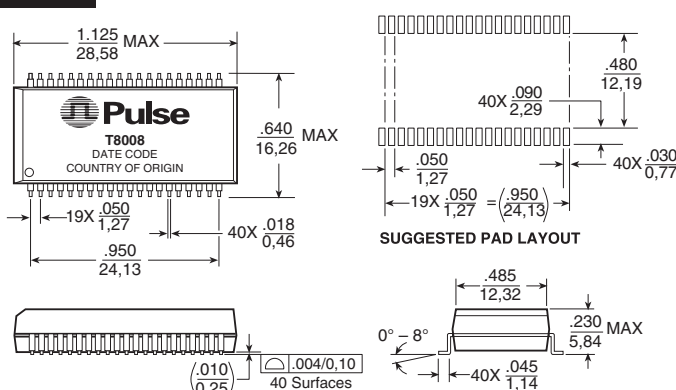
Unless otherwise specified,
all tolerances are $\pm .010$ -
 0.25

Weight 1.0 grams
Tape & Reel 425/reel
Tube 50/tube

B4003



T8008

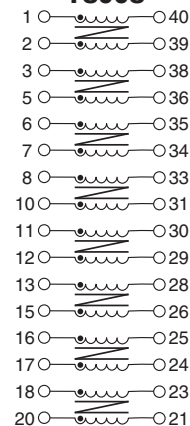


Dimensions: $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified,
all tolerances are $\pm .010$ -
 0.25

Weight 4.0 grams
Tape & Reel 250/reel
Tube 15/tube

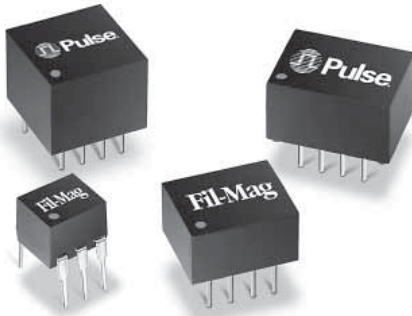
T8008



NOTE: The common mode test circuit for surface mount is the same as for through hole and is on the back page.

THROUGH HOLE COMMON MODE CHOKES

Suited for LAN and Telecom Applications



- Reduces radiated EMI emissions
- Filters common mode noise for EMI reduction
- Common mode attenuation from 100 kHz to 1 GHz
- Tube packaging available for through hole parts

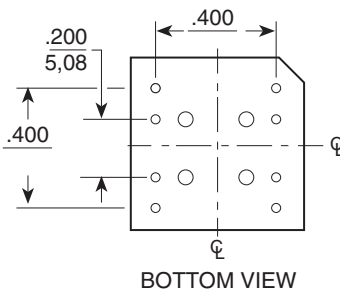
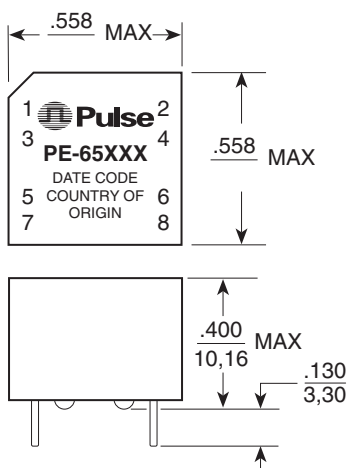
Electrical Specifications @ 25°C

Part Number	No. of Lines	Primary Inductance OCL (μH MIN)	Common Mode Attenuation (dB TYP)									DCR (Ω MAX)	Page Number Mech & Schem
			100 kHz	1 MHz	10 MHz	30 MHz	50 MHz	100 MHz	300 MHz	500 MHz	1 GHz		
PE-65944	2	24	1	14	28	32	33	28	13	5	—	0.30	8
PE-67531	2	140	14	34	45	49	50	47	38	32	25	0.60	9
B2005	2	9000	47	47	41	30	22	33	21	15	15	1.0	10
PE-65554	4	24	—	21	32	38	39	34	24	13	—	0.30	8
PE-68002	4	68	7	24	37	41	42	40	31	27	—	0.35	9
23Z104	4	85	8	23	29	29	28	25	17	11	—	0.20	10
PE-67539	4	140	14	33	44	48	48	43	33	28	19	0.60	9
PE-65542	4	1000	28	41	42	32	22	—	—	—	—	0.70	8
PT5039	4	3600	42	43	42	32	27	17	15	9	13	0.50	8
J0010D11	4	—	9	13	32	35	35	29	13	24	19	0.50	10
PE-65950	4	4700±30%	40	51	37	28	23	20	—	—	—	1.00	8
PE-65541	4	6000	44	54	33	32	29	—	—	—	—	1.40	8
PE-68613	4	3290	40	51	37	28	23	20	—	—	—	1.00	10

Mechanical

Schematic

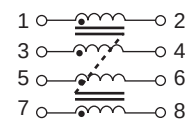
PE-65541, PE-65542, PE-65950



Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are ± .010
0,25

Weight 0.38 grams
Tube 35/tube

PE-65541 PE-65542 PE-65950



THROUGH HOLE COMMON MODE CHOKES

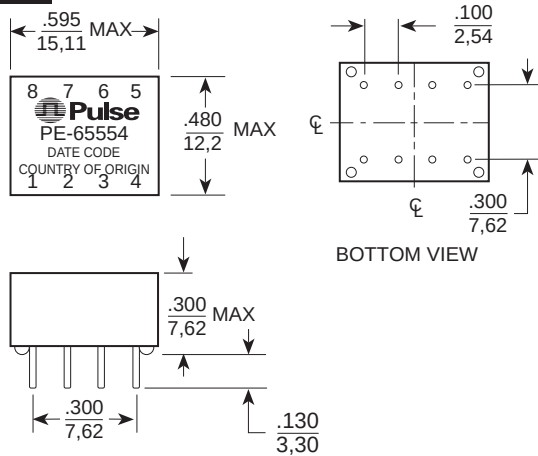
Suited for LAN and Telecom Applications



Mechanical

Schematic

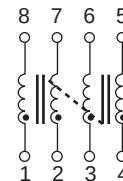
PE-65554



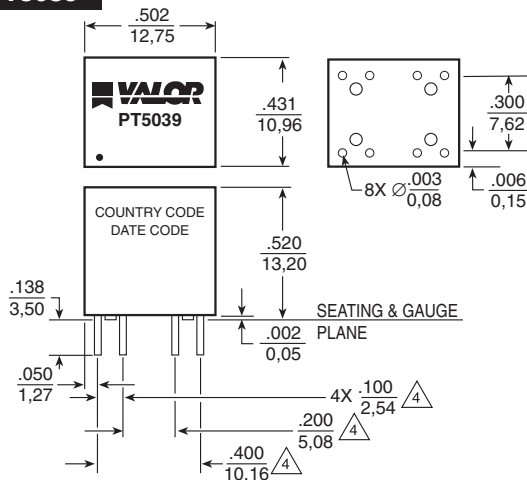
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight 2.5 grams
Tube 35/tube

PE-65554



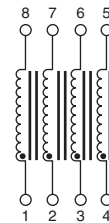
PT5039



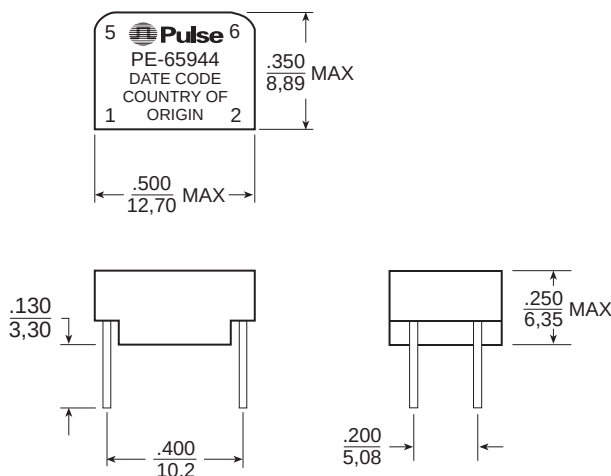
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight 2.5 grams
Tube 35/tube

PT5039



PE-65944



Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight 1.07 grams
Tube 30/tube

PE-65944



THROUGH HOLE COMMON MODE CHOKES

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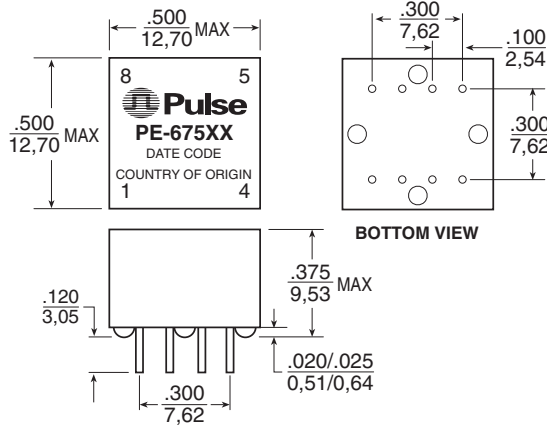


Pulse
A TECHNITROL COMPANY

Mechanical

Schematic

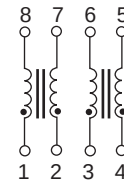
PE-67539



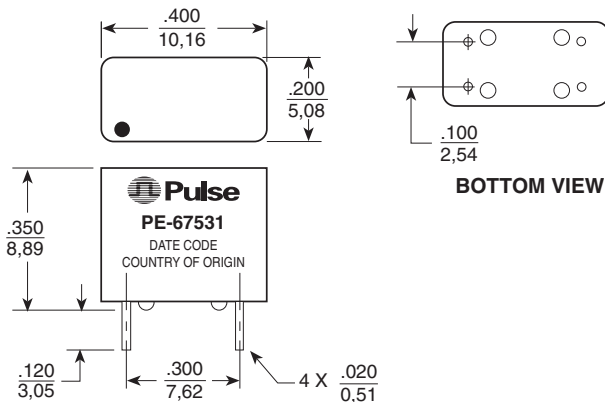
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 2.4 grams
Tube 40/tube

PE-67539



PE-67531



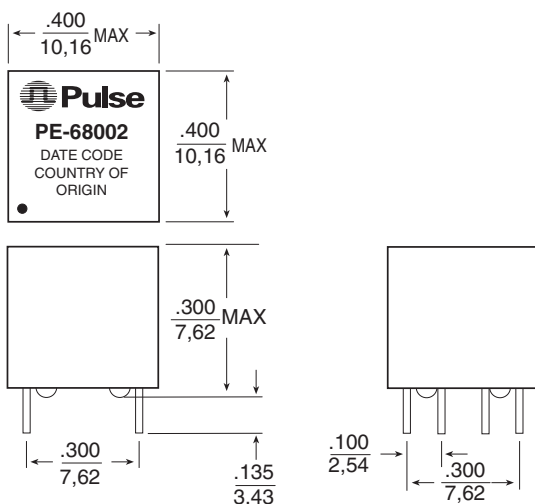
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 0.76 grams
Tube 40/tube

PE-67531



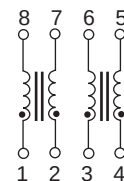
PE-68002



Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 1.4 grams
Tube 50/tube

PE-68002



THROUGH HOLE COMMON MODE CHOKES

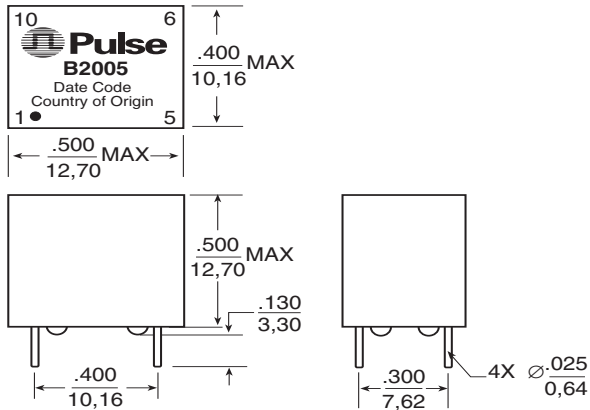
Suited for LAN and Telecom Applications



Mechanical

Schematic

B2005



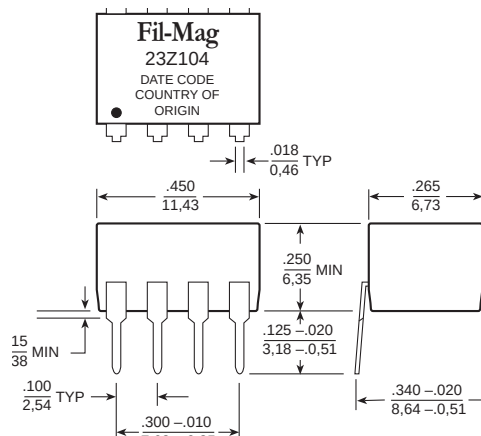
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.005}{0,13}$

Weight 3.7 grams
Tube 40/tube

B2005



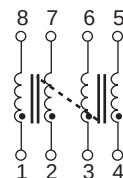
23Z104



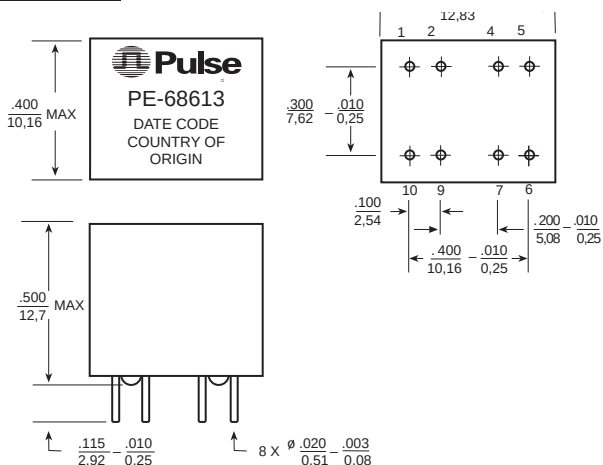
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.005}{0,13}$

Weight 1.0 grams
Tube 50/tube

23Z104



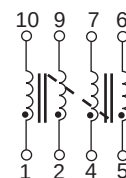
PE-68613



Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.005}{0,127}$

Weight 3.5 grams
Tube 40/tube

PE-68613

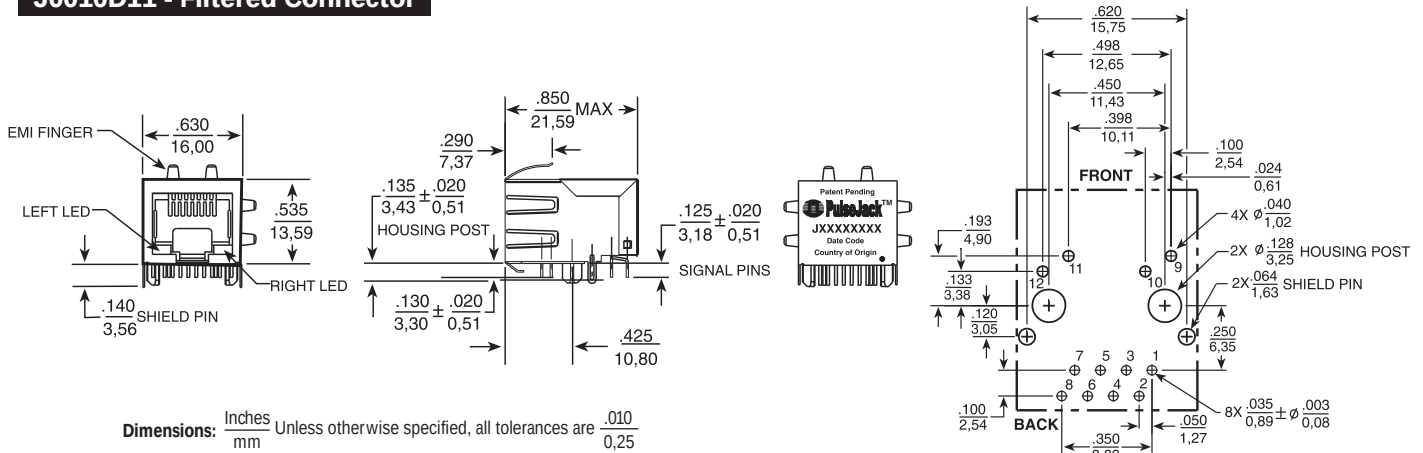


THROUGH HOLE COMMON MODE CHOKES

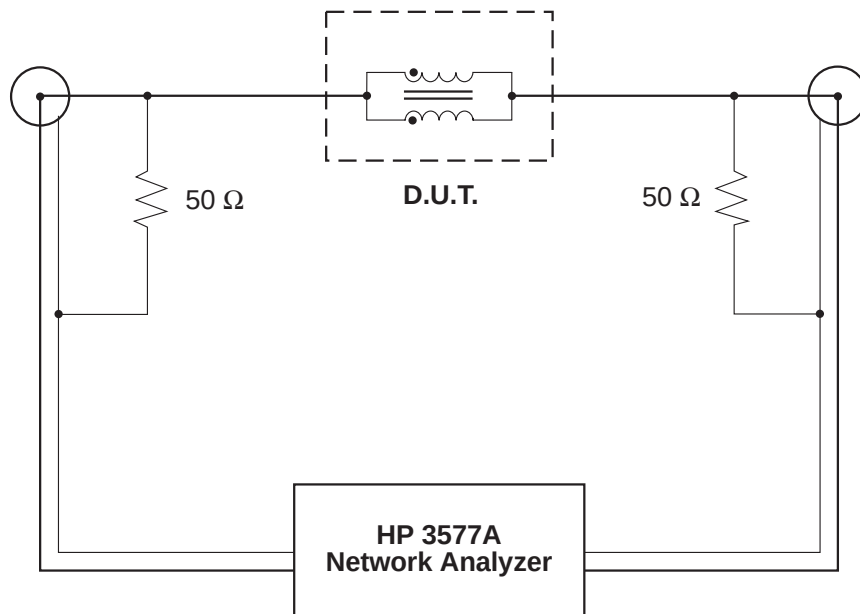
Suited for LAN and Telecom Applications



J0010D11 - Filtered Connector



Common Mode Test Circuit for Surface Mount and Through Hole



Test Notes:

1. Network analyzer calibrated to compensate for 50 Ω resistors.
2. All windings on a core are connected in parallel for the test.
3. For multi-core chokes, test data is for one core only. The windings on the other core(s) are left unconnected (i.e. open).

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