





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

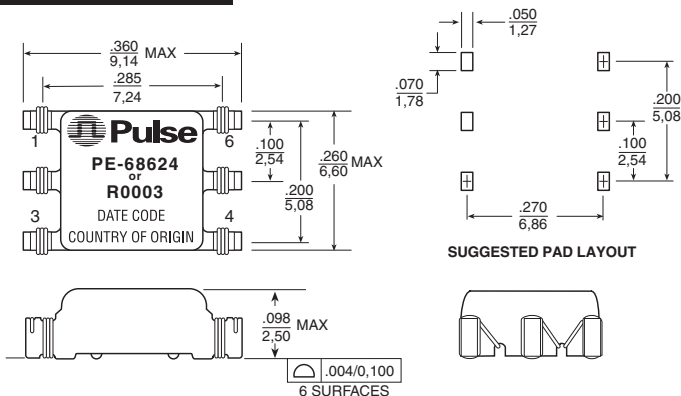
| Part Number | No. of Lines | Primary Inductance OCL (μH MIN) | Common Mode Attenuation (dB TYP) | | | | | | | | DCR (Ω MAX) | Page Number of Mech. & Schem. | |
|-------------|--------------|---------------------------------|----------------------------------|-------|--------|--------|--------|---------|---------|---------|-------------|-------------------------------|-------|
| | | | 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 | 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 |
| 23Z875SM | 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



Schematics

R0003



Connect unused pin to logic ground for optimum performance.

PE-68624



SURFACE MOUNT COMMON MODE CHOKES

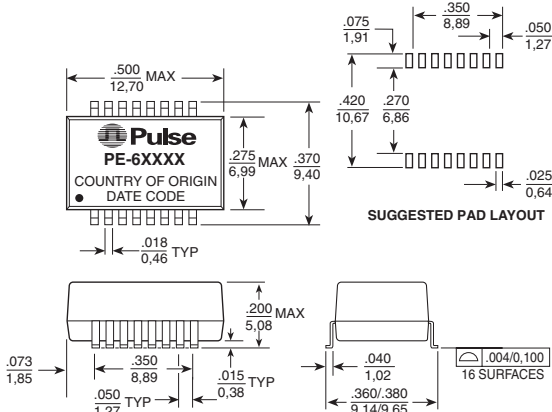
Suited for LAN and Telecom Applications



Mechanicals

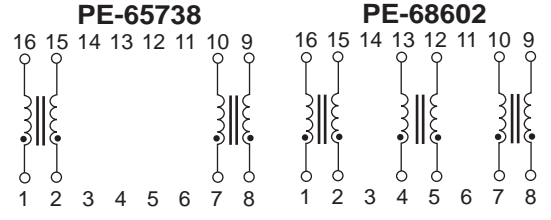
Schematics

PE-65738, PE-68602, PE-69011

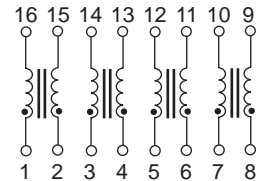


Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

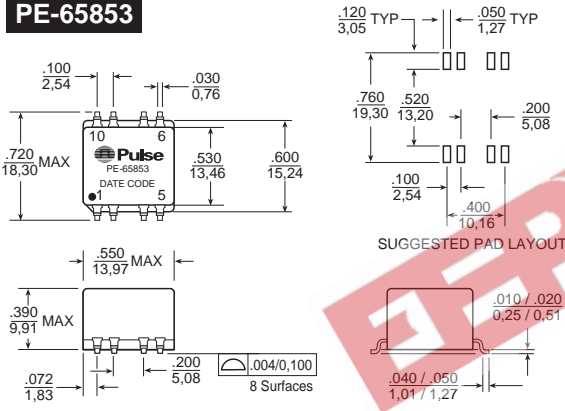
Weight 0.83 grams
Tape & Reel 900/reel
Tube 40/tube



PE-69011



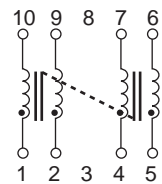
PE-65853



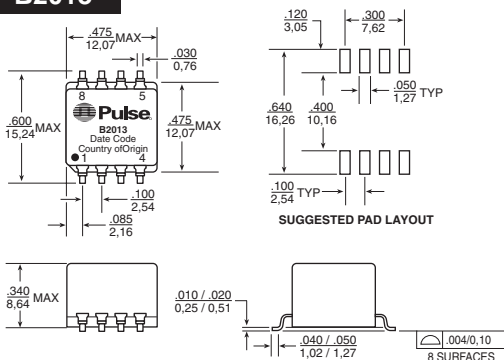
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Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

Weight 4.0 grams
Tape & Reel 150/reel
Tube 35/tube

PE-65853



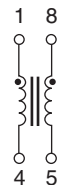
B2013



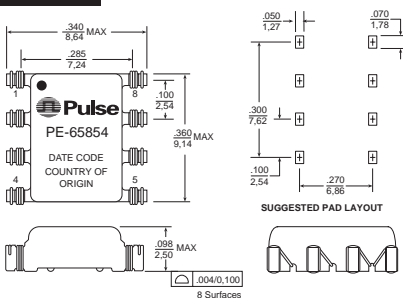
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

Weight 9.5 grams
Tray 30/tray

B2013



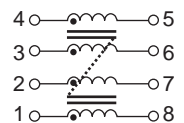
PE-65854



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

Weight 0.3 grams
Tape & Reel 1500/reel
Tube 60/tube

PE-65854



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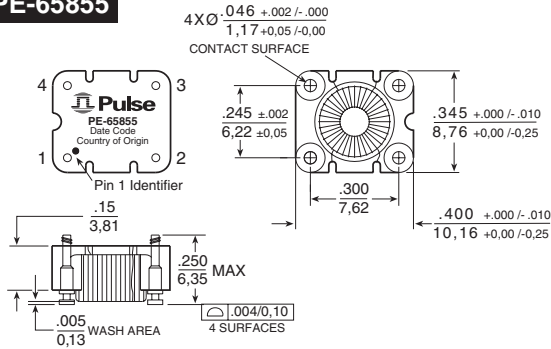


Pulse
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Mechanicals

Schematics

PE-65855



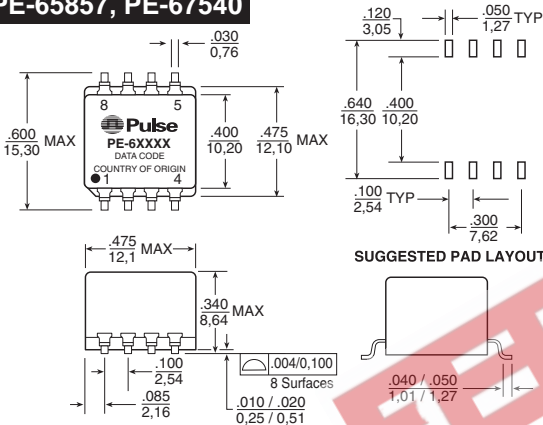
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified,
 all tolerances are $\pm .010$
 0.25

Weight 0.69 grams
Tape & Reel 800/reel
Tube40 /tube

PE-65855



PE-65857, PE-67540

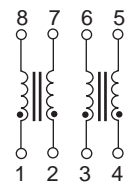
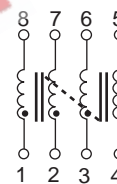


Dimensions: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified,
 all tolerances are $\pm .010$
 0.25

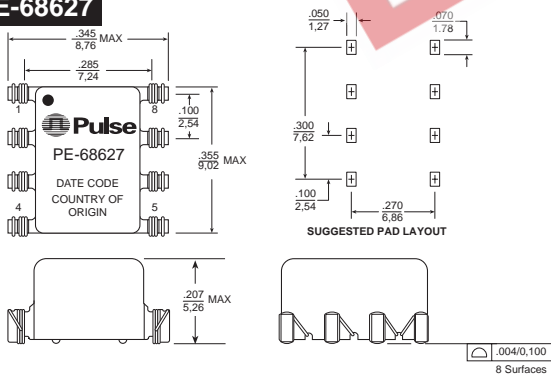
Weight 2.0 grams
Tape & Reel250/reel
Tube40/tube

PE-65857

PE-67540



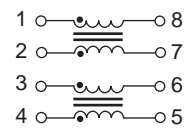
PE-68627



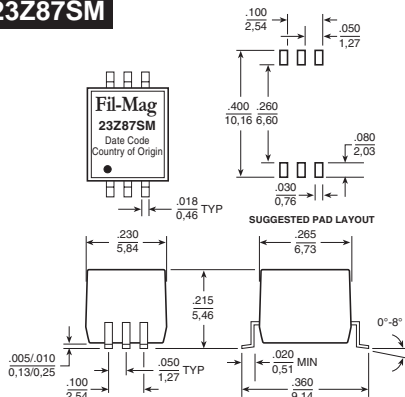
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified,
 all tolerances are $\pm .010$
 0.25

Weight 0.3 grams
Tape & Reel1500/reel
Tube55/tube

PE-68627



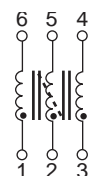
23Z87SM



Dimensions: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified,
 all tolerances are $\pm .005$
 0.13

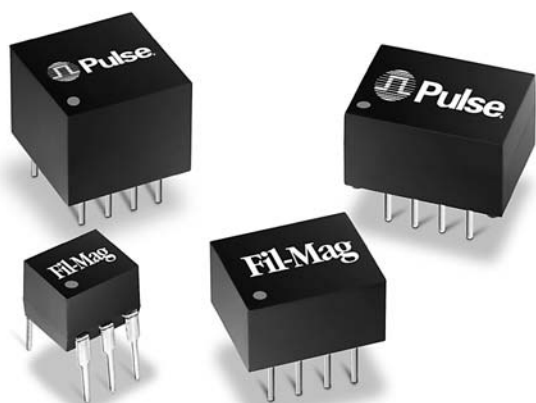
Weight 0.5 grams
Tape & Reel750/reel
Tube100/tube

23Z87SM



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- Ⓢ 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 | 11 | |
| 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 | |
| 23Z87 | 3 | 69 | 8 | 22 | 29 | 29 | 28 | 26 | 20 | 15 | — | 0.20 | 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 | 11 | |
| 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 | 12 | |
| 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 | |
| 23Z106 | 6 | 85 | 8 | 23 | 30 | 29 | 28 | 27 | 21 | 15 | — | 0.20 | 10 | |

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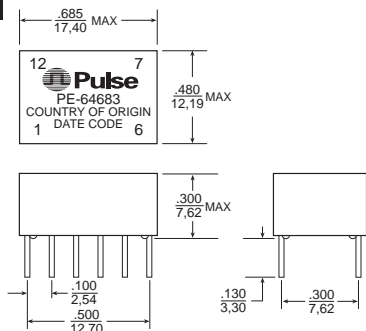


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Mechanicals

Schematics

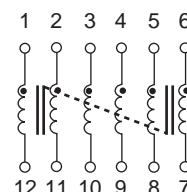
PE-64683



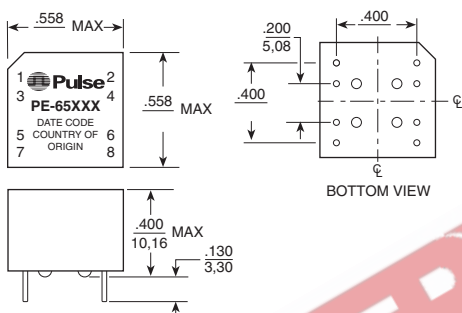
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight0.27 grams
Tube30/tube

PE-64683



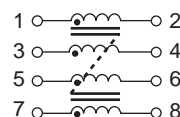
PE-65541, PE-65542, PE-65950



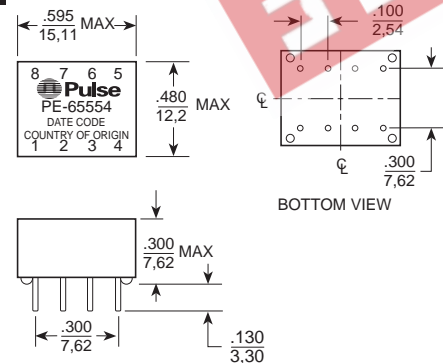
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight0.38 grams
Tube35/tube

PE-65541 PE-65542 PE-65950



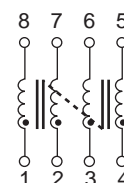
PE-65554



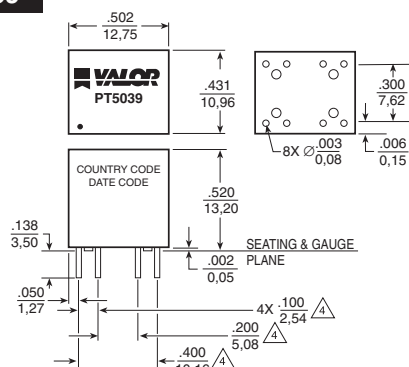
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

Weight2.5 grams
Tube35/tube

PE-65554



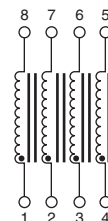
PT5039



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

Weight2.5 grams
Tube35/tube

PT5039



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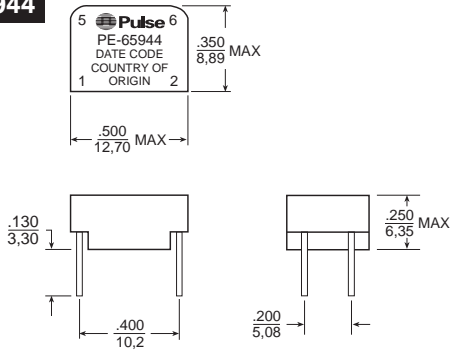


Pulse
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Mechanicals

Schematics

PE-65944



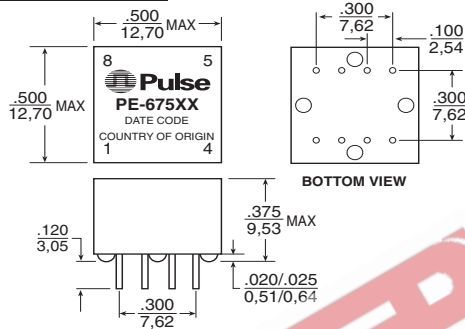
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

PE-65944



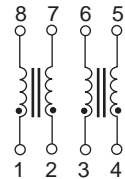
Weight1.07 grams
Tube30/tube

PE-67501, PE-67539



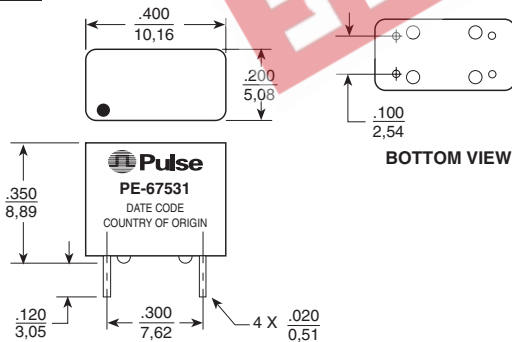
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

PE-67501 PE-67539



Weight2.4 grams
Tube40/tube

PE-67531



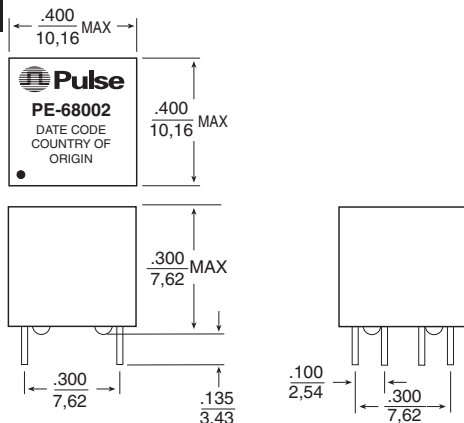
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0,25}$

PE-67531



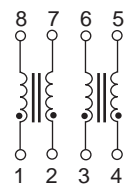
Weight0.76 grams
Tube40/tube

PE-68002



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

PE-68002



Weight1.4 grams
Tube50/tube

THROUGH HOLE COMMON MODE CHOKES

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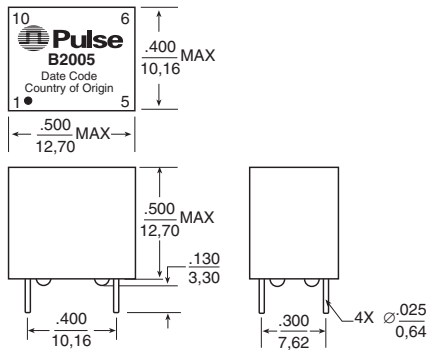


Pulse
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Mechanicals

Schematics

B2005

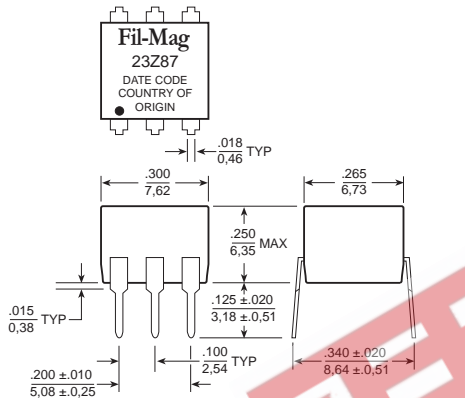


Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .005$
0,13

Weight3.7 grams
Tube40/tube



23Z87



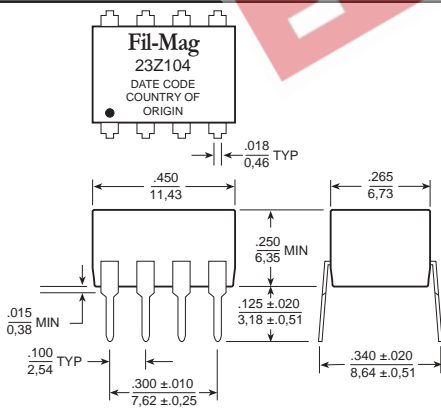
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .005$
0,13

Weight0.7 grams
Tube76/tube

23Z87



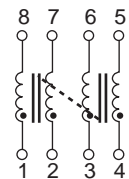
23Z104



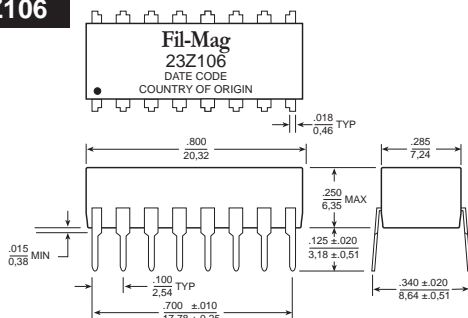
Dimensions: Inches
mm
Unless otherwise specified,
all tolerances are $\pm .005$
0,13

Weight1.0 grams
Tube50/tube

23Z104



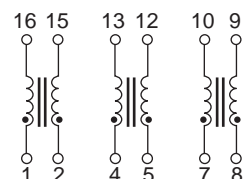
23Z106



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

Weight1.9 grams
Tube28/tube

23Z106



THROUGH HOLE COMMON MODE CHOKES

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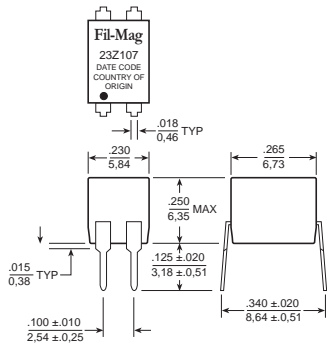


Pulse
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Mechanicals

Schematics

23Z107



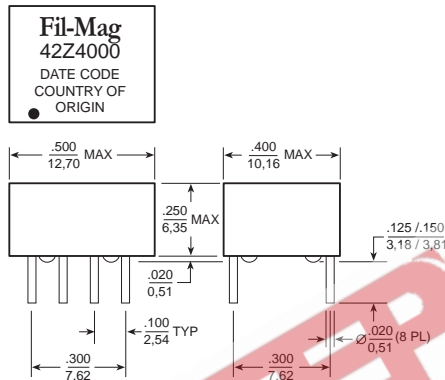
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified,
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Weight0.45 grams
 Tube100/tube

23Z107



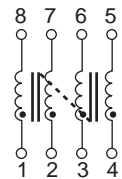
42Z4000



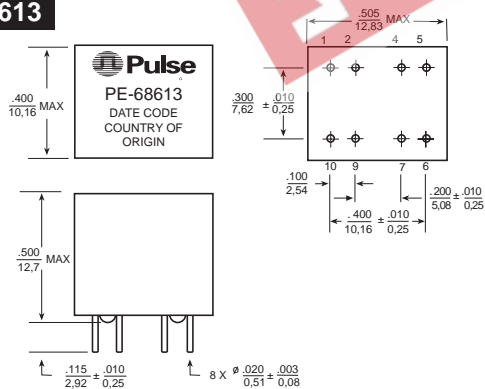
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified,
 all tolerances are $\pm \frac{.010}{0,25}$

Weight1.5 grams
 Tube47/tube

42Z4000



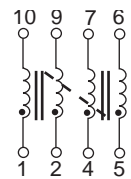
PE-68613



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

Weight3.5 grams
 Tube40/tube

PE-68613



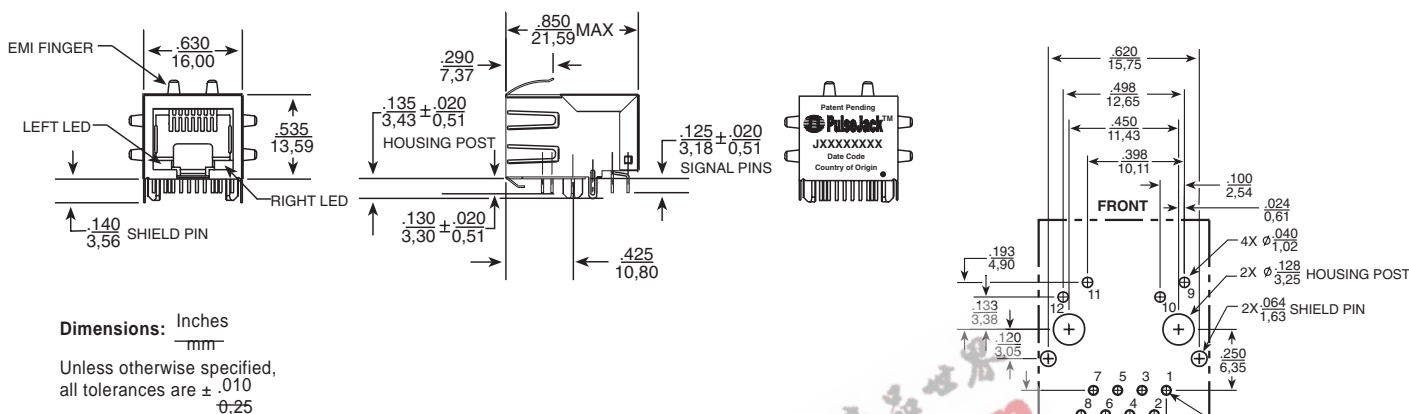
THROUGH HOLE COMMON MODE CHOKES

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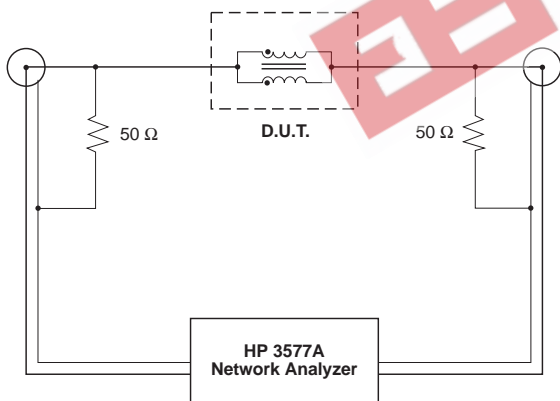


Mechanical

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).

For More Information :

| UNITED STATES (Worldwide) | UNITED KINGDOM (Northern Europe) | FRANCE (Southern Europe) | SINGAPORE (Southern Asia) | TAIWAN, R.O.C. (Northern Asia) | HONG KONG (China/Hong Kong) | DISTRIBUTOR |
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