

COMMON MODE CHOKE
CATALOG
Suited for LAN and Telecom Applications



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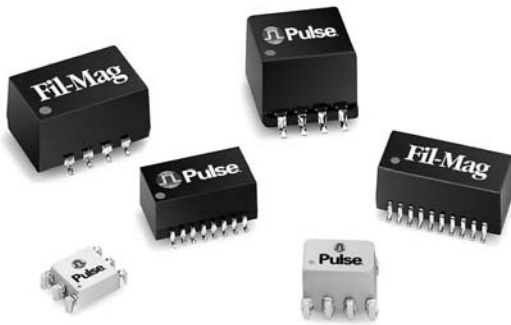
Common Mode Chokes for Datacom Applications

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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

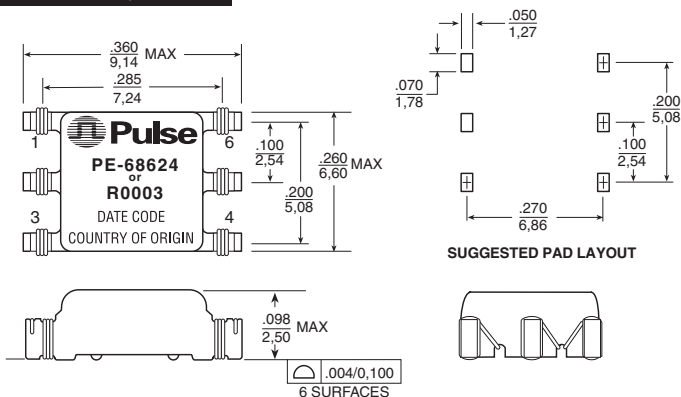
Part Number	No. of Lines	Primary Inductance OCL (μH MIN)	Common Mode Attenuation (dB TYP)									DCR (Ω MAX)	Page Number of Mech. & Schem.
			100 KHz	1 MHz	10 MHz	30 MHz	50 MHz	100 MHz	300 MHz	500 MHz	1 GHz		
PE-68624	2	47	11	27	40	44	42	36	26	17	—	0.40	2
PE-65855	2	4700	41	43	49	39	34	26	20	20	12	1.0	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
R0003	3	20	6	14	27	30	30	30	30	28	25	0.40	2
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-65738	4	37	8	21	28	28	28	27	25	22	—	0.30	3
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
PE-68602	6	21	6	19	28	34	35	36	34	29	1	0.35	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.

Mechanicals

PE-68624, R0003



Weight0.17 grams
Tape & Reel1500/reel
Tube60/tube

Schematics

R0003



Connect unused pin to logic ground for optimum performance.

PE-68624



SURFACE MOUNT COMMON MODE CHOKES

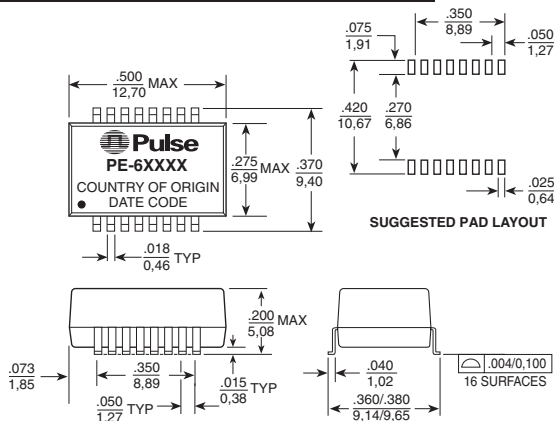
Suited for LAN and Telecom Applications



Mechanicals

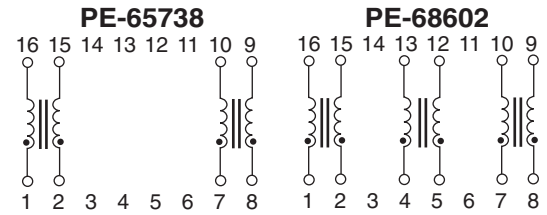
Schematics

PE-65738, PE-68602, PE-69011

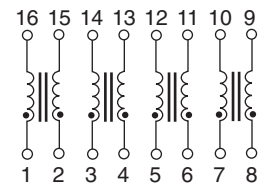


Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

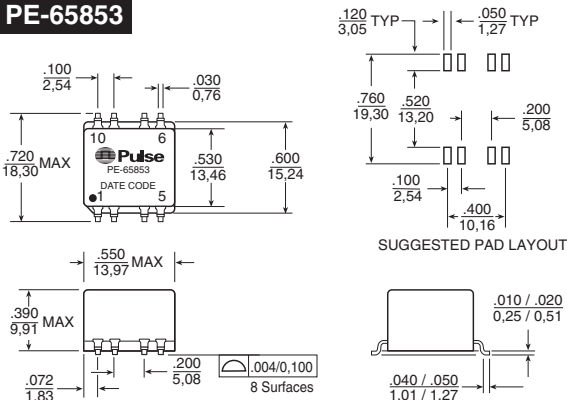
Weight0.83 grams
Tape & Reel900/reel
Tube40/tube



PE-69011



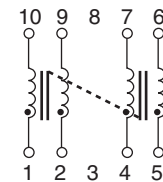
PE-65853



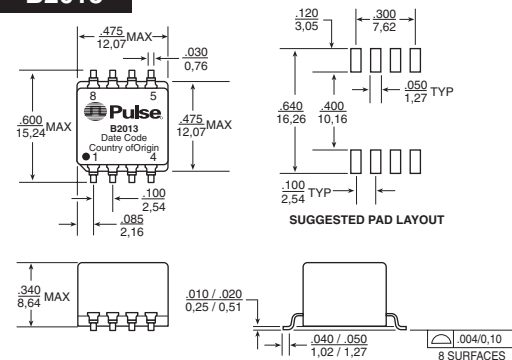
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

Weight4.0 grams
Tape & Reel150/reel
Tube35/tube

PE-65853



B2013



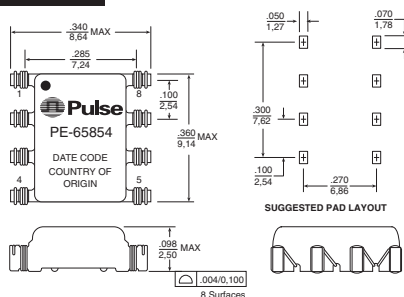
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

Weight9.5 grams
Tray30/tray

B2013



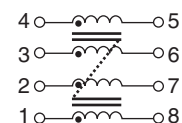
PE-65854



Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

Weight0.3 grams
Tape & Reel1500/reel
Tube60/tube

PE-65854



SURFACE MOUNT COMMON MODE CHOKES

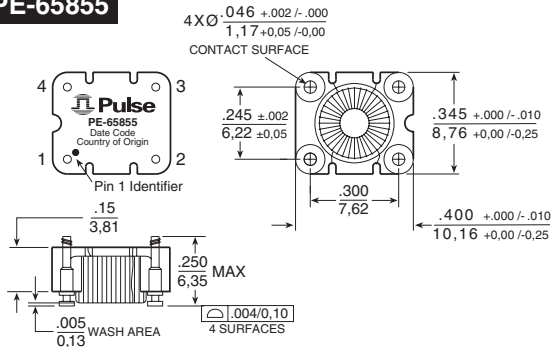
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Mechanicals

Schematics

PE-65855



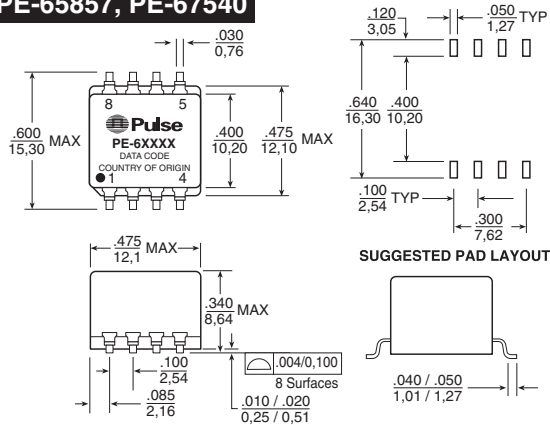
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 0.69 grams
Tape & Reel800/reel
Tube40 /tube

PE-65855



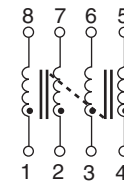
PE-65857, PE-67540



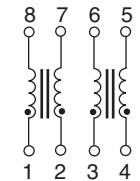
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 2.0 grams
Tape & Reel250/reel
Tube40/tube

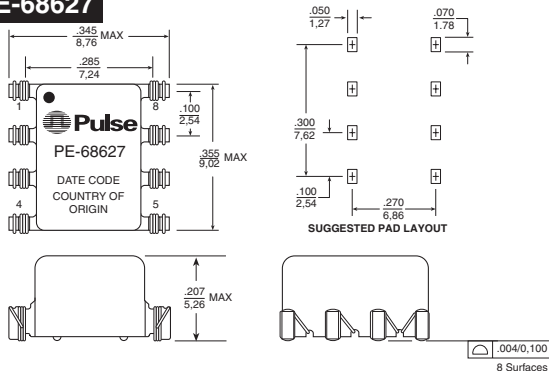
PE-65857



PE-67540



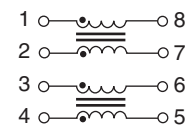
PE-68627



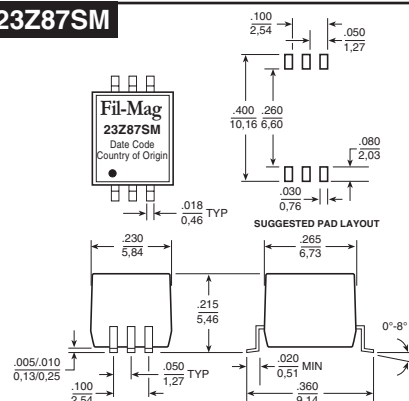
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .010$
0,25

Weight 0.3 grams
Tape & Reel1500/reel
Tube55/tube

PE-68627



23Z87SM



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

Weight 0.5 grams
Tape & Reel750/reel
Tube100/tube

23Z87SM



SURFACE MOUNT COMMON MODE CHOKES

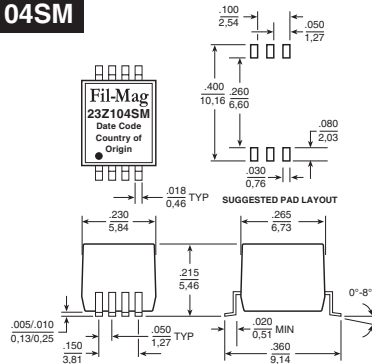
Suited for LAN and Telecom Applications



Mechanicals

Schematics

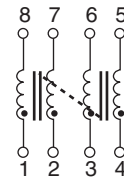
23Z104SM



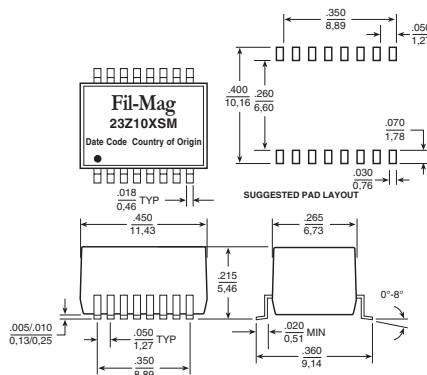
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm .005$
 $0,13$

Weight0.5 grams
Tape & Reel750/reel
Tube100/tube

23Z104SM



23Z105SM, 23Z106SM

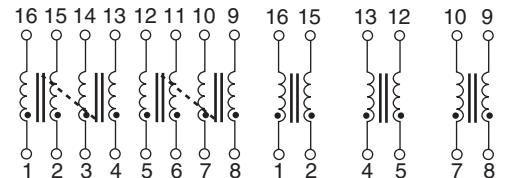


Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm .005$
 $0,13$

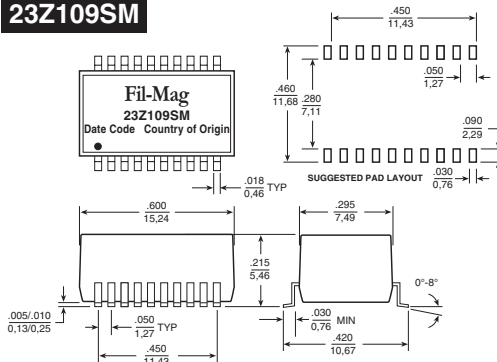
23Z105SM 23Z106SM
Weight0.8 grams1.0 grams
Tape & Reel750/reel750/reel
Tube50/tube50/tube

23Z105SM

23Z106SM



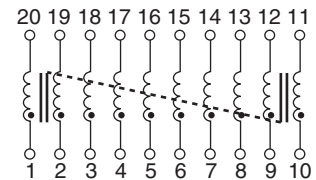
23Z109SM



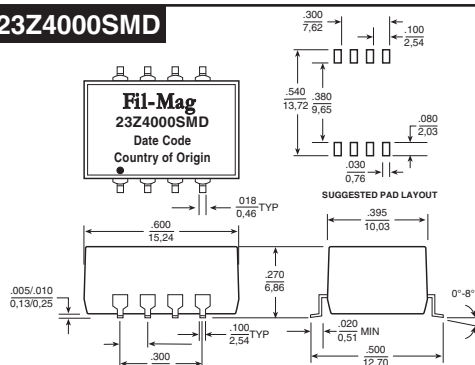
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm .005$
 $0,13$

Weight1.3 grams
Tape & Reel500/reel
Tube38/tube

23Z109SM



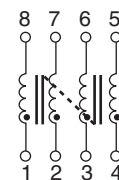
23Z4000SMD



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

Weight2.1 grams
Tape & Reel350/reel
Tube38/tube

23Z4000SMD



SURFACE MOUNT COMMON MODE CHOKES

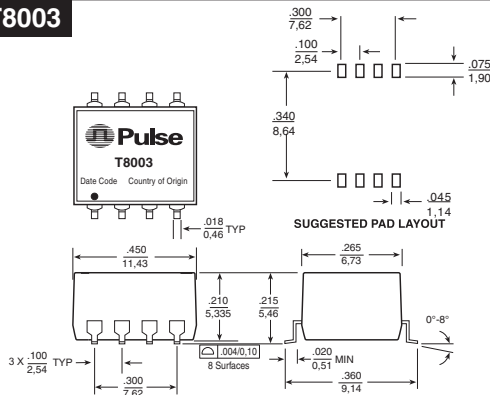
Suited for LAN and Telecom Applications



Mechanicals

Schematics

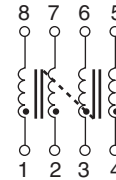
T8003



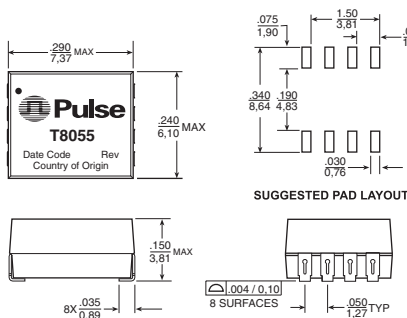
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm .005$
 $0,13$

Weight 0.84 grams
Tape & Reel750/reel
Tube 100/tube

T8003



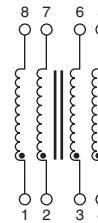
T8055



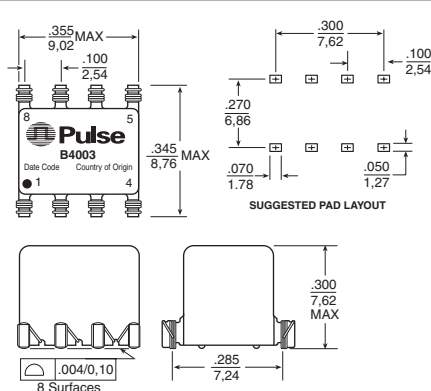
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm .010$
 $0,25$

Weight 0.2 grams
Tape & Reel1750/reel
Tube80/tube

T8055



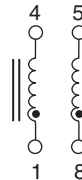
B4003



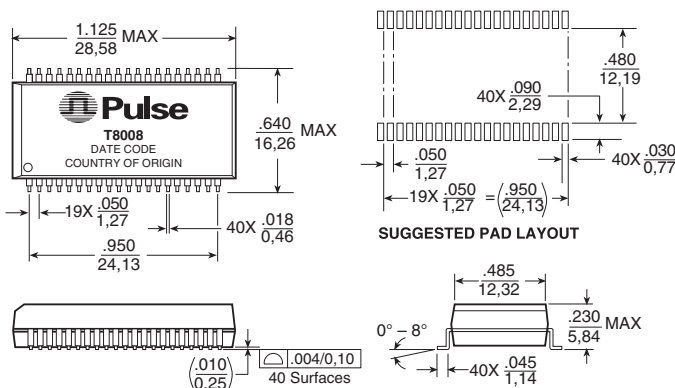
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm .010$
 $0,25$

Weight 1.0 grams
Tape & Reel425/reel
Tube50/tube

B4003



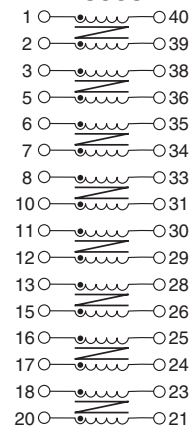
T8008



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

Weight 4.0 grams
Tape & Reel250/reel
Tube15/tube

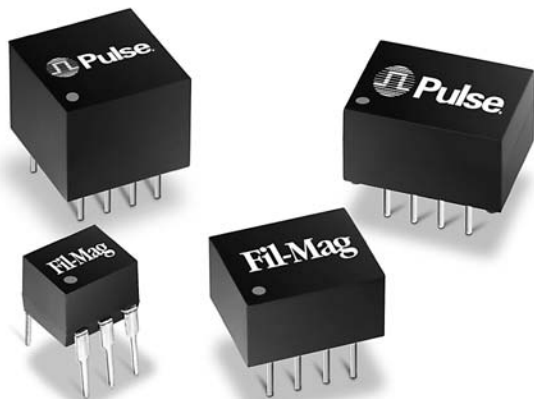
T8008



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 of 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	9
23Z107	2	68	8	25	33	32	30	27	18	12	—	0.20	10
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
42Z4000	4	36	8	24	37	40	40	38	30	24	—	0.20	10
PE-67501	4	50	14	34	45	49	50	47	20	15	10	0.30	9
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	11
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	11
PE-64683	6	25	6	18	32	38	37	32	21	17	—	0.35	8

THROUGH HOLE COMMON MODE CHOKES

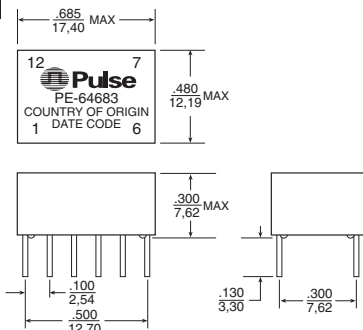
Suited for LAN and Telecom Applications



Mechanicals

Schematics

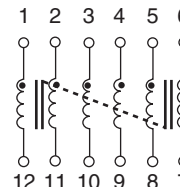
PE-64683



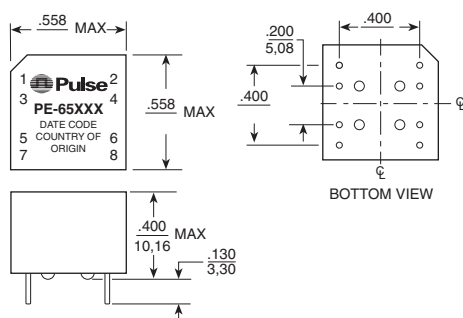
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight0.27 grams
Tube30/tube

PE-64683



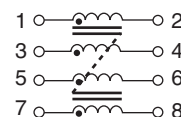
PE-65541, PE-65542, PE-65950



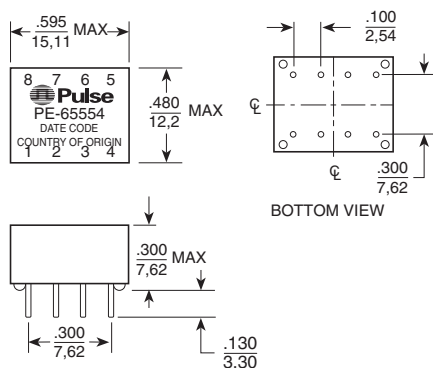
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight0.38 grams
Tube35/tube

PE-65541 PE-65542 PE-65950



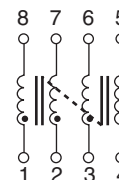
PE-65554



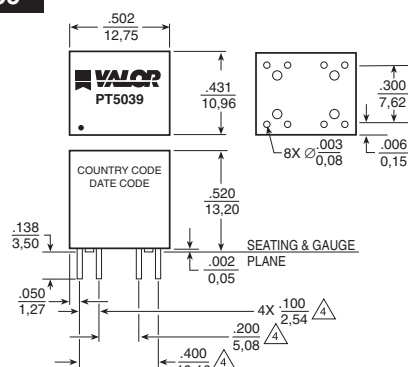
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight2.5 grams
Tube35/tube

PE-65554



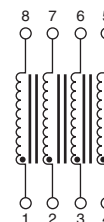
PT5039



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

Weight2.5 grams
Tube35/tube

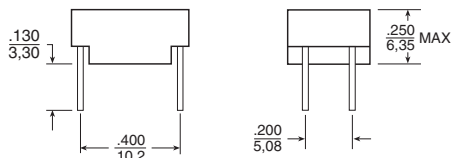
PT5039



Schematics

Diagram of a Pulse PE-65944 label with dimensions:

- Label text: 5 Pulse 6
PE-65944
DATE CODE
COUNTRY OF
ORIGIN 1 2
- Vertical dimensions: .350 MAX (top), 8,89 (bottom)
- Horizontal dimensions: .500 MAX (left), 12,70 (right)



Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

Tube30/tube

Top View: The package is rectangular with overall dimensions of .500" (12.70 mm) MAX in width and .500" (12.70 mm) MAX in height. The top edge features a notch on the left (pin 8) and a bump on the right (pin 5). The front edge has pins 1 and 4. The package is labeled with the Pulse logo, part number PE-675XX, date code, and country of origin.

Bottom View: Shows the underside of the package with dimensions .300" (7.62 mm) in width and .100" (2.54 mm) in height. It features four circular mounting holes. The label "BOTTOM VIEW" is centered below the drawing.

Side View: Shows the package profile with a maximum height of .375" (9.53 mm). The base has a thickness of .120" (3.05 mm). The mounting pins have a diameter of .020" / .025" (0.51 / 0.64 mm) and a pitch of .300" (7.62 mm).

Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

Tube40/tube

The drawing shows two views of the PE-67531 component. The top view is a rectangle with a width of .400 (10,16 mm) and a height of .200 (5,08 mm). A small circle is located in the bottom-left corner. The bottom view shows the component's base with a width of .350 (8,89 mm) and a height of .120 (3,05 mm). It features four mounting holes, each with a diameter of .020 (0,51 mm), spaced .300 (7,62 mm) apart. The component is labeled with the Pulse logo, part number PE-67531, date code, and country of origin.

Top View Dimensions:

- Width: .400 (10,16 mm)
- Height: .200 (5,08 mm)

Bottom View Dimensions:

- Width: .350 (8,89 mm)
- Height: .120 (3,05 mm)
- Mounting Hole Diameter: 4 X .020 (0,51 mm)
- Mounting Hole Spacing: .300 (7,62 mm)

Component Label:

Pulse
PE-67531
DATE CODE
COUNTRY OF ORIGIN

Bottom View Label:

BOTTOM VIEW

Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

Tube40/tube

Technical drawing of the Pulse PE-68002 date code label. The label is rectangular with a black border. It features the Pulse logo (a stylized 'P' with a globe) and the text 'PE-68002', 'DATE CODE', and 'COUNTRY OF ORIGIN'. A small black dot is located at the bottom left corner of the label. The label is mounted on a white surface with two screws. Dimensions are indicated with arrows and text: the label width is .400 MAX (10,16); the label height is .400 MAX (10,16); the distance between the screws is .300 (7,62); the distance from the left edge of the label to the left screw is .135 (3,43); and the distance from the right edge of the label to the right screw is .135 (3,43).

Unless otherwise specified,
all tolerances are $\pm \frac{.010}{.025}$

Tube50/tube

THROUGH HOLE COMMON MODE CHOKES

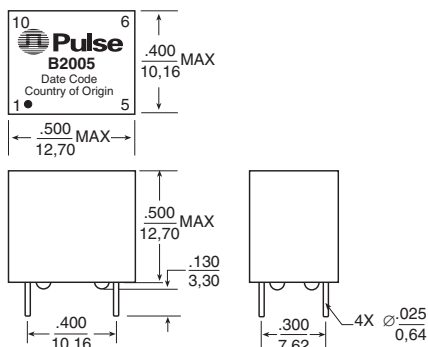
Suited for LAN and Telecom Applications



Mechanicals

Schematics

B2005



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

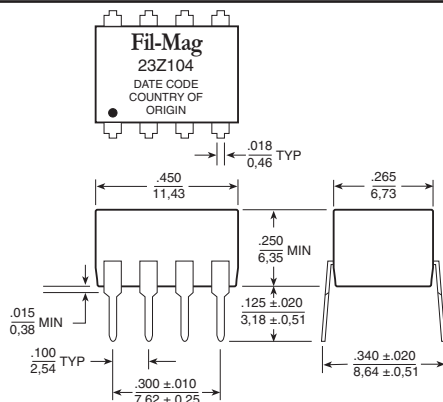
Unless otherwise specified,
all tolerances are $\pm \frac{.005}{0,13}$

Weight 3.7 grams

Tube 40/tube



23Z104



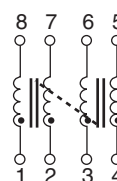
Dimensions: $\frac{\text{Inches}}{\text{mm}}$

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

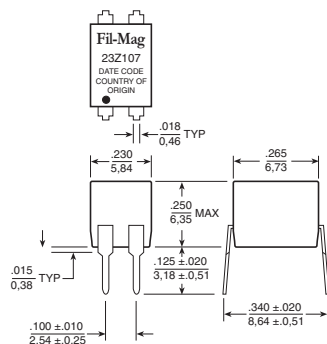
Weight 1.0 grams

Tube 50/tube

23Z104



23Z107



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

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

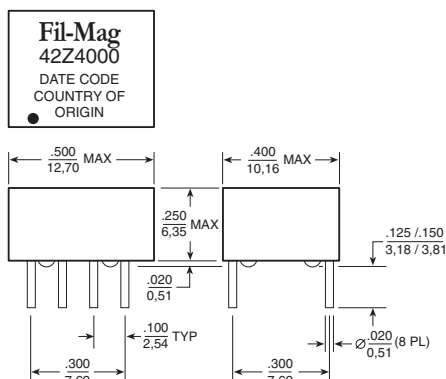
Weight 0.45 grams

Tube 100/tube

23Z107



42Z4000



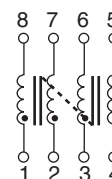
Dimensions: $\frac{\text{Inches}}{\text{mm}}$

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

Weight 1.5 grams

Tube 47/tube

42Z4000



Schematics

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

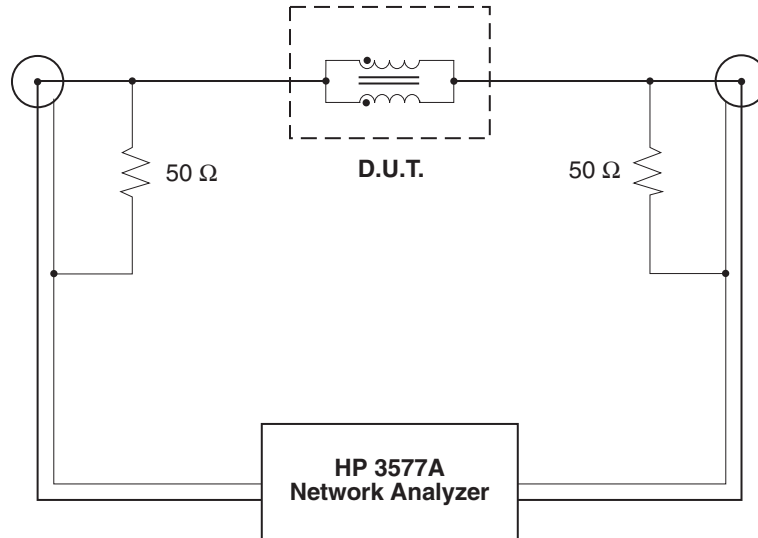
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{.25}$

THROUGH HOLE COMMON MODE CHOKES

Suited for LAN and Telecom Applications



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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