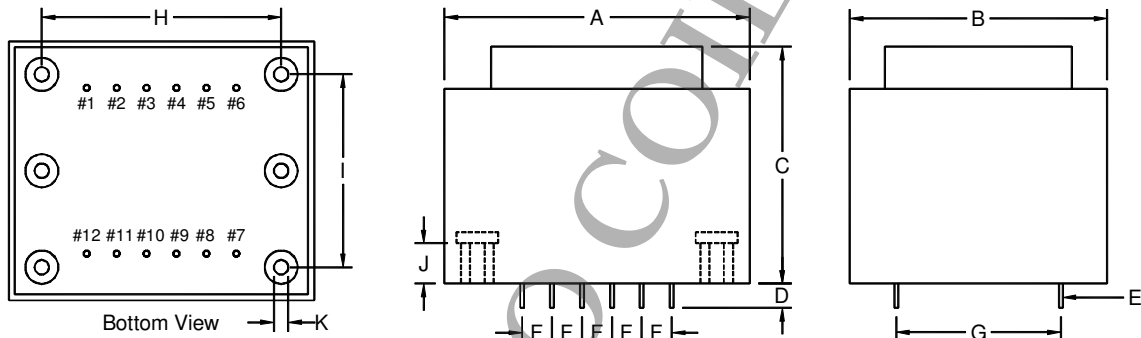




### Type EI48 / 20.5

- Power – 12VA
- Frequency – 50/60 Hz
- Temperature class – Class B (130°C)
- Ambient temperature (ta) – 70°C
- Dielectric strength – 4000Vrms
- Potted under vacuum
- Agency approvals
  - TUV / CE: EN61558 / EN60950
  - UL: UL5085-1 / -2
  - C-UL: CSA C22.2 #66.1 / #66.2

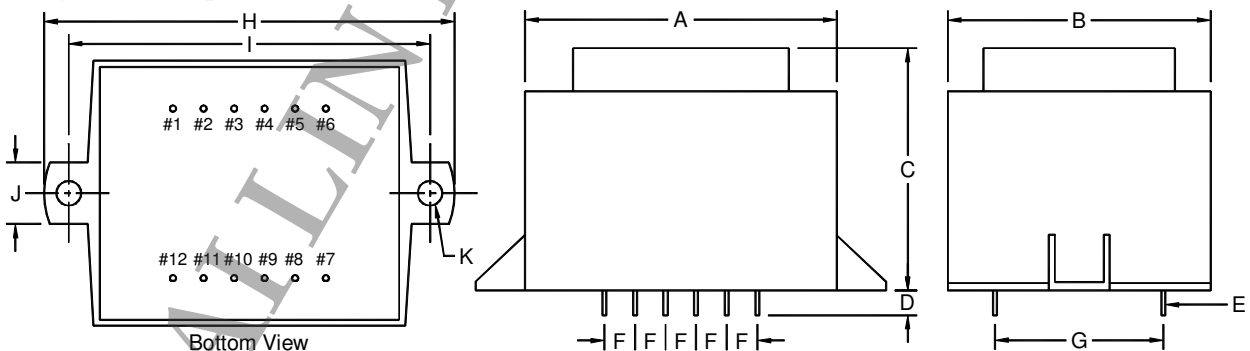
### Potting Shell – Type A



	A	B	C	D	E	F	G	H	I	J	K	Weight (g)
<b>Dimension (mm)</b>	51.0	43.0	38.5	4.0	SQ0.64	5.0	27.5	40.0	32.0	6.3	φ2.4	330
<b>Tolerance (mm)</b>	±1.0	±1.0	±1.0	±1.0	±0.1	±0.2	±0.5	±1.0	±1.0	min.	±0.2	approx.

- Note: 1) Unused pins are omitted for standard parts. Unused pins can be provided upon request.  
 2) The two fixing rails are omitted for standard parts (i.e. dimensions H, I, J & K are omitted for standard parts). The two fixing rails can be provided upon request.

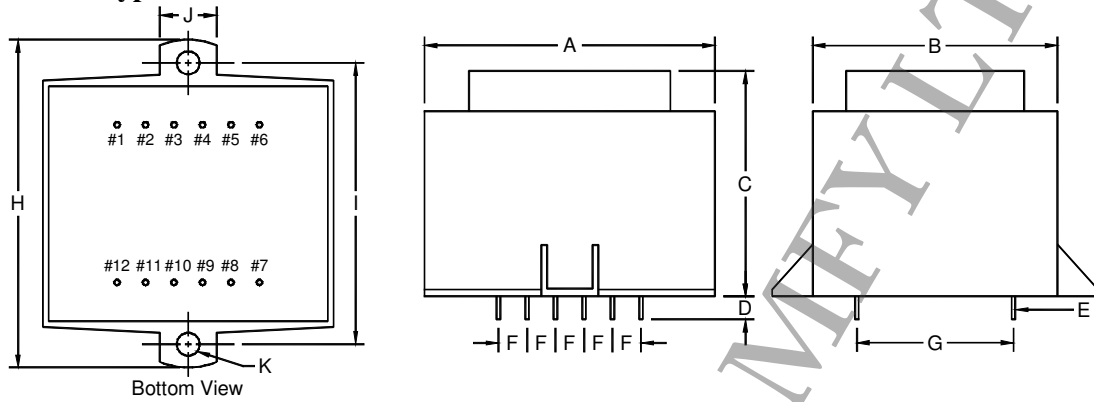
### Potting Shell – Type B



	A	B	C	D	E	F	G	H	I	J	K	Weight (g)
<b>Dimension (mm)</b>	51.0	42.5	38.5	4.0	SQ0.64	5.0	27.5	68.5	60.0	10.0	φ4.2	330
<b>Tolerance (mm)</b>	±1.0	±1.0	±1.0	±1.0	±0.1	±0.2	±0.5	max.	±1.0	±0.5	±0.2	approx.

- Note: Unused pins are omitted for standard parts. Unused pins can be provided upon request.

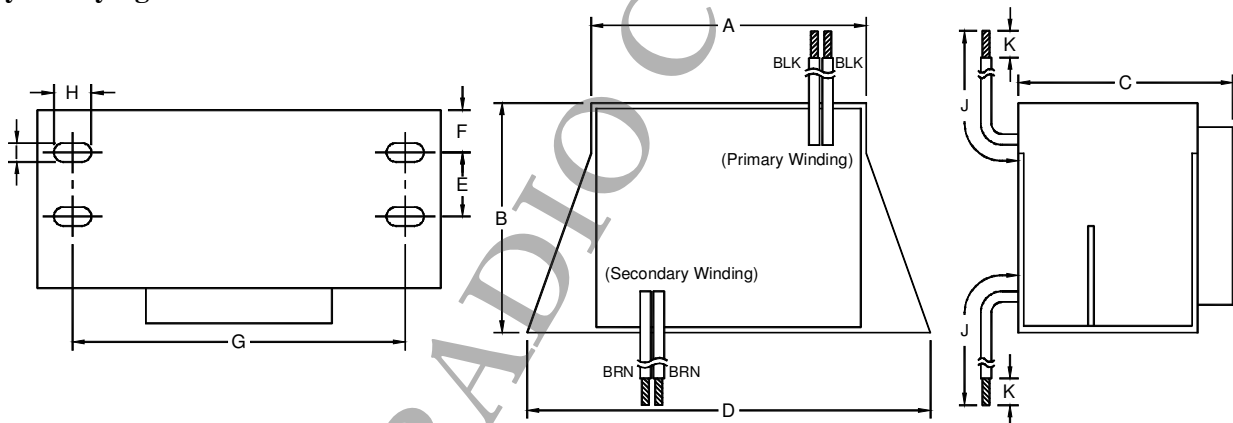
### Potting Shell – Type C



	A	B	C	D	E	F	G	H	I	J	K	Weight (g)
Dimension (mm)	51.0	42.5	38.5	4.0	SQ0.64	5.0	27.5	60.0	52.5	10.0	φ4.2	330
Tolerance (mm)	±1.0	±1.0	±1.0	±1.0	±0.1	±0.2	±0.5	max.	±1.0	±0.5	±0.2	approx.

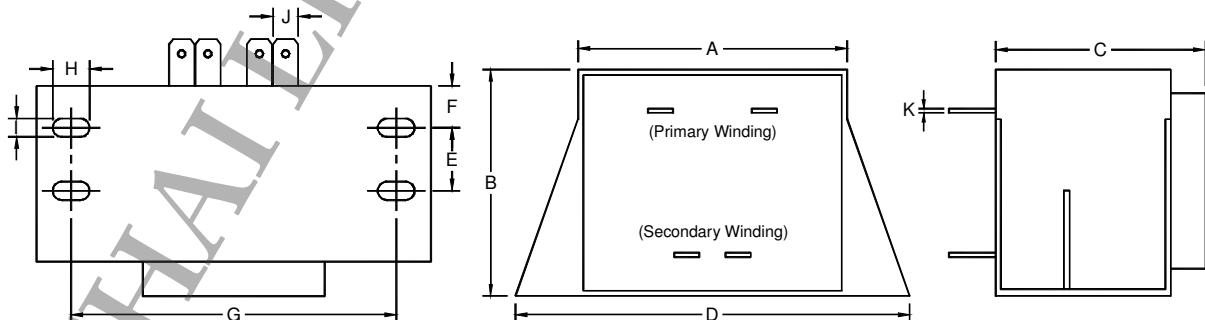
Note: Unused pins are omitted for standard parts. Unused pins can be provided upon request.

### Style – Flying Lead



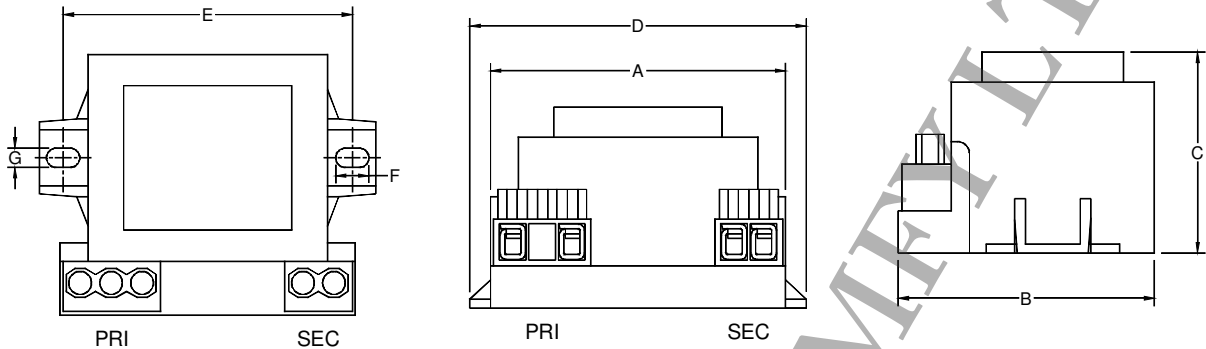
	A	B	C	D	E	F	G	H	I	J	K	Weight (g)
Dimension (mm)	51.0	42.8	39.5	75.0	12.0	8.5	62.0	6.7	3.5	250	5.0	330
Tolerance (mm)	±1.0	±1.0	±1.0	±1.0	±1.0	typ.	±1.0	±0.5	±0.2	±10	±1.0	approx.

### Style – Faston Tab



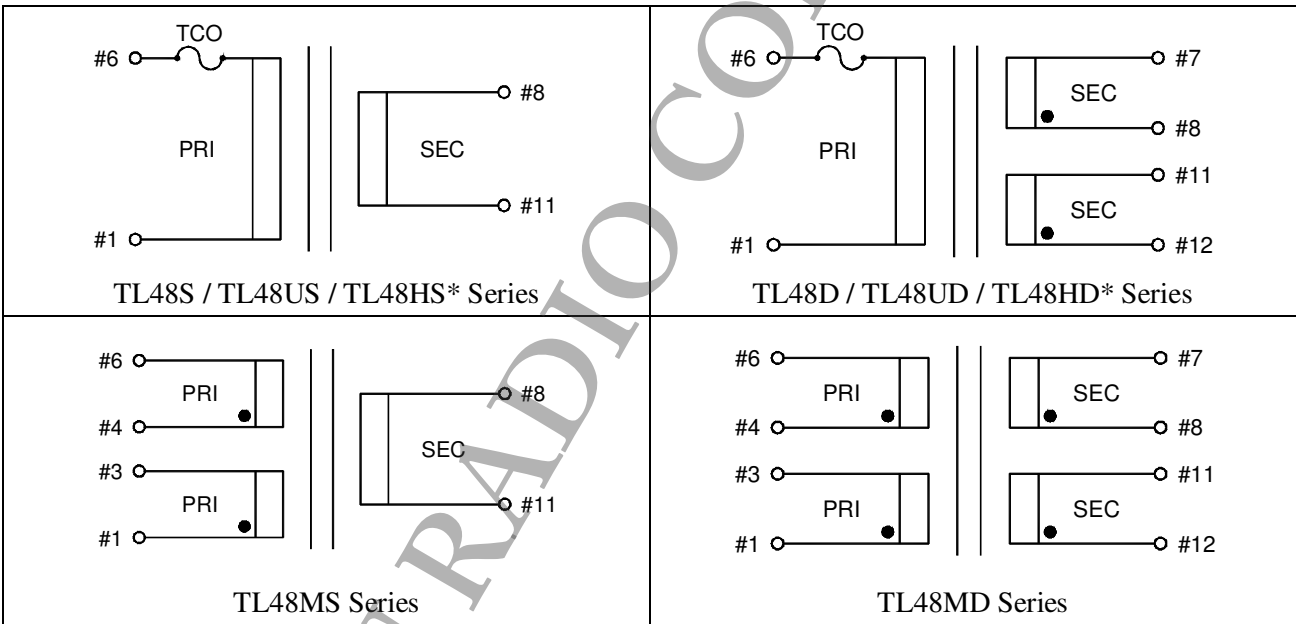
	A	B	C	D	E	F	G	H	I	J	K	Weight (g)
Dimension (mm)	51.0	42.8	39.5	75.0	12.0	8.5	62.0	6.7	3.5	4.8	0.8	330
Tolerance (mm)	±1.0	±1.0	±1.0	±1.0	±1.0	typ.	±1.0	±0.5	±0.2	±0.2	±0.1	approx.

## Style – Terminal Block



	A	B	C	D	E	F	G	Weight (g)
Dimension (mm)	58.7	51.6	44.7	68.5	60.0	6.0	4.2	340
Tolerance (mm)	±1.0	±1.0	±1.0	±1.0	±0.5	±0.5	±0.2	approx.

## Schematics



Pins Connection (for dual windings items)	Primary	In Series	Pin 1 – Pin 6 (Pins 3, 4 short)
		In Parallel	Pin 1 – Pin 6 (Pins 1, 4 short; Pins 3, 6 short)
	Secondary	In Series	Pin 8 – Pin 11 (Pins 7, 12 short)
		In Parallel	Pin 8 – Pin 11 (Pins 7, 11 short; Pins 8, 12 short)

\* The TCO is omitted for the TL48HS & TL48HD series.

### Part Number Designation

Seven designations are available. Use TL48S-060-2000 as example:

- 1) TL48S-060-2000 = Potting Shell A (without fixing rails)
- 2) TL48S-060-2000 (R) = Potting Shell A (with fixing rails)
- 3) TL48S-060-2000 (SB) = Potting Shell B
- 4) TL48S-060-2000 (SC) = Potting Shell C
- 5) TL48S-060-2000FL = Flying Lead Style
- 6) TL48S-060-2000FT = Faston Tab Style
- 7) TL48S-060-2000TB = Terminal Block Style

Note:

- a) Flying lead style is only available for the single primary + single secondary items.
- b) Faston tab style is only available for the single primary + single secondary items.
- c) Terminal block style is only available for the single primary + single secondary items.
- d) Terminal block style is only available for “TUV + CE” approved items.
- e) In case of need, please add the appropriate suffixes in the part number when ordering.

Product Series	Primary (V)	Single Secondary			Dual Secondary			ta (°C)	Agency Approval
		Part Number	Secondary Rating		Part Number	Secondary Rating			
			(V)	(mA)		(V)	(mA)		
12VA	230	TL48S-060-2000	6	2000	TL48D-060-1000	2 x 6	1000	70	TUV CE
		TL48S-072-1666	7.2	1666	TL48D-072-0833	2 x 7.2	833		
		TL48S-090-1333	9	1333	TL48D-090-0666	2 x 9	666		
		TL48S-100-1200	10	1200	TL48D-100-0600	2 x 10	600		
		TL48S-120-1000	12	1000	TL48D-120-0500	2 x 12	500		
		TL48S-150-0800	15	800	TL48D-150-0400	2 x 15	400		
		TL48S-180-0666	18	666	TL48D-180-0333	2 x 18	333		
		TL48S-240-0500	24	500	TL48D-240-0250	2 x 24	250		
	115	TL48US-060-2000	6	2000	TL48UD-060-1000	2 x 6	1000	70	UL5085-1/-2 C-UL
		TL48US-072-1666	7.2	1666	TL48UD-072-0833	2 x 7.2	833		
		TL48US-090-1333	9	1333	TL48UD-090-0666	2 x 9	666		
		TL48US-100-1200	10	1200	TL48UD-100-0600	2 x 10	600		
		TL48US-120-1000	12	1000	TL48UD-120-0500	2 x 12	500		
		TL48US-150-0800	15	800	TL48UD-150-0400	2 x 15	400		
		TL48US-180-0666	18	666	TL48UD-180-0333	2 x 18	333		
		TL48US-240-0500	24	500	TL48UD-240-0250	2 x 24	250		
115 (Parallel) or 230 (Series)	TL48MS-060-2000	6	2000	TL48MD-060-1000	2 x 6	1000	70	UL5085-1/-2 C-UL TUV CE	
	TL48MS-072-1666	7.2	1666	TL48MD-072-0833	2 x 7.2	833			
	TL48MS-090-1333	9	1333	TL48MD-090-0666	2 x 9	666			
	TL48MS-100-1200	10	1200	TL48MD-100-0600	2 x 10	600			
	TL48MS-120-1000	12	1000	TL48MD-120-0500	2 x 12	500			
	TL48MS-150-0800	15	800	TL48MD-150-0400	2 x 15	400			
	TL48MS-180-0666	18	666	TL48MD-180-0333	2 x 18	333			
	TL48MS-240-0500	24	500	TL48MD-240-0250	2 x 24	250			
400	TL48HS-060-2000	6	2000	TL48HD-060-1000	2 x 6	1000	70	--	
	TL48HS-072-1666	7.2	1666	TL48HD-072-0833	2 x 7.2	833			
	TL48HS-090-1333	9	1333	TL48HD-090-0666	2 x 9	666			
	TL48HS-100-1200	10	1200	TL48HD-100-0600	2 x 10	600			
	TL48HS-120-1000	12	1000	TL48HD-120-0500	2 x 12	500			
	TL48HS-150-0800	15	800	TL48HD-150-0400	2 x 15	400			
	TL48HS-180-0666	18	666	TL48HD-180-0333	2 x 18	333			
	TL48HS-240-0500	24	500	TL48HD-240-0250	2 x 24	250			

- Note: 1) TL48S & TL48D series are fail-safe transformers.  
2) TL48MS, TL48MD, TL48HS & TL48HD series are non-short-circuit proof transformers.