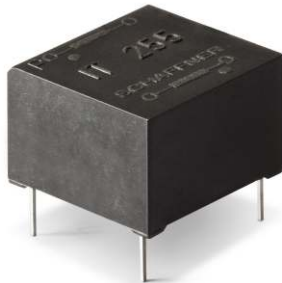




Pulse Transformers IT series

SCHAFFNER
energy efficiency and reliability

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

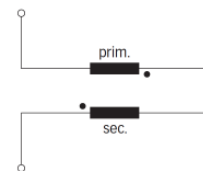
Approvals

RoHS

Technical specifications

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

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

	Turns ratio	Ignition current I_{ign}	Voltage		Voltage time area V_{0t}	Rise time t_r	Inductance		Resistance		Coupling capacitance C_k	Input/ Output connections		Weight
			U_{nom}	U_p			L_p	L_{str}	R_p	R_s				
		[A]	[V]	[kV]	[Vµs]	[µs]	[mH]	[µH]	[Ω]	[Ω]	[pF]			[g]
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

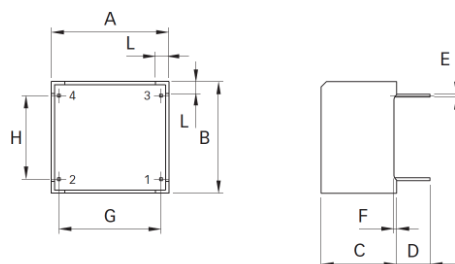
* Not suitable for PCB-mounting.

Explanations:

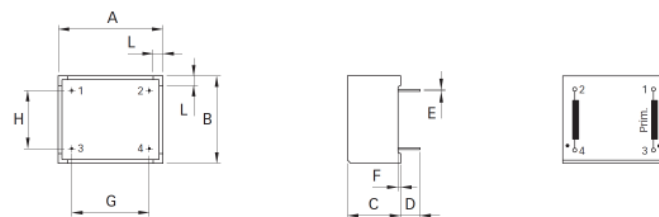
- t_r rise time at given load resistor R and 70% of the output pulse height.
- L_p primary inductance measured at 1kHz (secondary coil open).
- L_{str} stray inductance measured at the secondary side, short circuit at the primary side. If there are several secondary coils only one at the time is connected (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

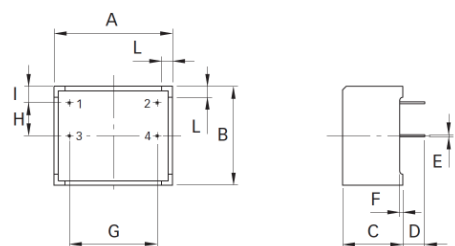
IT 245, IT 246, IT 248, IT 255, IT 258, IT 260



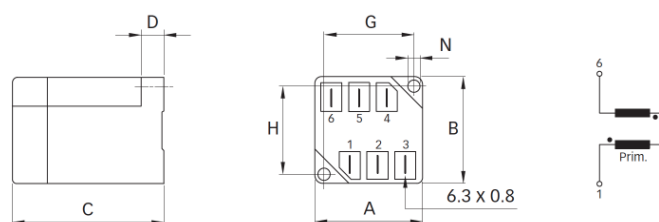
IT 239



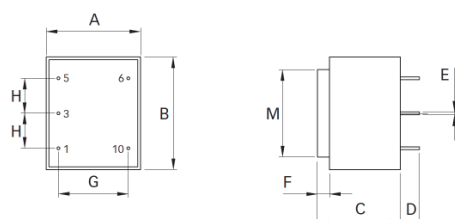
IT 155, IT 237



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.
A	17.6*	17.6*	17.6*	17.6*	17.6*	17.6*	27	27	27	50	27	±0.2
B	16.7*	16.7*	16.7*	16.7*	16.7*	16.7*	22.5	22.5	22.5	50	32.2	±0.2
C	11.3*	11.3*	11.3*	11.3*	11.3*	11.3*	13.7	13.7	13.7	60	23.7	±0.2
D	5	5	5	5	5	5	5	5	5	10*	5.5	+1/-0
E	0.42	0.42	0.42	0.42	0.42	0.42	0.45	0.45	0.45		Ø0.8	
F	0.4	0.4	0.4	0.4	0.4	0.4	0.7	0.7	0.7		3.5	
G	15.3	15.3	15.3	15.3	15.3	15.3	20	20	20	42	20	±0.2
H	12.5	12.5	12.5	12.5	12.5	12.5	15	7.5	7.5	42	10	±0.2
I								3.5	3.5			±0.2
L	2	2	2	2	2	2	2.5	2.5	2.5			
M											25	±0.2
N										Ø4.2		

* Tolerance is ±0.1

All dimensions in mm; 1 inch = 25.4mm

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

**Headquarters, global innovation
and development center**

Schaffner Group

Nordstrasse 11
4542 Luterbach
Switzerland
T +41 32 681 66 26
F +41 32 681 66 30
info@schaffner.com
www.schaffner.com

To find your local partner within
Schaffner's global network, please go
to www.schaffner.com

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checked. However, Schaffner does not
assume any liability for errors or
inaccuracies.

Sales and application centers

China

Schaffner EMC Ltd. Shanghai
T20-3, No 565 Chuangye Road
Pudong New Area
Shanghai 201201
T +86 21 3813 9500
F F +86 21 3813 9501 / 02
cschina@schaffner.com
<http://www.schaffner.com.cn/>

Finland

Schaffner Oy
Sauvonrinne 19 H
Lohja 08500
T +358 19 35 72 71
finlandsales@schaffner.com

France

Schaffner EMC S.A.S.
112, Quai de Bezons, Boîte postale 133
Argenteuil 95103
T +33 1 34 34 30 60
F +33 1 39 47 02 28
francesales@schaffner.com

Germany

Schaffner Deutschland GmbH
Westring 18
Büren 33142
T +49 2951 60 01 0
F +49 2951 60 01 23
buerensales@schaffner.com

Italy

Schaffner EMC S.r.l.
Via Galileo Galilei 47
Cinisello Balsamo (MI) 20092
T +39 02 66 04 30 45/47
F +39 02 61 23 943
italysales@schaffner.com

Japan

Schaffner EMC K.K.
1-32-12, Kamiyama, Setagaya-ku
Mitsui-Seimei Sangenjaya Bldg. 7F
Tokyo 154-0011
T +81 3 5712 3650
F +81 3 5712 3651
japansales@schaffner.com
<http://www.schaffner.jp>

Singapore

Schaffner EMC Pte Ltd.
Blk 3015A Ubi Road 1 05-09 Kampong Ubi
Industrial Estate
Singapore 408705
T +65 6377 3283
F +65 6377 3281
singaporesales@schaffner.com

Spain

Schaffner EMC España
Miniparc III, Edificio E
Madrid 28109
T +34 618 176 133
spainsales@schaffner.com

Sweden

Schaffner EMC AB
Turebergstorg 1, 6
Sollentuna 19147
T +46 8 5792 1121 / 22
F +46 8 92 96 90
swedensales@schaffner.com

Switzerland

Schaffner EMV AG
Nordstrasse 11
Luterbach 4542
T +41 32 6816 626
F +41 32 6816 641
sales@schaffner.ch

Taiwan R.O.C.

Schaffner EMV Ltd.
6F. No. 413 Rui Guang Road
Neihu District Taipei City 114
T +886 2 87525050
F +886 2 87518086
taiwansales@schaffner.com

Thailand

Schaffner EMC Co. Ltd.
Amphur Muang P.O. Box 14
Northern Region Industrial Estate 67 Moo 4
Tambon Ban Klang
Lamphun 51000
T +66 53 58 11 04
F +66 53 58 10 19
thailandsales@schaffner.com

UK

Schaffner Ltd.
Molly Millars Lane Wokingham
Berkshire RG41 2PL
T +44 118 9770070
F +44 118 9792969
uksales@schaffner.com
<http://www.schaffner.uk.com>

USA

Schaffner EMC Inc.
52 Mayfield Avenue
Edison 08837
T 1-800-367-5566
T 732-225-9533
F 732-225-4789
usasales@schaffner.com
<http://www.schaffner.com/us>