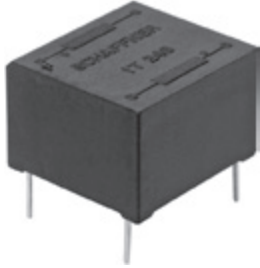


## Pulse transformer with single secondary winding



- Galvanic separation of drive and power circuit
- Voltage resistance up to 8kV
- Ignition current up to 3A
- Turns ratio up to 3:1

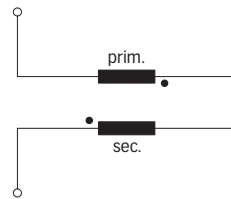
### Approvals



### Technical specifications

Nominal operating voltage:	Up to 3000V
Operating frequency:	40kHz max.
	500kHz max. for data transmission
Ignition currents:	0.1 to 3A @ 40°C
Rise time:	0.3 to 2.3µs
Test voltage:	U <sub>p</sub> /50Hz/2s max. according to VDE 110b
Max. partial discharge voltage:	1.5 x U <sub>nom</sub>
Temperature range (operation and storage):	-25°C to +70°C (25/70/21)
Flammability corresponding to:	UL 94V-0 listed materials

### Typical electrical schematic



IT pulse transformers are designed to offer you galvanic isolation for transformer coupled gate drives. The IT series provides negligible delays and the possibility of voltage scaling. They are available with single or double secondary winding for multiple gate drives. Choosing the IT product line brings you the rapid availability of a standard gate drive transformer. A wide selection on turns ratio, ignition current and voltages are designed to offer you the desired standard product.



### Features and benefits

- Galvanic separation.
- Voltage resistance up to 8kV.
- Allows high potential difference voltage scaling.
- Optional grounded shields.
- Vacuum potting.
- Very low partial discharge effects.
- PCB through hole mounting or faston types.
- Custom-specific versions on request.

### Typical applications

- Gate drive circuit
- Power supplies
- Power converters
- Frequency converters
- Switching applications
- DC/DC converters
- Line coupling transformers in high-speed data transmission

Pulse transformer selection table

Pulse transformer	Turns ratio	Ignition current $I_{ign}$ [A]	Voltage		Voltage time area $V_{ot}$ [V $\mu$ s]	Rise time $t_r$ [ $\mu$ s]	Inductance		Resistance		Coupling capacitance $C_k$ [pF]	Input/ Output connections		Weight [g]
			$U_{nom}$ [V]	$U_p$ [kV]			$L_p$ [mH]	$L_{str}$ [ $\mu$ H]	$R_p$ [ $\Omega$ ]	$R_s$ [ $\Omega$ ]				
IT 155	1:1	0.1	500	4	480	1	5	85	1.2	1.2	6	02		13
IT 245	1:1	0.1	750	4	500	1.2	8	100	1.48	1.48	10	02		6
IT 237	1:1	0.25	500	2.5	1100	1	25	35	1.9	2.2	50	02		14
IT 239	1:1	0.25	1000	6	300	2.3	3	80	0.9	0.9	5	02		13
IT 255	1:1	0.25	750	4	250	1.1	2.2	40	0.8	0.8	8	02		6
IT 258	1:1	1	750	3.2	250	0.25	2.5	3	0.62	0.75	80	02		6
IT 370	1:1	1	1000	5	4000	0.6	0.3	6	0.16	0.18	40	02		71
IT 364*	1:1	3	3000	8	5000	1.7	1.5	10	0.16	0.14	35		05	220
IT 246	2:1	0.1	750	4	200	0.4	7	35	2.1	1.1	7	02		6
IT 248	2:1	0.25	750	3.2	350	2.2	17	80	3.2	1.6	9	02		6
IT 260	3:1	0.1	500	3.2	200	0.3	12	30	2	0.8	8	02		6

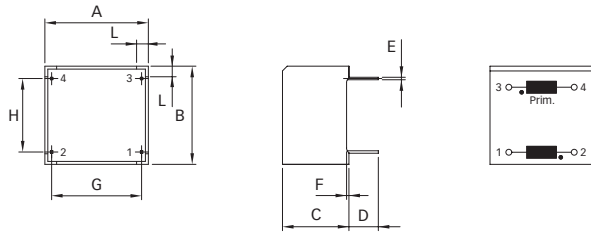
\* Not suitable for PCB-mounting.

Explanations:

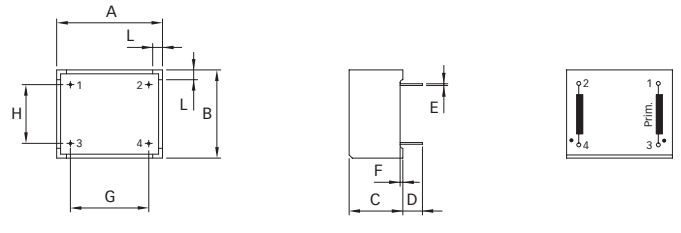
- $t_r$  rise time at given load resistor R and 70% of the output pulse height.
- $L_p$  primary inductance measured at 1kHz (secondary coils open).
- $L_{str}$  stray inductance measured at the secondary side, short circuit at the primary side. If there are several secondary coils only one at the time is connected (measuring frequency 10kHz).
- The ignition current is a set peak value where the voltage drop over the coil resistance is still insignificant (mostly below 1V).

**Mechanical data**

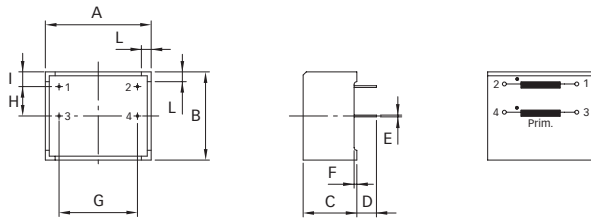
IT 245, IT 246, IT 248, IT 255, IT 258, IT 260



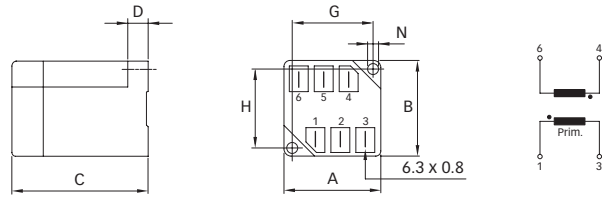
IT 239



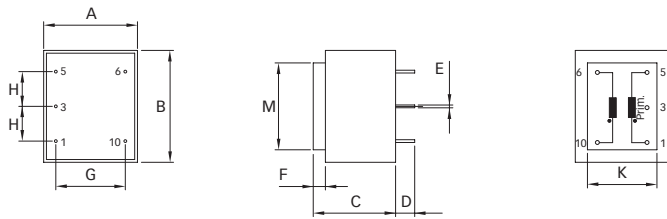
IT 155, IT 237



IT 364



IT 370



**Dimensions**

	IT 245	IT 246	IT 248	IT 255	IT 258	IT 260	IT 239	IT 155	IT 237	IT 364	IT 370	Tol.
<b>A</b>	17.6*	17.6*	17.6*	17.6*	17.6*	17.6*	27	27	27	50	27	±0.2
<b>B</b>	16.7*	16.7*	16.7*	16.7*	16.7*	16.7*	22.5	22.5	22.5	50	32.2	±0.2
<b>C</b>	11.3*	11.3*	11.3*	11.3*	11.3*	11.3*	13.7	13.7	13.7	60	23.7	±0.2
<b>D</b>	5	5	5	5	5	5	5	5	5	10*	5.5	+1/-0
<b>E</b>	∅0.42	∅0.42	∅0.42	∅0.42	∅0.42	∅0.42	∅0.45	∅0.45	∅0.45		∅0.8	
<b>F</b>	0.4	0.4	0.4	0.4	0.4	0.4	0.7	0.7	0.7		3.5	
<b>G</b>	15.3	15.3	15.3	15.3	15.3	15.3	20	20	20	42	20	±0.2
<b>H</b>	12.5	12.5	12.5	12.5	12.5	12.5	15	7.5	7.5	42	10	±0.2
<b>I</b>								3.5	3.5			±0.2
<b>L</b>	2	2	2	2	2	2	2.5	2.5	2.5			
<b>M</b>											25	±0.2
<b>N</b>										∅4.2		

\* Tolerance is ±0.1

All dimensions in mm; 1 inch = 25.4mm

Tolerances according: ISO 2768-m / EN 22768-m

#### Headquarters

**Schaffner EMV AG**  
4542 Luterbach  
Switzerland  
T +41 32 681 66 26  
F +41 32 681 66 41  
sales@schaffner.com  
[www.schaffner.com](http://www.schaffner.com)

#### China

**Schaffner EMC Ltd. Shanghai**  
T +86 21 6813 9855  
cschina@schaffner.com

#### Finland

**Schaffner Oy**  
T +358 19 357 271  
finlandsales@schaffner.com

#### France

**Schaffner EMC S.A.S.**  
T +33 1 34 34 30 60  
francesales@schaffner.com

#### Germany

**Schaffner Deutschland GmbH  
Vertrieb Karlsruhe**  
T +49 721 56910  
germanysales@schaffner.com

**Schaffner Deutschland GmbH**  
T +49 2951 6001 0  
buerensales@schaffner.com

**Schaffner Deutschland GmbH  
Nuertingen Branch**  
T +49 7022 21789 0  
nuertingensales@schaffner.com

#### Italy

**Schaffner EMC S.r.l.**  
T +39 02 66 04 30 45  
italysales@schaffner.com

#### Japan

**Schaffner EMC K.K.**  
T +81 3 5712 3650  
japansales@schaffner.com

#### Singapore

**Schaffner EMC Pte Ltd.**  
T +65 6377 3283  
singaporesales@schaffner.com

#### Spain

**Schaffner EMC España**  
T +34 618 176 133  
spainsales@schaffner.com

#### Sweden

**Schaffner EMC AB**  
T +46 8 5792 1121  
swedensales@schaffner.com

#### Switzerland

**Schaffner EMV AG**  
T +41 32 681 66 26  
sales@schaffner.ch

#### Taiwan

**Schaffner EMV Ltd.**  
T +886 2 87525050  
taiwansales@schaffner.com

#### Thailand

**Schaffner EMC Co. Ltd.**  
T +66 53 58 11 04  
thailandsales@schaffner.com

#### UK

**Schaffner Ltd.**  
T +44 118 9770070  
uksales@schaffner.com

#### USA

**Schaffner EMC Inc.**  
T +1 732 225 9533  
Toll free 1 800 367 5566  
usasales@schaffner.com

To find your local partner within Schaffner's global network, please go to

[www.schaffner.com](http://www.schaffner.com)

May 2010

© 2010 Schaffner EMC.  
Specifications subject to change without notice. All trademarks recognized.

Schaffner is an ISO-registered company. Its products are designed and manufactured under the strict quality and environmental requirements of the ISO 9001 and ISO 14001 standards.

This document has been carefully checked. However, Schaffner does not assume any liability for errors or inaccuracies.