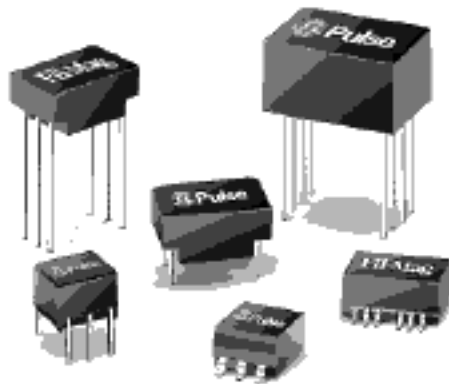






GENERAL PURPOSE TRANSFORMERS

2 Watt Pulse, Electrostatically Shielded, 500 mW Pulse, RF Pulse, and Control Transformers



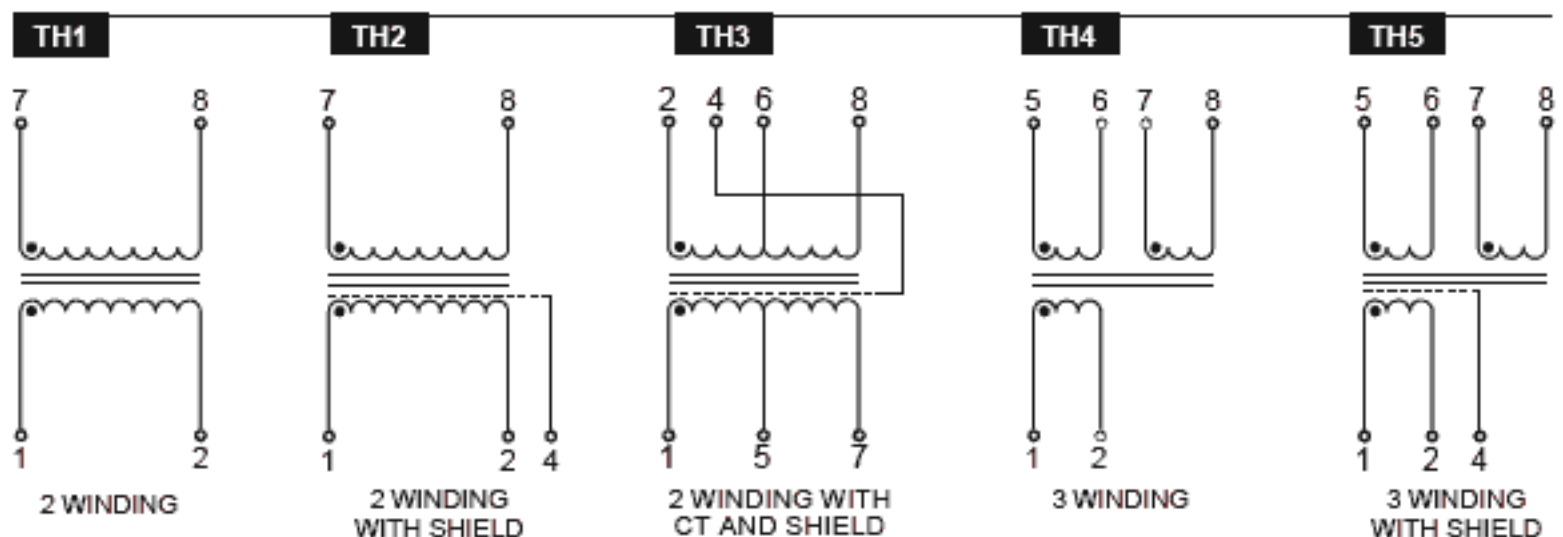
-  Wide range of inductors and turns ratios
-  Suitable for a variety of applications
-  High flux density capability
-  Available in through hole and surface mount packages

Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

| Part Number | Turns Ratio (±5%) | Primary Sine Wave OCL (mH MIN) | Primary ET-Constant (V-µs MIN) | Rise Time (ns MAX) | PRIVSEC* C _{WV} (pF MAX) | Leakage Inductance PRIVSEC (µH MAX) | DCR Primary (Ω MAX) | DCR Secondary (Ω MAX) | DCR Tertiary (Ω MAX) | Hi-Pot (Vrms) | Schematic/Package Style |
|--|-------------------|--------------------------------|--------------------------------|--------------------|-----------------------------------|-------------------------------------|---------------------|-----------------------|----------------------|---------------|-------------------------|
| 2 WATT PULSE TRANSFORMERS | | | | | | | | | | | |
| PE-2227X | 1:1 | 0.5 | 46 | 8 | 26 | 1.7 | 1.3 | 1.4 | — | 700 | TH1 |
| PE-2228X | 1:1 | 1.3 | 84 | 30 | 40 | 3.0 | 3.6 | 3.8 | — | 700 | TH1 |
| PE-2243X | 1:1 | 20.0 | 250 | 80 | 87 | 10.5 | 27.0 | 28.0 | — | 700 | TH1 |
| PE-4290X | 1:2 | 1.0 | 70 | 50 | 36 | 2.2 | 1.4 | 3.1 | — | 700 | TH1 |
| PE-2229X | 1:1:1 | 1.3 | 91 | 30 | 38 | 3.2 | 3.6 | 3.8 | 3.9 | 700 | TH4 |
| PE-2231X | 1:1:1 | 5.0 | 196 | 70 | 35 | 13.0 | 8.8 | 9.6 | 11.0 | 700 | TH4 |
| PE-2671X | 4:1:4 | 0.2 | 53 | 50 | 17 | 5.7 | 1.2 | 0.2 | 1.3 | 700 | TH4 |
| ELECTROSTATICALLY SHIELDED TRANSFORMERS | | | | | | | | | | | |
| PE-5154X | 1:1 | 0.2 | 91 | 17 | 2.7 | 3.1 | 1.6 | 1.6 | — | 700 | TH2 |
| PE-5156X | 1:1 | 1.2 | 77 | 19 | 4.1 | 2.8 | 1.1 | 1.1 | — | 700 | TH2 |
| PE-5160X | 1:1 | 10.0 | 224 | 200 | 4.5 | 22.0 | 11.0 | 11.0 | — | 700 | TH2 |
| PE-5159X | 1:1:1 | 1.0 | 77 | 19 | 5.6 | 3.1 | 1.1 | 1.1 | 1.2 | 700 | TH5 |
| PE-5158X | 1CT:1CT | 1.0 | 77 | 21 | 3.2 | 2.5 | 1.8 | 1.8 | — | 700 | TH3 |
| PE-5163X | 1CT:1CT | 10.0 | 252 | 60 | 2.5 | 16.7 | 14.0 | 14.0 | — | 700 | TH3 |

*NOTE: for Electrostatically Shielded Transformers, C_{WV} is measured with shield corrected to guard voltage.

Schematics



GENERAL PURPOSE TRANSFORMERS

500 mW Pulse

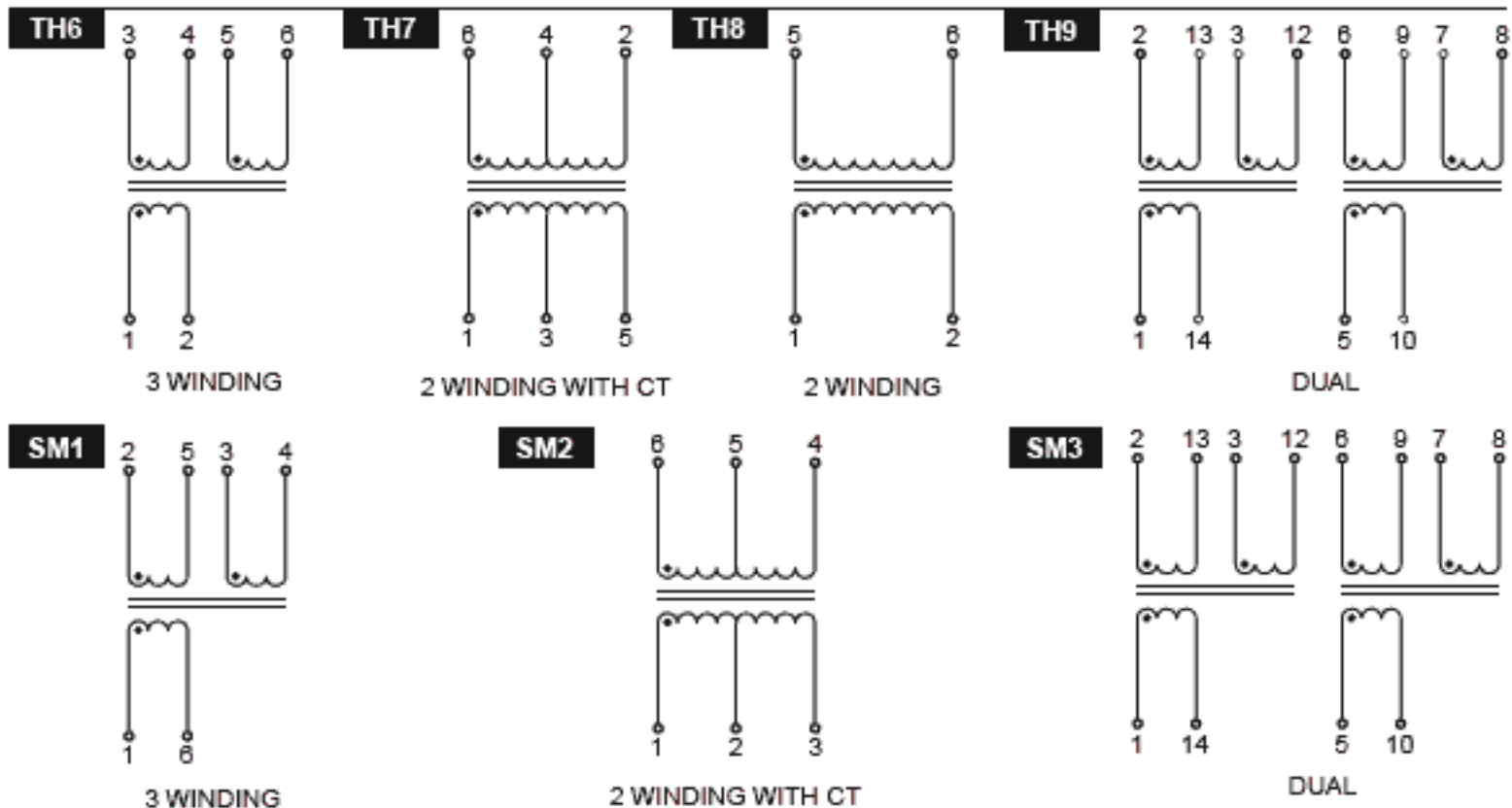


Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

| Part Number | Turns Ratio (±5%) | Primary Sine Wave OCL (mH MIN) | Primary ET-Constant (V-μs MIN) | Rise Time (ns MAX) | PRI/SEC C _{ww} (pF MAX) | Leakage Inductance PRI/SEC (μH MAX) | DCR Primary (Ω MAX) | DCR Secondary (Ω MAX) | DCR Tertiary (Ω MAX) | Hi Pot Vrms | Schematic Package Style |
|----------------------------------|-------------------|--------------------------------|--------------------------------|--------------------|----------------------------------|-------------------------------------|---------------------|-----------------------|----------------------|-------------|-------------------------|
| 500 mW PULSE TRANSFORMERS | | | | | | | | | | | |
| PE-5760 | 1:1:1 | 5.0 | 25.0 | 10.5 | 70 | 1.3 | 3.9 | 3.9 | 3.9 | 500 | TH6 |
| PE-5761 | 1:1:1 | 2.0 | 16.0 | 8.2 | 37 | 0.8 | 2.5 | 2.5 | 2.5 | 500 | TH6 |
| PE-5762 | 1:1:1 | 0.5 | 8.5 | 5.3 | 32 | 0.4 | 1.3 | 1.3 | 1.3 | 500 | TH6 |
| PE-5763 | 1:1:1 | 0.2 | 5.0 | 4.2 | 18 | 0.3 | 0.9 | 0.9 | 0.9 | 500 | TH6 |
| PE-5764 | 1:1:1 | 0.05 | 5.2 | 5.6 | 18 | 0.5 | 1.3 | 1.3 | 1.3 | 500 | TH6 |
| PE-5769 | 2:1:1 | 0.5 | 8.5 | 5.6 | 11 | 1.1 | 1.3 | 0.7 | 0.7 | 500 | TH6 |
| PE-8270 | 1CT:1CT | 2.0 | 16.0 | — | 37 | 0.8 | 2.5 | 2.5 | — | 700 | TH7 |
| PE-8271 | 1CT:1CT | 0.5 | 8.5 | — | 32 | 0.4 | 1.3 | 1.3 | — | 500 | TH7 |
| PE-8272 | 1CT:1CT | 0.2 | 5.0 | 4.2 | 18 | 0.3 | 0.9 | 0.9 | — | 700 | TH7 |
| PE-8276 | 2CT:1CT | 2.0 | 16.0 | — | 19 | 1.8 | 2.5 | 1.4 | — | 500 | TH7 |
| PE-8277 | 2CT:1CT | 0.5 | 8.5 | — | 12 | 1.2 | 1.4 | 0.8 | — | 700 | TH7 |
| PE-65502 | 1.25:1 | 1.2 | 10.0 | 10.0 | 35 | 0.8 | 0.8 | 0.7 | — | 1500 | TH8 |
| 23Z81 | 1:1:1 dual | .085 | 2.5 | 3.0 | 9.5 | 0.2 | 0.20 | — | — | 500 | TH9 |
| 66Z1203 | 1:1:1 | — | 25.0 | 10.5 | 60 | 1.3 | 3.9 | 3.9 | 3.9 | 500 | TH6 |
| 66Z1212 | 2:1:1 | — | 16.0 | 11.0 | 19 | 1.8 | 2.5 | 1.4 | 1.4 | 500 | TH6 |
| PE-5762M | 1:1:1 | 0.5 | 5.0 | 4.2 | 25 | 0.3 | 0.9 | 0.9 | 0.9 | 1500 | SM1 |
| PE-5763M | 1:1:1 | 0.2 | 4.0 | 3.5 | 18 | 0.2 | 0.7 | 0.7 | 0.7 | 1500 | SM1 |
| PE-5769M | 2:1:1 | 0.5 | 5.0 | 4.2 | 18 | 0.3 | 0.9 | 0.45 | 0.45 | 1500 | SM1 |
| PE-8271M | 1CT:1CT | 0.5 | 5.0 | 4.2 | 18 | 0.3 | 0.9 | 0.9 | — | 1500 | SM2 |
| PE-8272M | 1CT:1CT | 0.2 | 4.0 | 3.5 | 14 | 0.2 | 0.7 | 0.7 | — | 1500 | SM2 |
| PE-8277M | 2CT:1CT | 0.5 | 5.0 | 6.0 | 18 | 0.7 | 0.9 | 0.45 | — | 1500 | SM2 |
| 23Z81SM | 1:1:1 dual | .085 | 2.5 | 3.0 | 9.5 | 0.2 | 0.20 | — | — | 500 | SM3 |
| 23Z87SM | 1:1:1 | .085 | 2.5 | 3.0 | 9.5 | 0.2 | 0.20 | — | — | 500 | SM2 |

NOTE: To order Tape & Reel packaging for surface mount parts, add the suffix "T" to the part number. (Example: PE-5769MT). The "T" will appear on all paper work, but will not be marked on parts.

Schematics



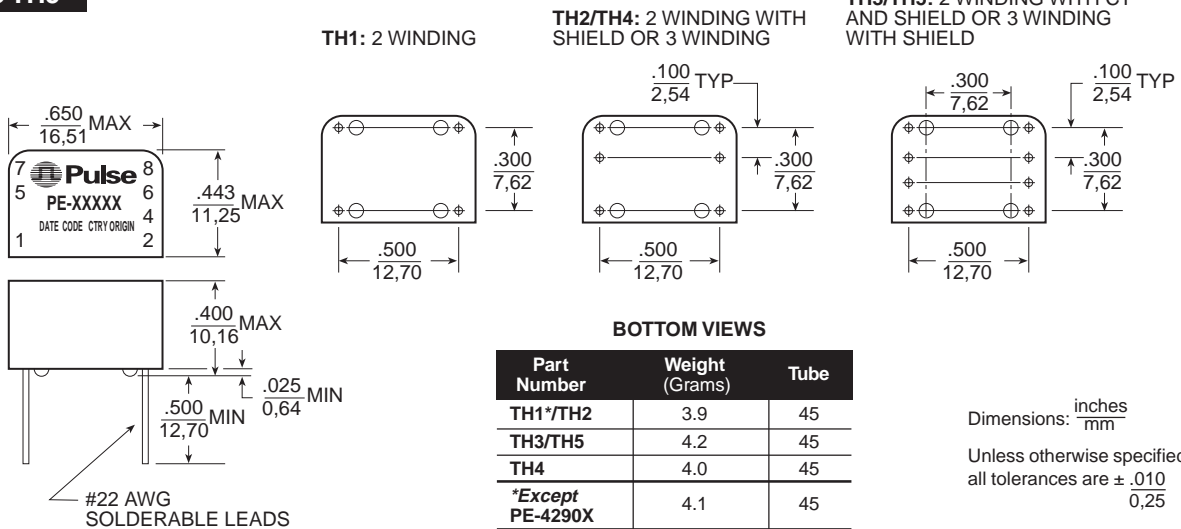
GENERAL PURPOSE TRANSFORMERS

2 Watt Pulse, Electrostatically Shielded, and 500 mW Pulse Transformers

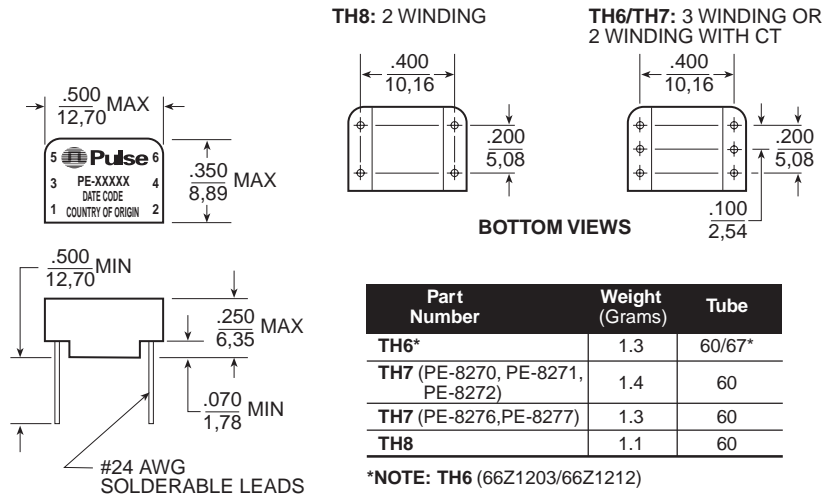


Mechanicals

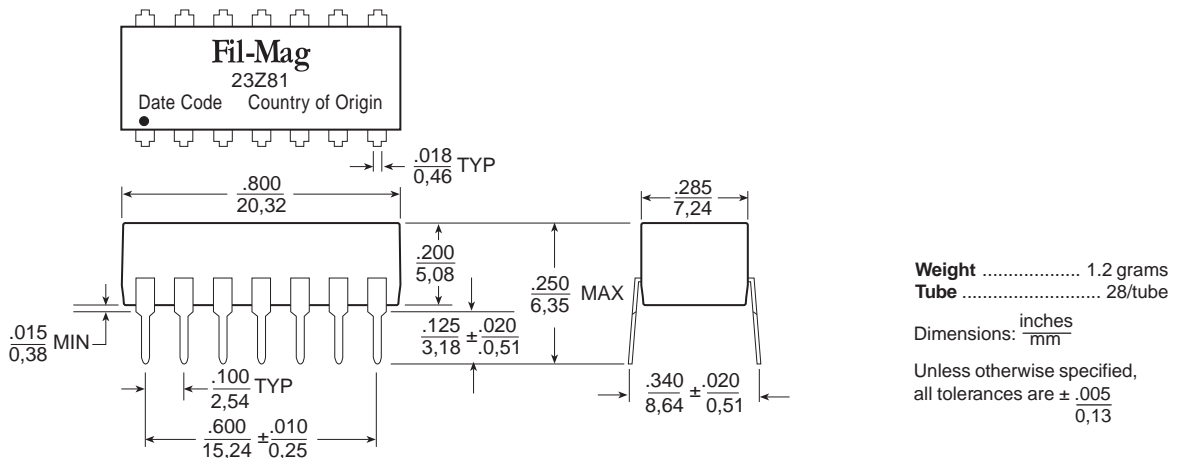
TH1 to TH5



TH6 to TH8



TH9



GENERAL PURPOSE TRANSFORMERS

2 Watt Pulse, Electrostatically Shielded, and 500 mW Pulse Transformers



Mechanicals

SM1 & SM2 (except 23Z87SM)

SUGGESTED PAD LAYOUT

23Z87SM

SUGGESTED PAD LAYOUT

| Part | Weight (Grams) | Tape & Reel | Tube |
|----------------|----------------|-------------|------|
| SM1 | 0.6 | 500 | 65 |
| SM2: | | | |
| PE-8271M | 0.7 | 500 | 60 |
| PE-8272M | 0.7 | 500 | 65 |
| PE-8277M | 0.6 | 500 | 65 |
| Except 23Z87SM | 0.5 | 750 | 100 |

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

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

SM3

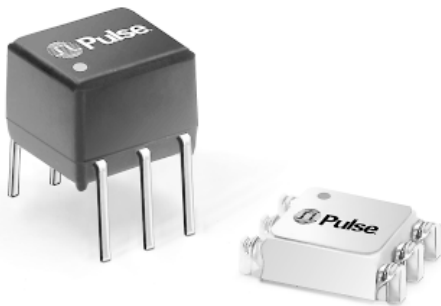
SUGGESTED PAD LAYOUT




Weight 0.9 grams
Tube 50/tube
Tape & Reel 750/reel

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

GENERAL PURPOSE TRANSFORMERS

RF Pulse



-  Designed for use in 50 Ω Wideband IC applications
-  Characterized for Pulse and wide band use at 50 Ω impedance
-  Standard 6-pin DIP package or *ThinSet* surface mount package

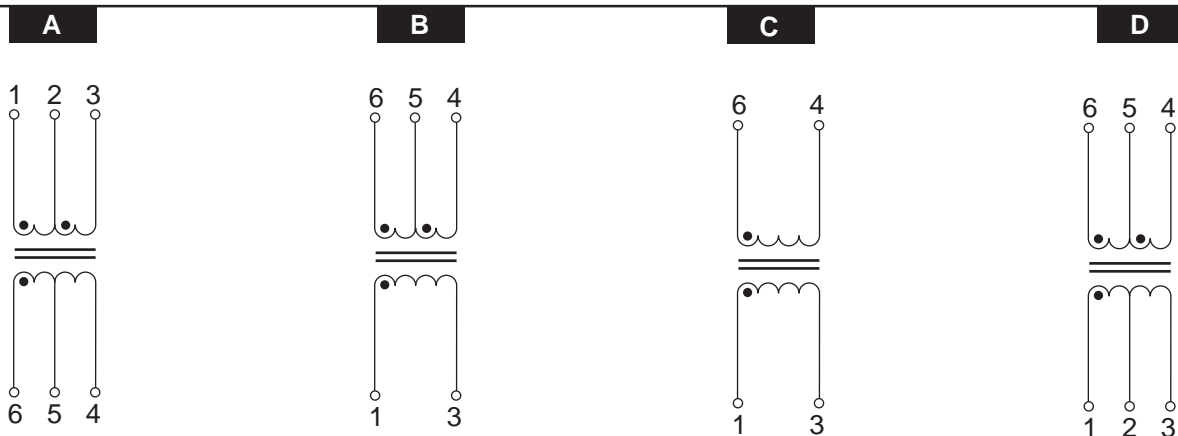
Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

| Part Number | Turns Ratio ($\pm 5\%$) | Primary Pulse Inductance (μH MIN) | Primary ET-Constant (v- μS MIN) | PRI/SEC C _{ww} (pF MAX) | PRI/SEC Leakage Inductance (μH MAX) | Primary DCR (Ω MAX) | Secondary DCR (Ω MAX) | Bandwidth for -3 dB Loss | | Schematic/Package Style |
|-----------------------|---------------------------|---|--|----------------------------------|---|-----------------------------|-------------------------------|--------------------------|-----------------|-------------------------|
| | | | | | | | | Low Freq (MHz) | High Freq (MHz) | |
| SURFACE MOUNT* | | | | | | | | | | |
| PE-65457 | 1CT:1CT | 80 | 2.5 | 15 | 0.18 | 0.20 | 0.20 | 0.05 | 90 | A / SMT1 |
| PE-65459 | 1CT:2CT | 40 | 2.0 | 15 | 0.14 | 0.20 | 0.30 | 0.05 | 110 | A / SMT1 |
| 23Z247SMD | 1:1CT | 80 | 2.5 | 15 | 0.18 | 0.20 | 0.20 | 0.05 | 90 | B / SMT2 |
| THROUGH HOLE | | | | | | | | | | |
| PE-62245A | 1:1 | 40 | 2.5 | 12 | 0.15 | 0.20 | 0.20 | 0.05 | 110 | C / TH10 |
| PE-62246A | 1CT:1CT | 40 | 2.5 | 15 | 0.18 | 0.20 | 0.20 | 0.05 | 90 | D / TH10 |
| PE-62250A | 1:2CT | 25 | 2.0 | 15 | 0.14 | 0.20 | 0.30 | 0.10 | 110 | B / TH10 |
| PE-62252A | 1: $\sqrt{2}$ CT | 40 | 2.5 | 18 | 0.20 | 0.20 | 0.30 | 0.05 | 80 | B / TH10 |
| PE-62254A | 1:4CT | 10 | 1.25 | 10 | 0.10 | 0.20 | 0.60 | 0.20 | 60 | B / TH10 |

***NOTE:**

To order Tape & Reel packaging for surface mount parts, add the suffix "T" to the part number. (Example: PE-65457T). The "T" will appear on all paper work, but will not be marked on parts.

Schematics



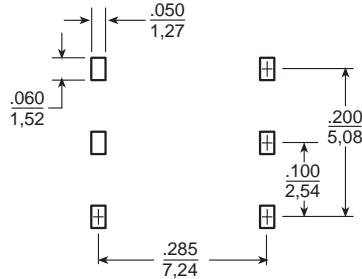
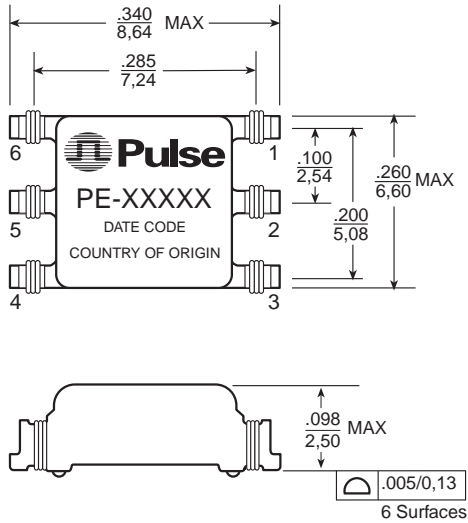
GENERAL PURPOSE TRANSFORMERS

RF Pulse



Mechanicals

SMT 1



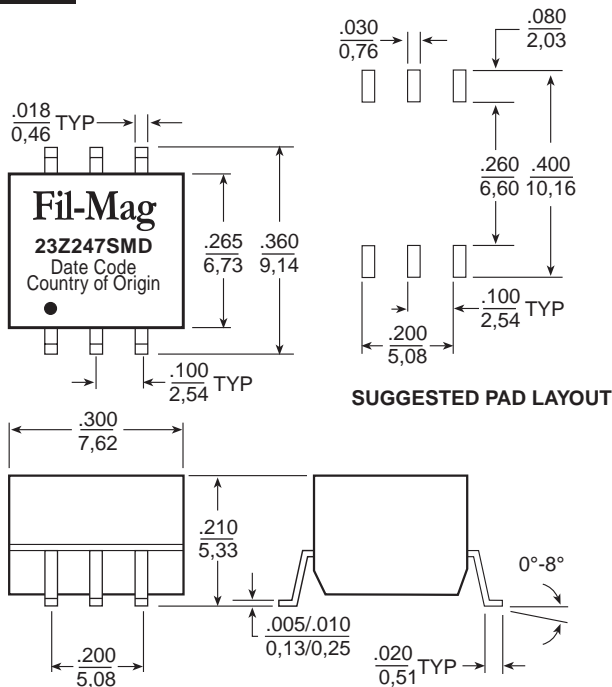
SUGGESTED PAD LAYOUT

| | PE-65457 | PE-65459 |
|-------------------|-----------|-----------|
| Weight | 0.2 grams | 0.1 grams |
| Tube | 60/tube | 60/tube |
| Tape & Reel | 1500/reel | 1500/reel |

Dimensions: inches
mm

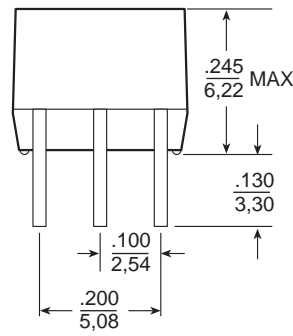
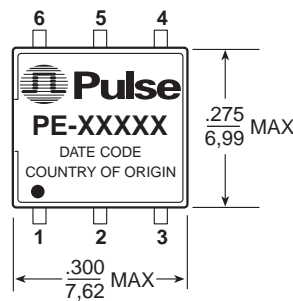
Unless otherwise specified, all tolerances are $\pm .010$
 $0,25$

SMT 2



SUGGESTED PAD LAYOUT

TH10



| | |
|-------------------|-----------|
| Weight | 0.5 grams |
| Tube | 76/tube |
| Tape & Reel | 750/reel |

Dimensions: inches
mm

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

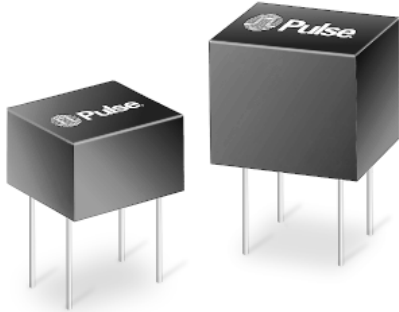
| | |
|--------------|-----------|
| Weight | 0.6 grams |
| Tube | 65/tube |




Dimensions: inches
mm

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

GENERAL PURPOSE TRANSFORMERS

Control Transformers



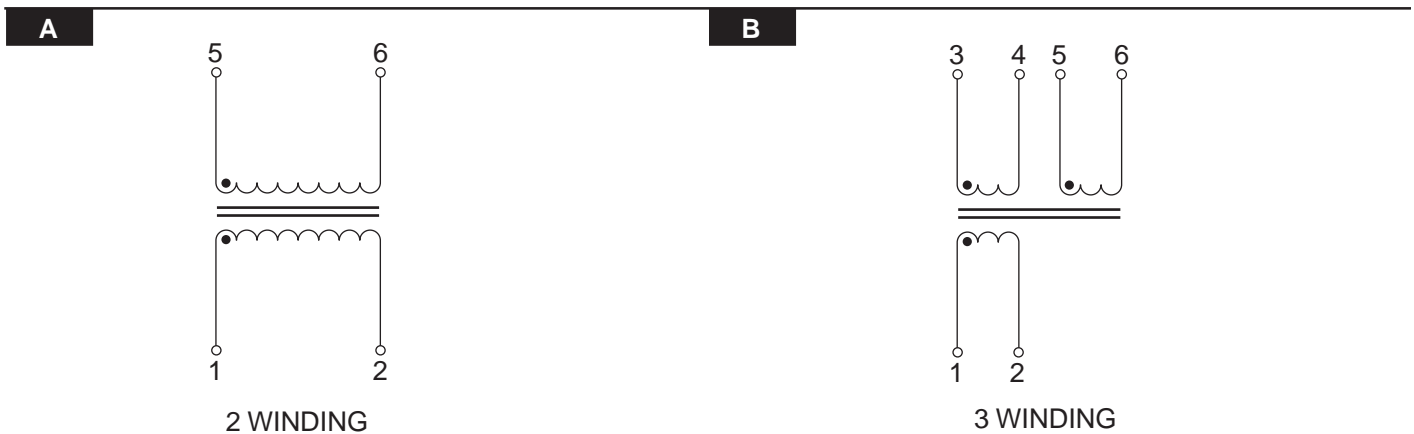
-  Recognized component – Underwriter's Laboratories, Inc.
-  High dielectric strength capability for industrial applications
-  High ET – product allows long pulse width

Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

| Part Number | Turns Ratio (±10%) | Primary Sine Wave OCL (mH MIN) | Primary ET-Constant (V-μs MIN) | PRI/SEC C _{ww} (pF MAX) | PRI/SEC Leakage Inductance | Primary DCR (Ω MAX) | Secondary DCR (Ω MAX) | Hi Pot* PRI/SEC (V _{rms}) | Schematic/Package Style |
|-------------|--------------------|--------------------------------|--------------------------------|----------------------------------|----------------------------|---------------------|-----------------------|-------------------------------------|-------------------------|
| PE-61001 | 1:1 | 1.0 | 360 | 30 | 15.0 | 2.8 | 3.1 | 1600 | A/TH11 |
| PE-61003 | 2:1 | 0.2 | 180 | 24 | 5.0 | 1.4 | 0.9 | 1600 | A/TH11 |
| PE-61006 | 1:1:1 | 0.2 | 180 | 30 | 5.0 | — | 1.5 | 1600 | B/TH11 |
| PE-61007 | 1:1:1 | 1.0 | 360 | 36 | 12.0 | 2.8 | 3.6 | 1600 | B/TH11 |
| PE-61008 | 1:1:1 | 5.0 | 866 | 42 | 80.0 | 6.0 | 7.2 | 1600 | B/TH11 |
| PE-61014 | 1:1 | 1.0 | 700 | 36 | 26.0 | 3.0 | 3.2 | 2400 | A/TH12 |
| PE-61015 | 1:1 | 5.0 | 1500 | 42 | 130.0 | 6.3 | 7.0 | 2400 | A/TH12 |
| PE-61017 | 2:1 | 1.0 | 700 | 36 | 24.0 | 3.0 | 2.0 | 2400 | A/TH12 |
| PE-61018 | 2:1 | 5.0 | 1500 | 42 | 125.0 | 6.3 | 4.0 | 2400 | A/TH12 |
| PE-61019 | 1:1:1 | 0.2 | 290 | 34 | 4.7 | 1.4 | 1.5 | 2400 | B/TH12 |
| PE-61023 | 2:1:1 | 1.0 | 700 | 40 | 27.0 | 3.0 | 2.0 | 2400 | B/TH12 |

*NOTE: PE-61001–PE-61023 Hi Pot SEC/SEC 300 V_{rms}. Average Power Rating: 2 Watts. UL-478 Recognized, File Number E52661.

Schematics



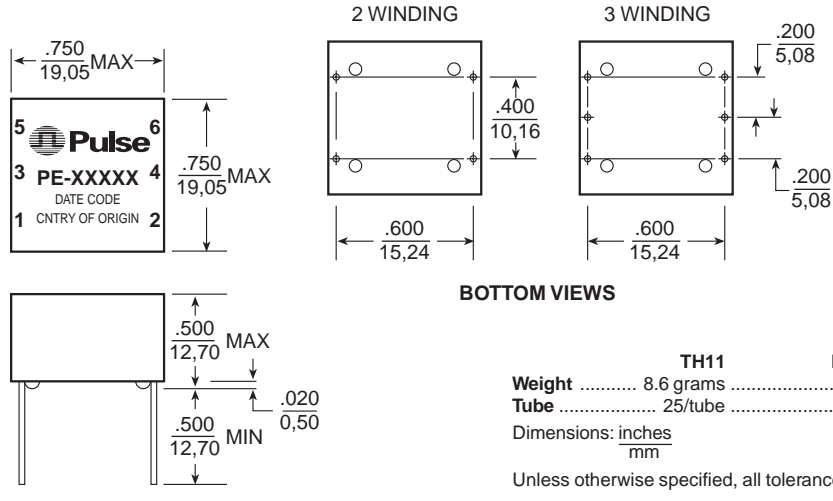
GENERAL PURPOSE TRANSFORMERS

Control Transformers



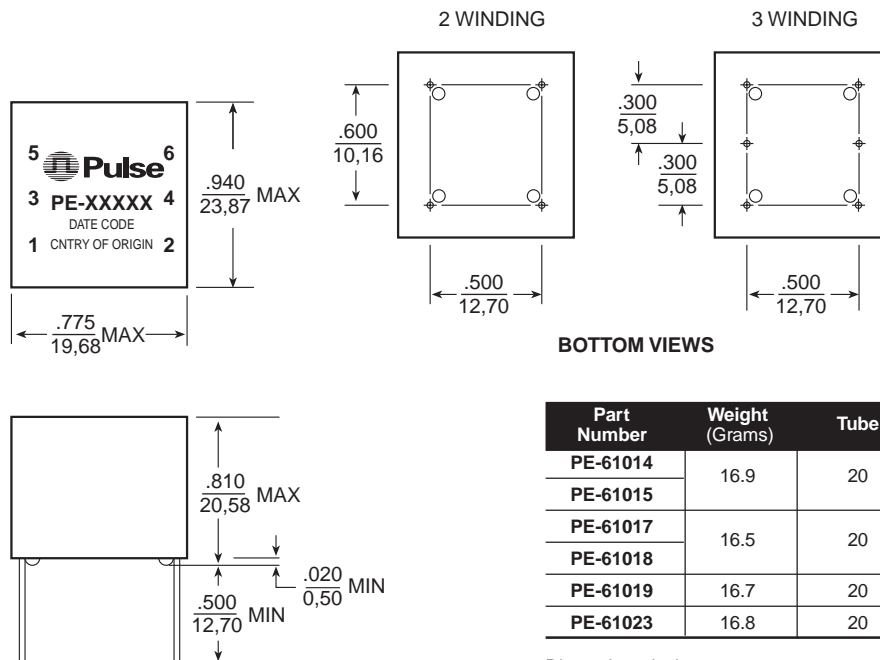
Mechanicals

TH11



| | | |
|--|-------------|------------------------|
| | TH11 | Except PE-61003 |
| Weight | 8.6 grams | 8.2 grams |
| Tube | 25/tube | 25/tube |
| Dimensions: | inches | |
| | mm | |
| Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$ | | |

TH12



| Part Number | Weight (Grams) | Tube |
|-------------|----------------|------|
| PE-61014 | 16.9 | 20 |
| PE-61015 | | |
| PE-61017 | 16.5 | 20 |
| PE-61018 | | |
| PE-61019 | 16.7 | 20 |
| PE-61023 | 16.8 | 20 |

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

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