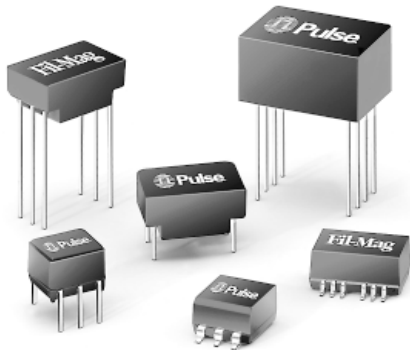






# GENERAL PURPOSE TRANSFORMERS



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



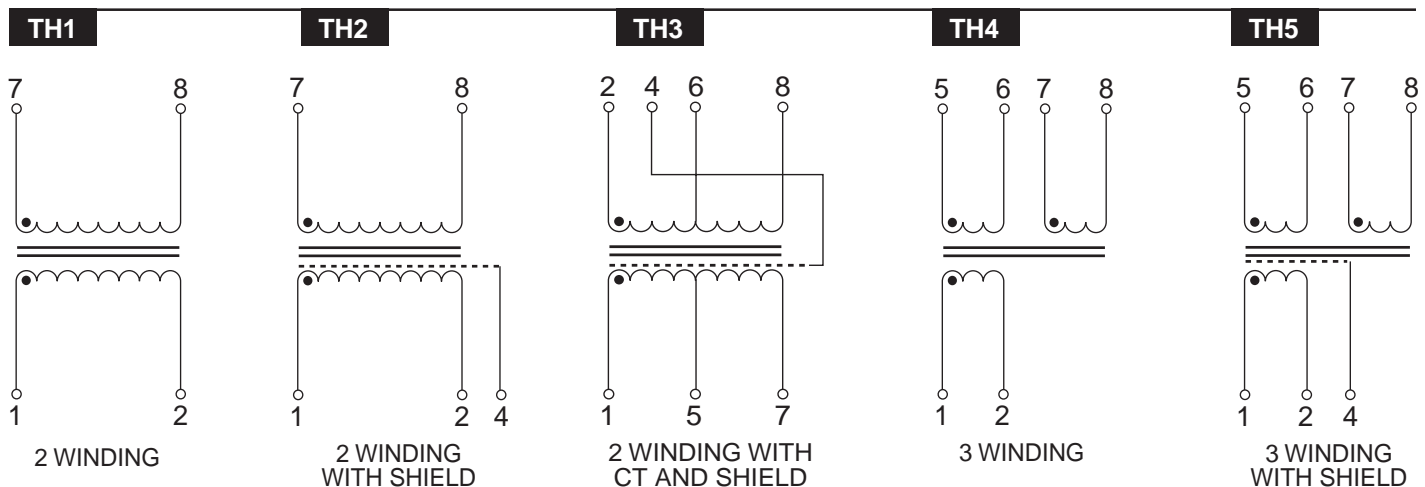
-  Wide range of inductors and turns ratios
-  Suitable for a variety of applications
-  High flux density capability
-  Available in through hole and surface mount packages

## 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)	PRI/SEC* C <sub>ww</sub> (pF MAX)	Leakage Inductance PRI/SEC (μH MAX)	DCR Primary (Ω MAX)	DCR Secondary (Ω MAX)	DCR Tertiary (Ω MAX)	Hi-Pot (V <sub>rms</sub> )	Schematic/Package Style
<b>2 WATT PULSE TRANSFORMERS</b>											
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
<b>ELECTROSTATICALLY SHIELDED TRANSFORMERS</b>											
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<sub>ww</sub> is measured with shield corrected to guard voltage.

## Schematics



U.S.: 858 674 8100 • U.K.: 44 1483 401 700 • France: 33 3 84 35 04 04 • Singapore: 65 287 8998 • Taiwan: 886 2 2698 0228 • <http://www.pulseeng.com>

# GENERAL PURPOSE TRANSFORMERS

## 500 mW Pulse

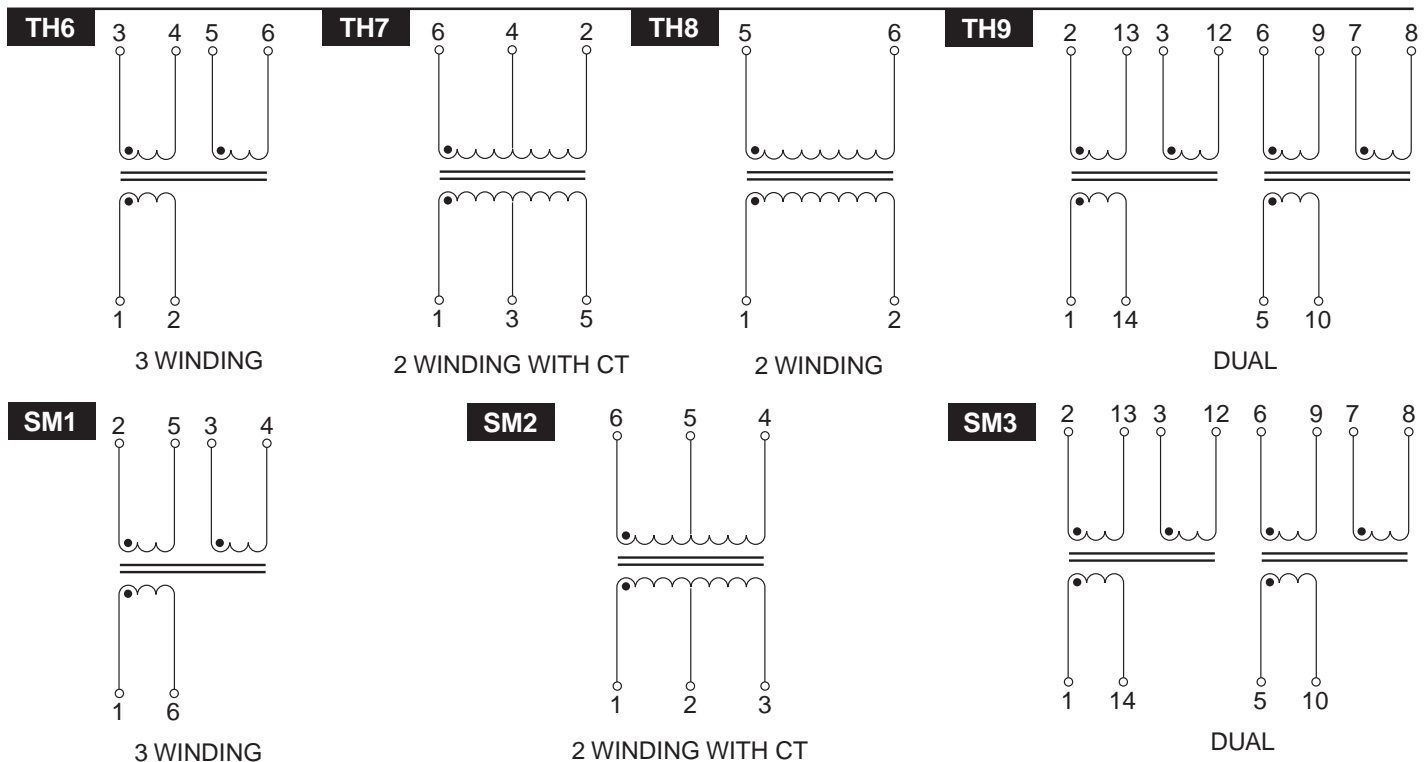


Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

Part Number	Turns Ratio (±5%)	Primary Sine Wave OCL (mH MIN)	Primary ET-Constant (V-μs MIN)	Rise Time (ns MAX)	PRI/SEC C <sub>ww</sub> (pF MAX)	Leakage Inductance PRI/SEC (μH MAX)	DCR Primary (Ω MAX)	DCR Secondary (Ω MAX)	DCR Tertiary (Ω MAX)	Hi Pot V <sub>rms</sub>	Schematic Package Style
<b>500 mW PULSE TRANSFORMERS</b>											
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



U.S: 858 674 8100 • U.K: 44 1483 401 700 • France: 33 3 84 35 04 04 • Singapore: 65 287 8998 • Taiwan: 886 2 2698 0228 • <http://www.pulseeng.com>

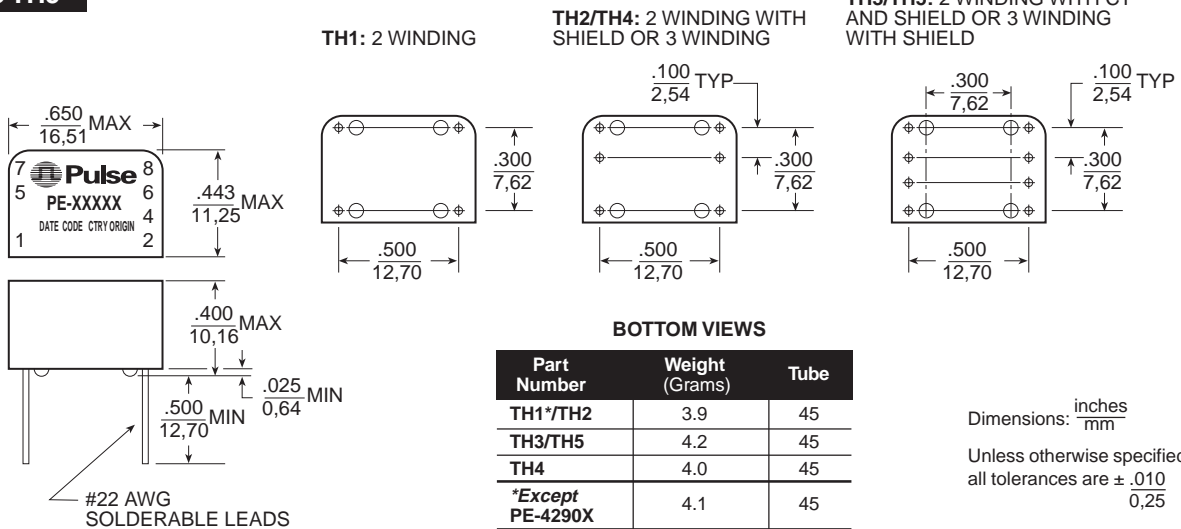
# GENERAL PURPOSE TRANSFORMERS

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

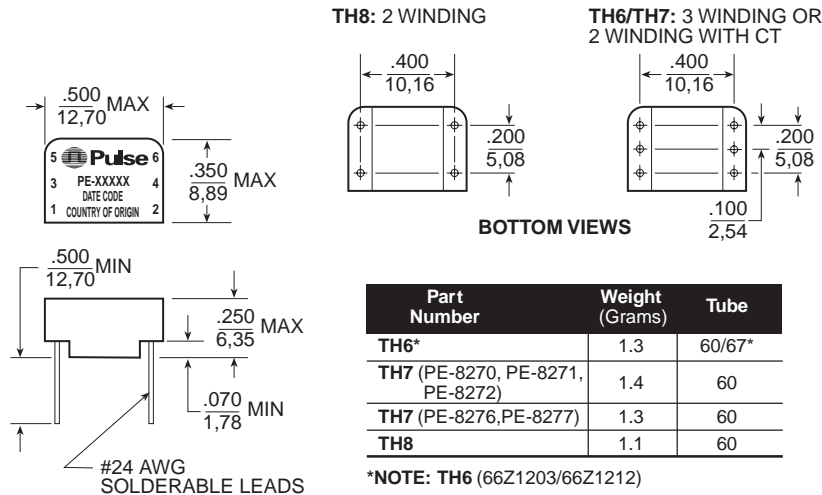


### Mechanicals

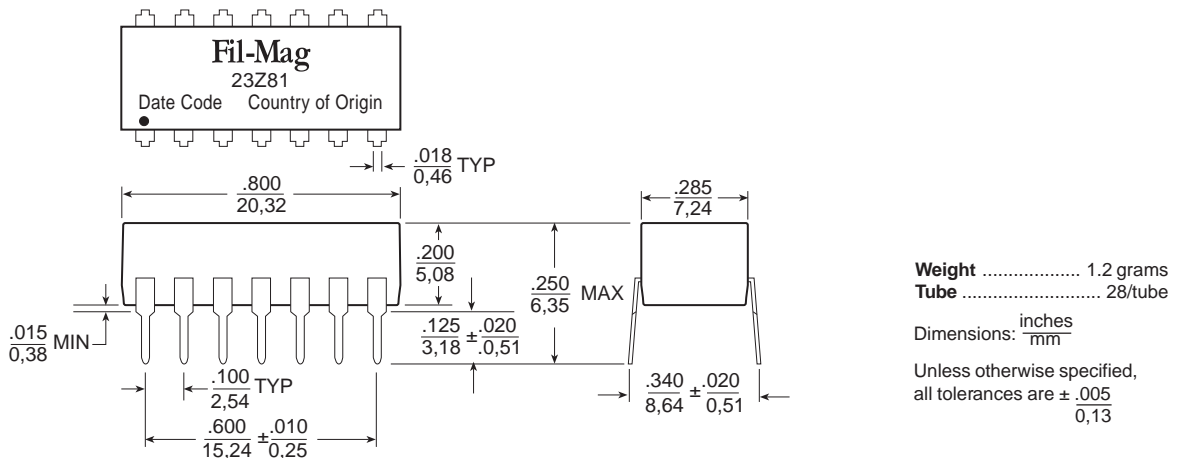
#### TH1 to TH5



#### 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
<b>SM2:</b>			
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**

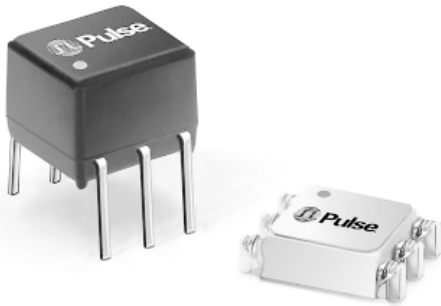
**Weight** ..... 0.9 grams  
**Tube** ..... 50/tube  
**Tape & Reel** ..... 750/reel




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

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# GENERAL PURPOSE TRANSFORMERS

## RF Pulse



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

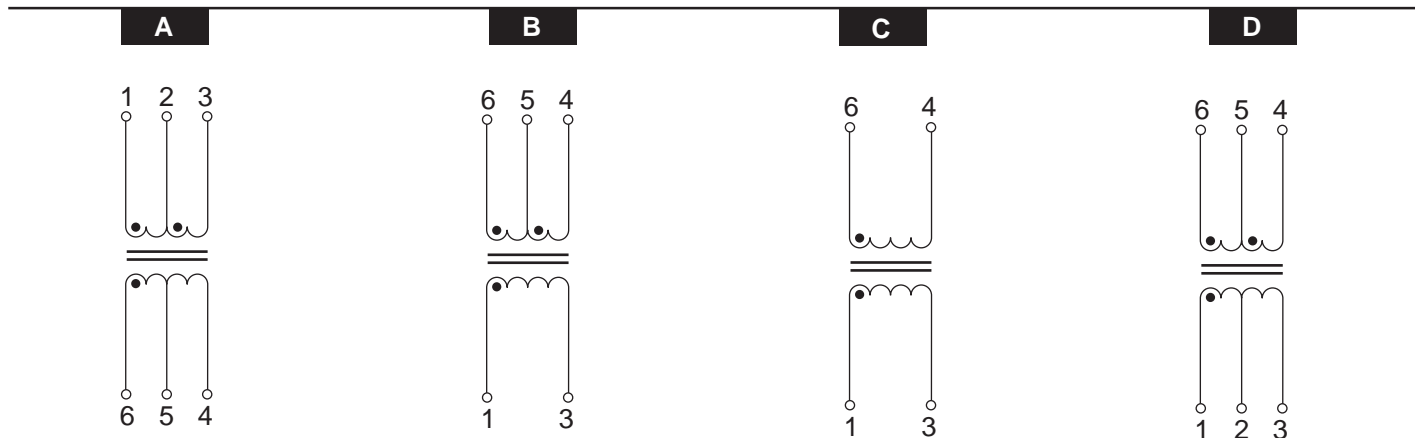
### Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

Part Number	Turns Ratio ( $\pm 5\%$ )	Primary Pulse Inductance ( $\mu\text{H}$ MIN)	Primary ET-Constant (v- $\mu\text{S}$ MIN)	PRI/SEC C <sub>ww</sub> (pF MAX)	PRI/SEC Leakage Inductance ( $\mu\text{H}$ MAX)	Primary DCR ( $\Omega$ MAX)	Secondary DCR ( $\Omega$ MAX)	Bandwidth for -3 dB Loss		Schematic/Package Style
								Low Freq (MHz)	High Freq (MHz)	
<b>SURFACE MOUNT*</b>										
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
<b>THROUGH HOLE</b>										
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



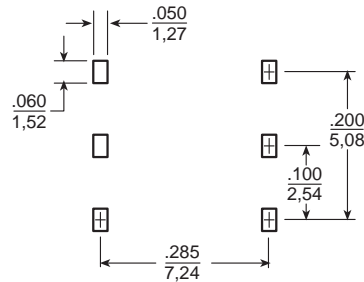
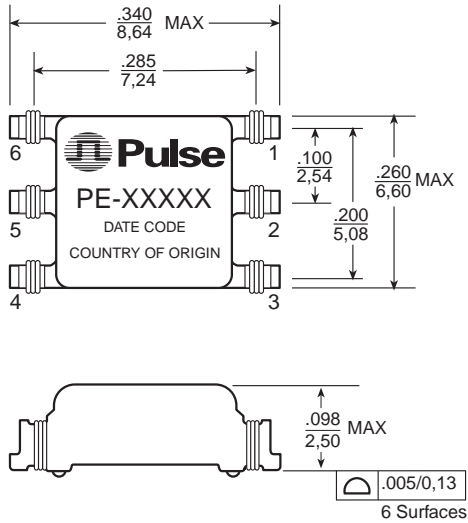
# GENERAL PURPOSE TRANSFORMERS

## RF Pulse



### Mechanicals

#### SMT 1



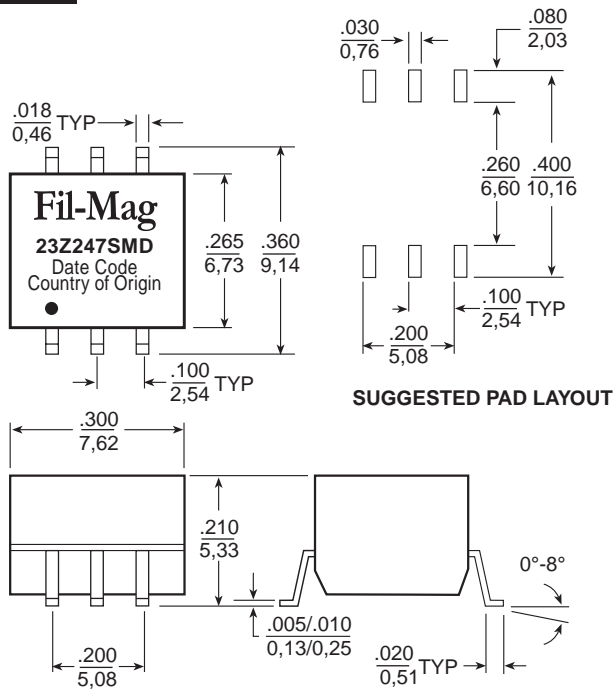
SUGGESTED PAD LAYOUT

	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

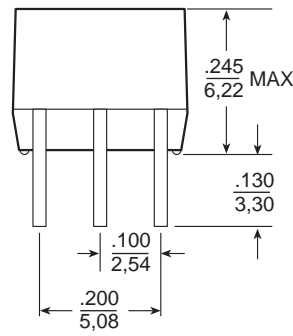
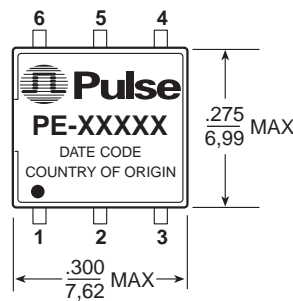
Unless otherwise specified, all tolerances are  $\pm .010$   
 $0,25$

#### 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  $\pm .005$   
 $0,13$

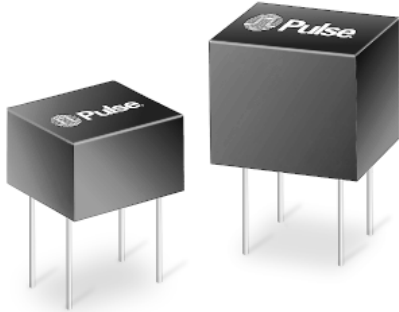
Weight .....	0.6 grams
Tube .....	65/tube




Dimensions: inches  
mm

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

# GENERAL PURPOSE TRANSFORMERS

## Control Transformers



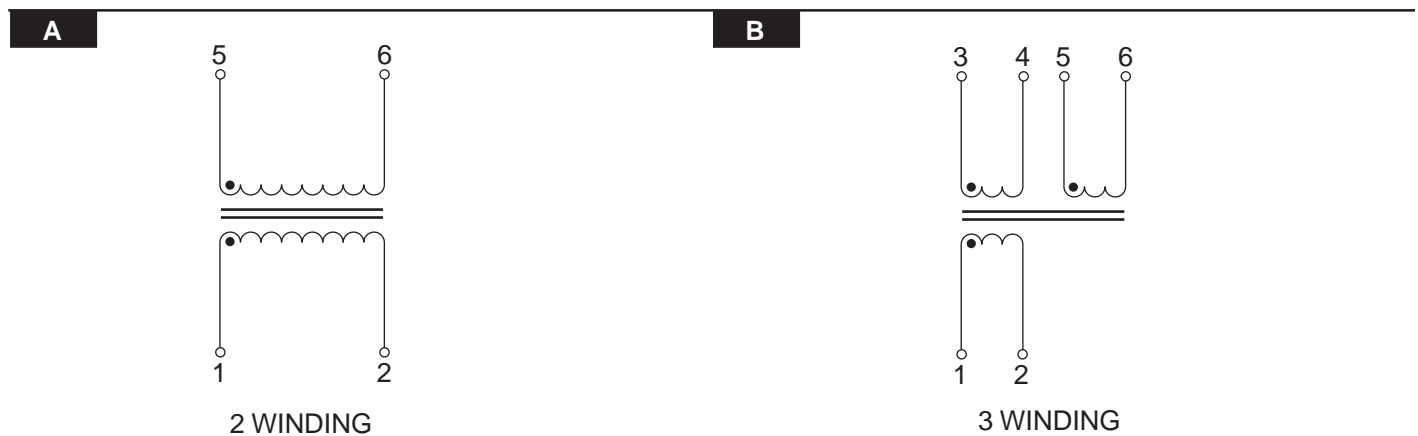
-  Recognized component – Underwriter's Laboratories, Inc.
-  High dielectric strength capability for industrial applications
-  High ET – product allows long pulse width

### 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 <sub>ww</sub> (pF MAX)	PRI/SEC Leakage Inductance	Primary DCR (Ω MAX)	Secondary DCR (Ω MAX)	Hi Pot* PRI/SEC (V <sub>rms</sub> )	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 Vrms. Average Power Rating: 2 Watts. UL-478 Recognized, File Number E52661.

### Schematics



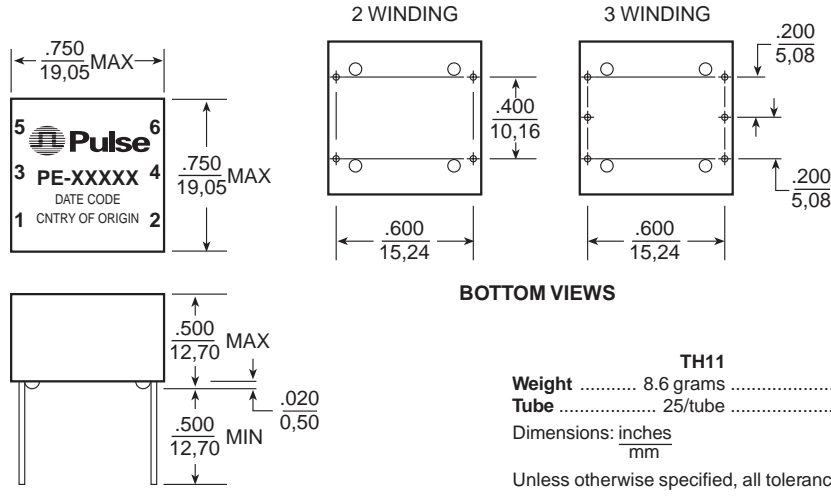
# GENERAL PURPOSE TRANSFORMERS

## Control Transformers



### Mechanicals

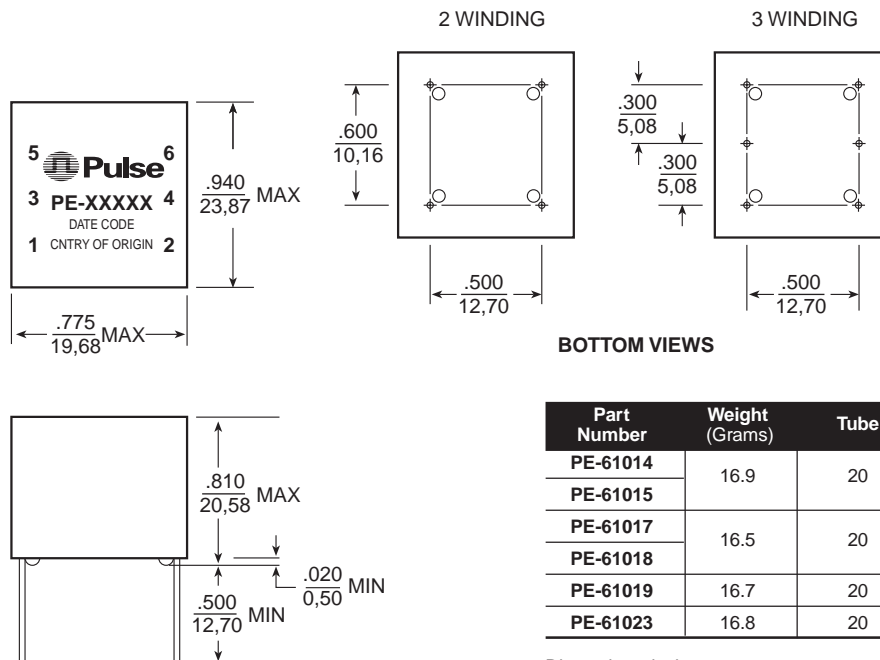
#### TH11



BOTTOM VIEWS

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

#### TH12



BOTTOM VIEWS

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  $\pm \frac{.010}{0,25}$

### For More Information :

#### UNITED STATES (Worldwide)

12220 World Trade Drive  
San Diego, CA 92128  
Quick-Facts: 619 674 9672  
http://www.pulseeng.com  
TEL: 858 674 8100  
FAX: 858 674 8262

#### UNITED KINGDOM (Northern Europe)

1 & 2 Huxley Road  
The Surrey Research Park  
Guildford, Surrey GU2 5RE  
United Kingdom  
TEL: 44 1483 401700  
FAX: 44 1483 401701

#### FRANCE (Southern Europe)

Zone Industrielle  
F-39270  
Orgelet  
France  
TEL: 33 3 84 35 04 04  
FAX: 33 3 84 25 46 41

#### SINGAPORE (Southern Asia)

150 Kampong Ampat  
#07-01/02  
KA Centre  
Singapore 368324  
TEL: 65 287 8998  
FAX: 65 280 0080

#### TAIWAN, R.O.C. (Northern Asia)

3F-4, No. 81, Sec. 1  
HsinTai Wu Road  
Hsi-Chih, Taipei Hsien  
Taiwan, R.O.C.  
Tel: 886 2 2698 0228  
FAX: 886 2 2698 0948

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