GT04 Series
Gate Drive Transformer

Features

- Meets medical safety isolation requirements
- Designed for frequencies from 20 kHz to 300 kHz
- Available in UL Class F (155℃) or Economical Class B(130℃) Versions

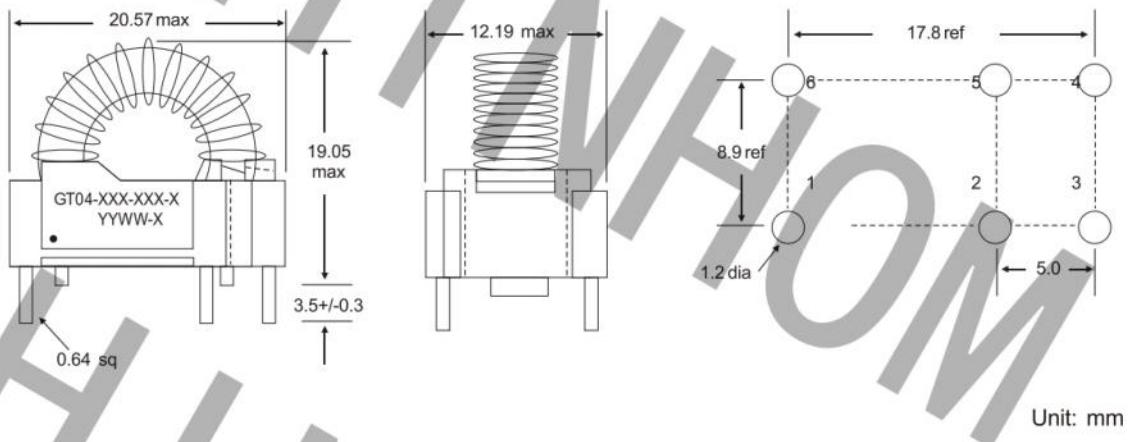
Applications

- Gate Drive Transformer
- Signal Transformer Across Isolation Barriers
- Off-Line AC/DC Converters
- High-Powered DC/DC Converters

Packaging Tray=45 pieces, Box=12 trays, Box=540 pieces

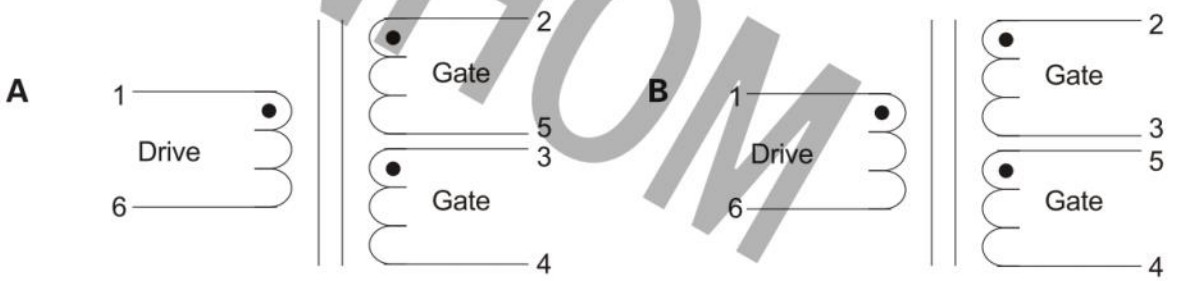
Mechanical

Recommended PCB Layout



Unit: mm

Schematic



Gate Drive Transformer GT04 Series

ELECTRICAL SPECIFICATIONS—STANDARD VERSION

Part No[5]	Turns Ratio (Drive : Gate)	Primary[1] Inductance (mH min.)	DCR (Ω max.) N1:N2:N3	Leakage Inductance (μH max.)	E-T Product[6] (V-μs)	HiPot (V_{dc})
GT04-111-063	1:1:1	0.247	0.04:0.04:0.04	0.2	63	4500
GT04-111-126	1:1:1	0.990	0.07:0.07:0.07	0.4	126	4500
GT04-111-189	1:1:1	2.220	0.2:0.2:0.2	0.5	189	4500
GT04-111-252	1:1:1	3.960	0.5:0.5:0.5	.7	252	4500
GT04-111-315	1:1:1	6.180	1:1:1	.7	315	4500
GT04-111-378	1:1:1	8.810	2.7:2.7:2.7	1.2	378	4500
GT04-122-063	1：2.5：2.5	0.039	0.02:0.04:0.04	0.15	63	4500
GT04-122-126	1：2.5：2.5	0.158	0.04:0.07:0.07	0.2	126	4500
GT04-122-189	1：2.5：2.5	0.356	0.1:0.2:0.2	0.25	189	4500
GT04-122-252	1：2.5：2.5	0.634	0.2:0.45:0.45	0.3	315	4500
GT04-122-315	1：2.5：2.5	0.990	0.4:0.9:0.9	0.4	315	4500
GT04-122-378	1：2.5：2.5	1.420	1.1:2.5:2.5	0.5	378	4500

ELECTRICAL SPECIFICATIONS—ECONOMY VERSION

Part No[5]	Turns Ratio (Drive : Gate)	Primary[1] Inductance (mH min.)	DCR (Ω max.) N1:N2:N3	Leakage Inductance (μH max.)	E-T Product[6] (V-μs)	HiPot (V_{dc})
GT04-111-063-_E	1:1:1	0.247	0.07:0.04:0.04	0.4	63	4500
GT04-111-126-_E	1:1:1	0.990	0.16:0.07:0.07	0.6	126	4500
GT04-111-189-_E	1:1:1	2.220	0.2:0.2:0.2	0.5	189	4500
GT04-111-252-_E	1:1:1	3.960	0.8:0.5:0.5	0.9	252	4500
GT04-111-315-_E	1:1:1	6.180	1:1:1	0.8	315	4500
GT04-111-378-_E	1:1:1	8.910	1.2:2.7:2.7	1.5	378	4500
GT04-122-063-_E	1：2.5：2.5	0.039	0.04:0.04:0.04	0.4	63	4500
GT04-122-126-_E	1：2.5：2.5	0.158	0.06:0.07:0.07	0.4	126	4500
GT04-122-189-_E	1：2.5：2.5	0.356	0.1:0.2:0.2	0.25	189	4500
GT04-122-252-_E	1：2.5：2.5	0.634	0.34:0.45:0.45	0.6	252	4500
GT04-122-315-_E	1：2.5：2.5	0.990	0.4:0.9:0.9	0.4	315	4500
GT04-122-378-_E	1：2.5：2.5	1.420	0.5:2.5:2.5	0.9	378	4500

1. Tested at 10 kHz,0.1Vrms 2.Electrical specifications at 25℃. 3.Operating range: -40℃ to +130℃. 4.Meets UL 84V-0.
5. Select pin assignment option based on schematics above. For other options please contact
   Select pin assignment option based on schematics For other options please contact
6. E-T product rating is for the secondary (gate) windings and is based upon a peak flux denisty of 2200 Gauss at 25℃ when used in a bipolar -driven application.

These transformers are wound on high quality ferrite core and are intended for a very wide range of applications:

- firing thyristors and triacs;
- driving bipolar transistor and IGBT;
- driving FET and MOSFET transistors;
- line coupling in high speed data transmission (for the smallest sizes).

Three case sizes are presented, with increasing power rating, so that they can effectively find use as drivers in any low-to-medium power circuit for control and conversion of electrical energy, where the following features are requested at the same time:

- high power pulse trasmission capability (high amplitude with proper duration) and low magnetization current;
- low leakage inductance, wich allows high steepness and short rise time of the wave form;
- low coupling capacitance, so that a good decoupling and immunity to interferences is reached;
- small size, achivied with the use of toroidal core;
- high primary to secondary withstanding voltage by means of a proper wires insulation and rosin filling;
- international standards compliance.

Symbol Definitions

Turns Ratio (n)
Turns ratio of the primary winding to each secondary winding; first digit refers to the primary.

Voltage-time Area (U•t)
Minimum Voltage-time product of the pulse amplitude and pulse width, measured at half of the pulse height across the unloaded secondary in the unipolar mode.

Primary Inductance (PRI Induct)
Inductance of the primary winding measured at 10 kHz/0,1 mA (reference values only)

Primary Leakage Inductance (PRI Leak Induct)
Leakage inductance of the primary winding with secondary winding(s) connected in series and short circuited; measured at 100 kHz.

Winding Capacitance (PRI/SEC Cw/w)
Coupling capacitance between primary and secondary winding(s); measured at 10 kHz.

Primary Resistance (PRI DCR)
DC resistance of the primary winding.

Secondary Resistance (SEC DCR)
DC resistance of (each) secondary winding.

Test Voltage (Up)
Unrepeated test voltage at 50 Hz/1 to 2 sec, between primary to secondary winding(s).

Ignition Current (I c)
Reference current value giving a low voltage - drop under 1 V - across the secondary resistance.

Pulse Rise Time (Tr)
Rise time between 10% and 90% of the output pulse amplitude, measured on the secondary loaded with RL resistor.

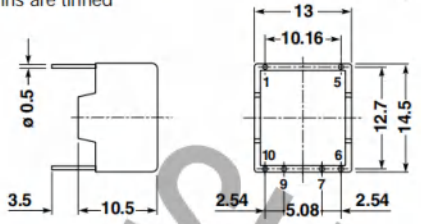
Secondary resistor load (RL)

Working Voltage (Ueff)
Maximum rms working voltage of primary winding.

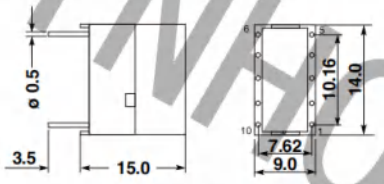
CASE VERSION **Ignition current up to 100 mA**

These small size and low power transformers are fitted on toroid cores of high performance (ferrite). The wide choice of inductance values and turn ratios make them suitable as drivers of thyristors, triacs, bipolar transistors or MOSFET's in a variety of high frequency applications, such as small power supplies, inverters etc., or also as couplers in high speed data trasmission.

Dimensions in mm
Pins are tinned



H: horizontal



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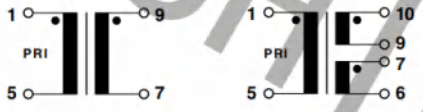


o Pins
• Start of winding

TYPES

Code	Turns ratio n ± 2%	U•t Vμsec min.	Tr μsec max	PRI Indut mH	PRI Leak Induc μH	PRI/SEC Cw/w pF	PRI DCR Ω	SEC DCR Ω	Ueff V	Up kV
GT12V/H-101	1:1	65	0.05	1.0	1.5	35	0.20	0.20	250	2
GT12V/H-102	2:1	50	0.05	2.0	3.0	30	0,30	0.15	250	2
GT12V/H-103	1:1:1	45	0.05	0.5	0.8	24	0.15	0.15	250	2
GT12V/H-104	1:1	40	0.05	0.15	0.7	24	0.07	0.07	600	4
GT12V/H-105	1:1	45	0.05	0.5	0.7	30	0.08	0.08	600	4

Turns ratio: first digit refers to the primary.
Tr is measured with RL = 100 Ω
Other type can be supplied according to customer's specifications.

Symbol definitions p. 2

Technical Data

Climatic category:	DIN GKC (-40 to +125°C; humidity cat. C)
Overtemperature of the windings:	<55°C
Max. windings temperature:	115°C
Approx. weight:	3 g

The transformers are designed and tested in accordance with EN 138100; EN 60938-1
The cases are of flame-retardant plastic material in accordance with UL 94V-0

These transformers are wound on high quality ferrite core and are intended for a very wide range of applications:

- firing thyristors and triacs;
- driving bipolar transistor and IGBT;
- driving FET and MOSFET transistors;
- line coupling in high speed data transmission (for the smallest sizes).

Three case sizes are presented, with increasing power rating, so that they can effectively find use as drivers in any low-to-medium power circuit for control and conversion of electrical energy, where the following features are requested at the same time:

- high power pulse trasmission capability (high amplitude with proper duration) and low magnetization current;
- low leakage inductance, wich allows high steepness and short rise time of the wave form;
- low coupling capacitance, so that a good decoupling and immunity to interferences is reached;
- small size, achivied with the use of toroidal core;
- high primary to secondary withstanding voltage by means of a proper wires insulation and rosin filling;
- international standards compliance.

Symbol Definitions

Turns Ratio (n)
Turns ratio of the primary winding to each secondary winding; first digit refers to the primary.

Voltage-time Area (U•t)
Minimum Voltage-time product of the pulse amplitude and pulse width, measured at half of the pulse height across the unloaded secondary in the unipolar mode.

Primary Inductance (PRI Induct)
Inductance of the primary winding measured at 10 kHz/0,1 mA (reference values only)

Primary Leakage Inductance (PRI Leak Induct)
Leakage inductance of the primary winding with secondary winding(s) connected in series and short circuited; measured at 100 kHz.

Winding Capacitance (PRI/SEC Cw/w)
Coupling capacitance between primary and secondary winding(s); measured at 10 kHz.

Primary Resistance (PRI DCR)
DC resistance of the primary winding.

Secondary Resistance (SEC DCR)
DC resistance of (each) secondary winding.

Test Voltage (Up)
Unrepeated test voltage at 50 Hz/1 to 2 sec, between primary to secondary winding(s).

Ignition Current (I c)
Reference current value giving a low voltage - drop under 1 V - across the secondary resistance.

Pulse Rise Time (Tr)
Rise time between 10% and 90% of the output pulse amplitude, measured on the secondary loaded with RL resistor.

Secondary resistor load (RL)

Working Voltage (Ueff)
Maximum rms working voltage of primary winding.

SHAANXI SHINHOM ENTERPRISE CO.,LTD

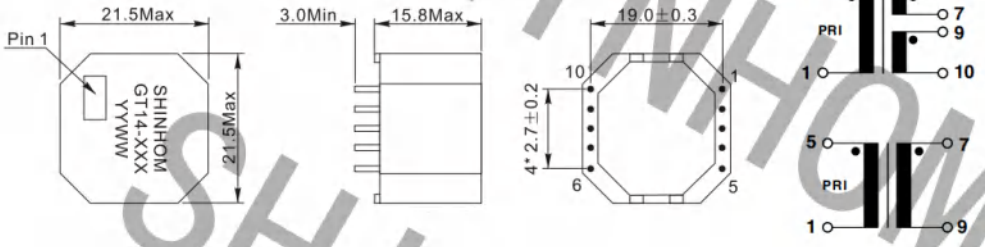
PULSE GATE DRIVE TRANSFORMER

CASE VERSION **Ignition up to 0.5 A**

These small size and low power transformers are fitted on toroid cores of high performance (ferrite). The wide choice of inductance values and turn ratios make them suitable as drivers of thyristors, triacs, bipolar transistors or MOSFET's in a variety of high frequency applications, such as small power supplies, inverters etc.

Dimensions in mm

o Pins
• Start of winding



TYPES

Code	Turns ratio n ±2%	U•t Vμsec min.	Tr μsec max	PRI Indut mH	PRI Leak Induc μH	PRI/SEC Cw/w pF	PRI DCR Ω	SEC DCR Ω	Ueff V	Up kV
GT14-101	3:1	150	1	17	230	7	1.10	0.40	600	4
GT14-102	1:1	150	1.5	2	30	9	0.37	0.37	600	4
GT14-103	1:1	230	0.05	5	1	110	0.55	0.55	250	2
GT14-104	2:1	110	0.05	5	4	50	0.55	0.30	250	2
GT14-105	3:1	150	0.1	17	14	75	1.10	0.40	250	2
GT14-106	1:1:1	150	0.05	2	0.6	70	0.37	0.37	250	2
GT14-107	2:1:1	110	0.1	5	6	55	0.55	0.30	250	2
GT14-108	1:1	110	0.05	1	1	45	0.15	0.15	600	4
GT14-109	1:1	150	0.05	2	1	80	0.20	0.20	600	4
GT14-110	1:1:1	110	0.05	1	0.8	60	0.15	0.15	600	4

Turns ratio: first digit refers to the primary.
Tr is measured with RL = 47 Ω

Symbol definitions p. 2

Technical Data

Climatic category:	DIN GKC (-40 to +125°C; humidity cat. C)
Overtemperature of the windings:	<55°C
Max. windings temperature:	115°C
Approx. weight:	5 g

The transformers are designed and tested in accordance with EN 138100; EN 60938-1
The cases are of flame-retardant plastic material in accordance with UL 94V-0

GATE DRIVER TRANSFORMER

GT15 SERIES

FEATURES:

- RoHS compliant
- Inductance to 16.3mH
- Up to 482 V μ s Et rating
- PCB mounting
- UL94V-0 package materials
- Up to 4000Vrms isolation
- Backward compatible with Sn/Pb soldering systems

APPLCATIONS:

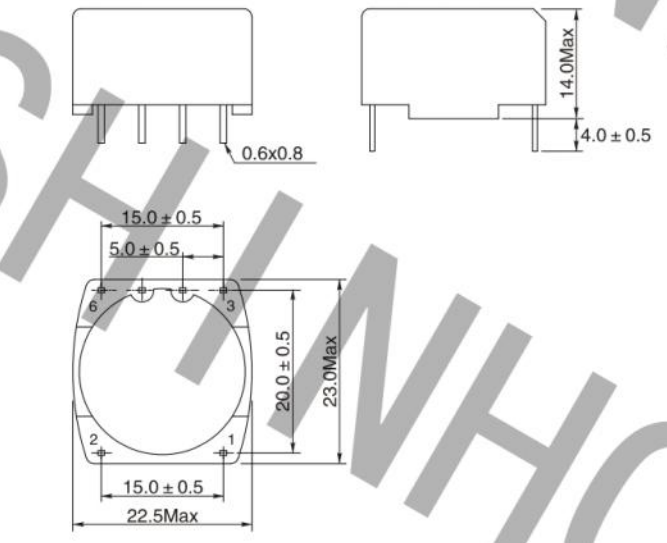
The GT15 series of pulse transformers are intended for medium power applications in switch mode power supplies and thyristor / triac firing (e.g. motor control applications). The standard turns ratios may be modified on any transformer with three windings by connecting any two windings in series.

ELECTRICAL CHARACTERISTICS@25℃

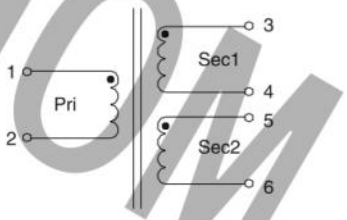
Part Number	Turns ratio	Pri Inductance (mH) Min 1.0KHz,0.1V	Pri Et Constant (Vus) Min	LK (uH) Max 100KHz,0.1V	Interwinding Capacitance (pF) Max	DCR			Hi-Pot (kVrms) 50Hz,1S
						Pri (Ω) Max	Sec1 (Ω) Max	Sec2 (Ω) Max	
GT15-02	1:1:1	1.0	120	3.0	40	0.25	0.22	0.28	2.5
GT15-03	2:1:1	1.0	120	3.5	30	0.24	0.12	0.15	4.0
GT15-04	1:1	4.0	240	5.0	55	0.86	0.83	/	2.5
GT15-05	1:1:1	4.0	240	11.0	35	0.90	0.76	1.10	2.5
GT15-08	1:1:1	16.3	482	40.0	40	3.60	3.10	4.20	2.5
GT15-09	2:1:1	16.3	482	40.0	40	3.50	1.60	2.00	2.5

TECHNICAL INFORMATION & WINDING

Dimensions(mm)



Winding



ABSOLUTE MAXIMUM RATINGS

Operating temperature rang: 0℃ to +70℃
Storage temperature rang: -60℃ to +125℃

NOTES

Electrical specification at 25℃

These transformers are wound on high quality ferrite core and are intended for a very wide range of applications:

- firing thyristors and triacs;
- driving bipolar transistor and IGBT;
- driving FET and MOSFET transistors;
- line coupling in high speed data transmission (for the smallest sizes).

Three case sizes are presented, with increasing power rating, so that they can effectively find use as drivers in any low-to-medium power circuit for control and conversion of electrical energy, where the following features are requested at the same time:

- high power pulse trasmission capability (high amplitude with proper duration) and low magnetization current;
- low leakage inductance, wich allows high steepness and short rise time of the wave form;
- low coupling capacitance, so that a good decoupling and immunity to interferences is reached;
- small size, achivied with the use of toroidal core;
- high primary to secondary withstanding voltage by means of a proper wires insulation and rosin filling;
- international standards compliance.

Symbol Definitions

Turns Ratio (n)
Turns ratio of the primary winding to each secondary winding; first digit refers to the primary.

Voltage-time Area (U•t)
Minimum Voltage-time product of the pulse amplitude and pulse width, measured at half of the pulse height across the unloaded secondary in the unipolar mode.

Primary Inductance (PRI Induct)
Inductance of the primary winding measured at 10 kHz/0,1 mA (reference values only)

Primary Leakage Inductance (PRI Leak Induct)
Leakage inductance of the primary winding with secondary winding(s) connected in series and short circuited; measured at 100 kHz.

Winding Capacitance (PRI/SEC Cw/w)
Coupling capacitance between primary and secondary winding(s); measured at 10 kHz.

Primary Resistance (PRI DCR)
DC resistance of the primary winding.

Secondary Resistance (SEC DCR)
DC resistance of (each) secondary winding.

Test Voltage (Up)
Unrepeated test voltage at 50 Hz/1 to 2 sec, between primary to secondary winding(s).

Ignition Current (I c)
Reference current value giving a low voltage - drop under 1 V - across the secondary resistance.

Pulse Rise Time (Tr)
Rise time between 10% and 90% of the output pulse amplitude, measured on the secondary loaded with RL resistor.

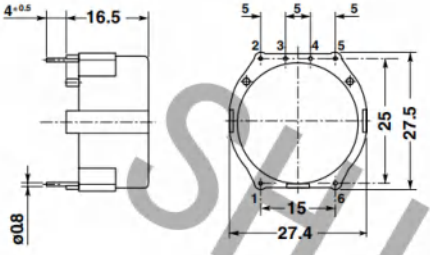
Secondary resistor load (RL)

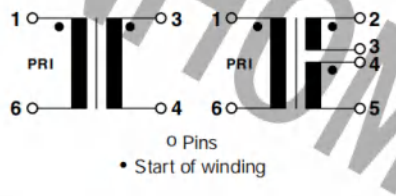
Working Voltage (Ueff)
Maximum rms working voltage of primary winding.

CASE VERSION **Ignition Current up to 1 A**

These small size and low power transformers are fitted on toroid cores of high performance (ferrite). The wide choice of inductance values and turn ratios make them suitable as drivers of thyristors, triacs, bipolar transistors or MOSFET's in a variety of high frequency applications, such as small power supplies, inverters etc.

Dimensions in mm
Pins are tinned





TYPES

Code	Turns ratio n ±2%	U•t Vμsec min.	Tr μsec max	PRI Indut mH	PRI Leak Induc μH	PRI/SEC Cw/w pF	PRI DCR Ω	SEC DCR Ω	Ueff V	Up kV
GT16-101	1:1	230	4	2	25	12	0.37	0.37	600	4
GT16-102	1:1	180	0.2	1	1.0	40	0.15	0.15	600	4
GT16-103	1:1	280	0.3	2	1.8	60	0.20	0.20	600	4
GT16-104	1:1	450	0.4	5	2.0	125	0.33	0.33	600	4
GT16-105	1:1:1	180	0.2	1	1.0	45	0.15	0.15	600	4
GT16-106	2:1:1	120	0.2	2	2.0	40	0.20	0.10	600	4
GT16-107	2:1:1	220	0.2	5	3.5	80	0.35	0.16	600	4

Turns ratio: first digit refers to the primary.
Tr is measured with RL = 10 Ω
Other type can be supplied according to customer's specifications.

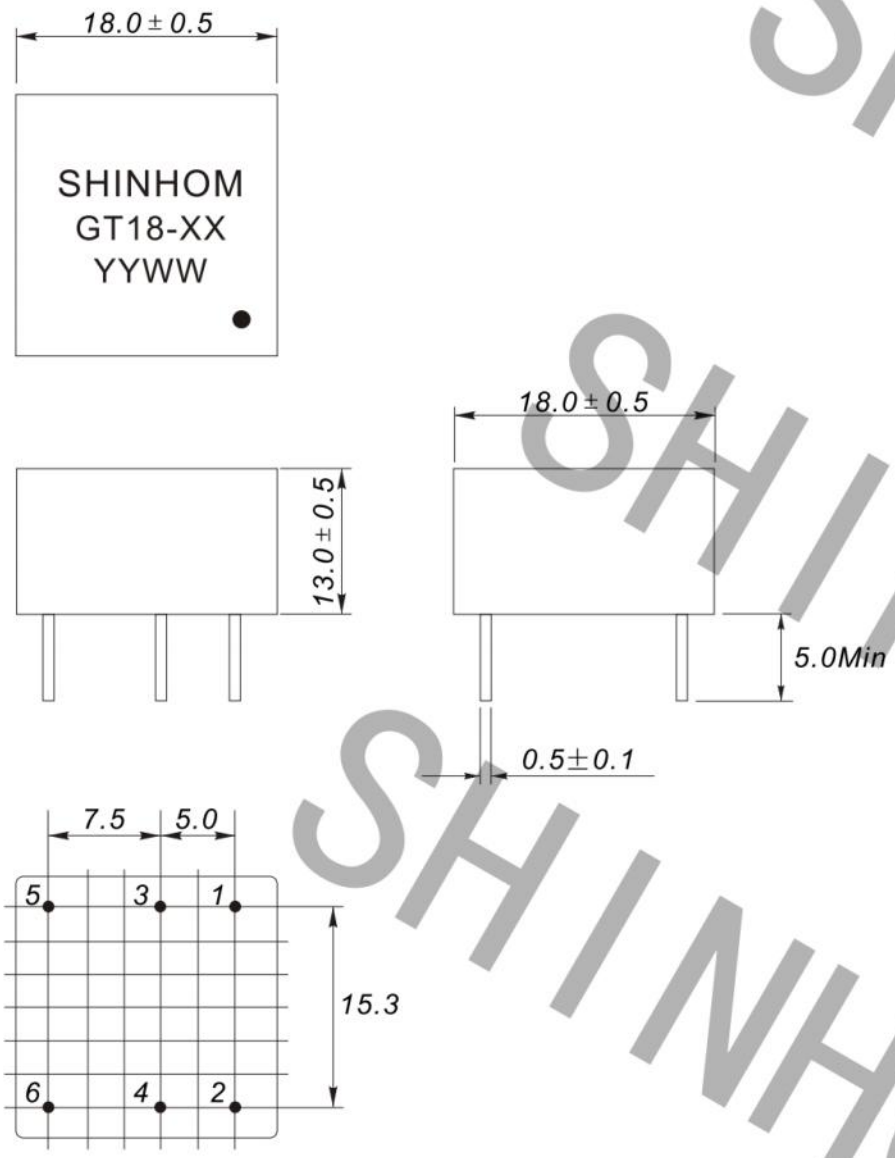
Symbol definitions p. 2

Technical Data

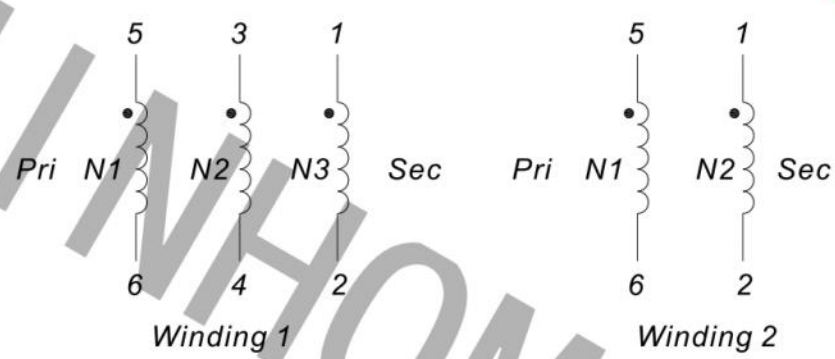
Climatic category:	DIN GKC (-40 to +125°C)
Overtemperature of the windings:	<55°C
Max. windings temperature:	115°C
Approx. weight:	16 g

The transformers are designed and tested in accordance with EN 138100; EN 60938-1
The cases are of flame-retardant plastic material in accordance with UL 94V-0

1.PHYSICAL CHARACTERISTICS(mm)



2.ELECTRONICAL SCHEMATIC



RoHS COMPLIANT

3.ELECTRONICAL SPECIFICATIONS

Prat No. GT18-XXX	102	202	302	402	502	602	702	802	902	103	203
Turns ratio	1:1	1:1:1	1:1:1	2:1	2:1:1	3:1:1	1:1	2:1:1	3:1	2:1	1:1
Nominal voltage(V)	750	500	500	750	500	500	750	500	500	750	750
Voltage time area(Vus)	500	250	250	200	200	200	250	200	600	350	250
Pri Inductance(mH)	8	2.5	2.5	7	20	15	2.5	7	12	17	2.2
Leakage Inductance(uH)	100	75	85	35	100	70	3	55	30	80	40
DCR Pri(Ω)	1.4	0.6	0.7	1.8	5.6	2.8	0.62	1.8	1.8	3.2	0.8
Sec(Ω)	1.4	0.6	0.7	1	2.2	0.9	0.75	1	0.7	1.6	0.8
Coupling capacitance(pF)	10	7	7	7	7	9	80	7	8	7	8
Hi-Pot(KV)	4	3.2	3.2	4	4	4	4	3.2	3.2	3.2	4
Winding	2	1	1	2	1	1	2	1	2	2	2

NAME:	Pulse Gate drive Transformer		
CUSTOMER P/N:		DATE:	2011-09-07
SHINHOM P/N:	GT18 Series	REV: A0	PAGE
DRAWN BY	CHECKED BY	APPROVE BY	

SHINHOM
SHAANXISHINHOM ENTERPRISE CO LTD

GATE DRIVER TRANSFORMER FOR IGBT

GT28 SERIES

FEATURES:

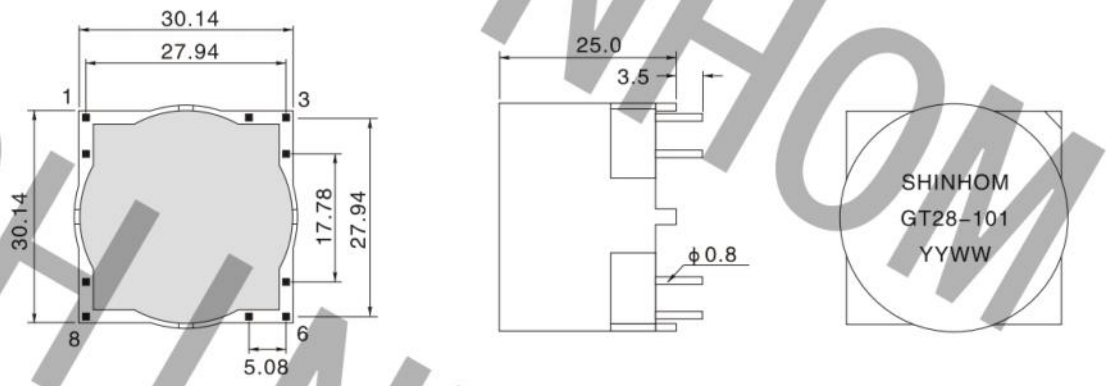
- Low coupling capacitance, high anti-interference capability
- Low leakage, excellent output pulse waveform
- No switch delay, high instantaneous transmission power
- High electrical strength, safe and reliable
- Fully enclosed, good mechanical and corrosion resistance
- Compact size, DIP installation
- Size 30.14x27.94x25mm
- Conforms to UL91-V0

ELECTRICAL CHARACTERISTICS@25℃

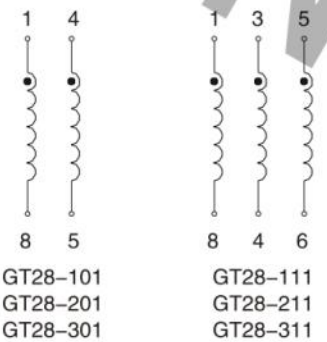
Part Number	Turns ratio	Pri Inductance (mH) 1.0KHz,0.3V	Pri impulse voltage (V)	Sec impulse voltage (V)	Pulse width (uS)	Et Constant (Vus) Min	Hi-Pot (kVrms) 50Hz,1min
GT28-101	1:1	2~5	15	13	66.6	1000	6
GT28-201	2:1	2~5	20	9	50	1000	6
GT28-301	3:1	2~5	30	9	33.3	1000	6
GT28-111	1:1:1	2~5	15	13	66.6	1000	6
GT28-211	2:1:1	2~5	20	9	50	1000	6
GT28-311	3:1:1	2~5	30	9	33.3	1000	6

TECHNICAL INFORMATION & WINDING

Dimensions(mm)



Winding



GT28-101
GT28-201
GT28-301

GT28-111
GT28-211
GT28-311

NOTES

- Electrical specification at 25℃
- Ambient temperature ranges from -40℃ to +85℃
- Insulation heat resistance Class F(155℃)
- Insulation resistance 1000MΩ Min
- Operating frequency 100Hz~50KHz

MOSFET / TRIAC / SCR Trigger transformers

GT SERIES

FEATURES:

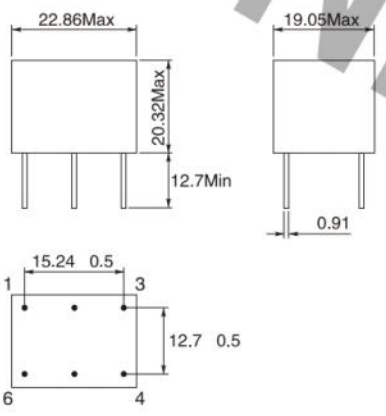
- Ideal for use as trigger transformers in MOSFET,SCR and TRIACcircuits
- High isolation voltages – Hi–pot tested to 2500 VAC
- Fully encapsulated
- Designed for fast rise time applications

ELECTRICAL CHARACTERISTICS:@25℃

PART NUMBER	TURNS RATIO	PRIMARY INDUCTANCE (mH–MIN.)	PRIMARY ET–CONSTANT	LEAKAGE INDUCTANCE	Ciw (pf MAX.)	DCR PRI.	DCR SEC.	DCR SEC.	SCHEMATIC
GT500	1:1	0.25	45	5	20	1.0	1.0	N/A	2
GT501	1:1	1.0	90	20	30	2.0	2.0	N/A	2
GT502	1:1	5.0	180	45	30	3.0	3.0	N/A	2
GT503	1:1	20.0	360	200	50	5.0	5.0	N/A	2
GT504	1:1:1	0.25	45	5	20	1.0	1.0	1.0	1
GT505	1:1:1	1.0	90	20	30	2.0	2.0	2.0	1
GT506	1:1:1	5.0	180	45	30	3.0	3.0	3.0	1
GT507	1:1:1	20.0	360	200	50	5.0	5.0	5.0	1
GT508	2:1	1.0	90	40	30	2.0	1.0	N/A	2
GT509	2:1	5.0	180	60	30	3.0	2.0	N/A	2
GT510	2:1:1	1.0	90	40	30	2.0	1.0	1.0	1
GT511	2:1:1	5.0	180	60	30	3.0	2.0	2.0	1
GT512	5:1	20:0	360	200	50	5.0	2.0	N/A	2
GT513	5:1:1	20:0	360	200	50	5.0	2.0	2.0	1
GT570	1:1	0.25	45	5	20	1.0	1.0	N/A	3
GT571	1:1:1	0.25	45	5	20	1:0	1:0	1:0	4
GT572	1:1	1:0	90	20	30	2:0	2:0	N/A	3
GT573	1:1:1	1.0	90	20	30	2.0	2.0	2.0	4
GT574	1:1	5.0	180	45	30	3:0	3:0	N/A	3
GT575	1:1:1	5.0	180	45	30	3.0	3.0	3.0	4
GT576	1:1	20.0	360	200	50	6.0	6.0	N/A	3
GT577	1:1:1	20.0	360	75	50	3.0	3.0	3.0	4
GT578	2:1	1:0	90	40	30	2.0	1.0	N/A	3
GT579	2:1:1	1.0	90	60	30	2.0	1.0	1.0	4
GT580	2:1	5.0	180	40	30	3.0	2.0	N/A	3
GT581	2:1:1	5.0	180	45	30	3.0	2.0	2.0	4
GT582	2:1	20:0	360	200	75	5.0	3.0	N/A	3
GT583	2:1:1	20:0	360	200	75	3.0	2.0	2.0	4
GT584	5:1	20:0	360	200	50	5.0	2.0	N/A	3
GT585	5:1:1	20:0	360	200	50	5.0	2.0	2.0	4

MECHANICALS & SCHEMATICS

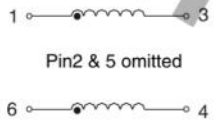
Dimensions(mm)



SCHEMATIC 1

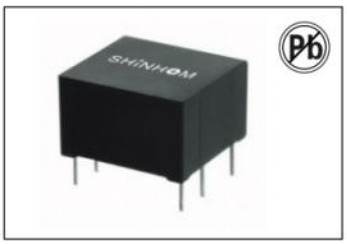
SCHEMATIC 2

SCHEMATIC 3



SCHEMATIC 4

Note:All specifications subject to change without notice.



GATE DRIVE PULSE TRANSFORMERS

TX12XX SERIES

FEATURES:

- ROHS compliant
- UL94V–0 Package Material
- Isolation to 4Kvrms
- Compact Footprint
- PCB Mounting
- Backward cmpatible with Sn/PB Soldering systems.

OPTIONS:

- Bulk packaging is standard
- Custom design available

COMMON APPLICATIONS:

- Signal isolatin and use in small isolated power supplies.
- Gate drive circuit
- Power supplies
- Frequency converters
- Switching applicatins
- DC/DC converters
- Line coupliing transformers in high–speed data transmission

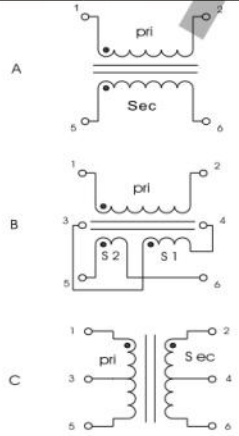
ELECTRICAL CHARACTERISTICS

Part NO	Turns Ratio ±2%	Min.Primary Inductance (MH)	Min.Primary constant,Er (Vus)	MinLeakage Indctance (Uh)	Max. Interwinding capacitance (PF)	Max.DC Resistance Primary Winding (Ω)	Max.DC Resistance Secondary 1 Wi nding (Ω)	Max.DC Resistance Secondary 2 Wi nding (Ω)	Isolation Voltage (Vrms)	Pin Connection Style	Mechanical Dimensions
TX1201	1:1	3.0	200	22	23	1.2	1.0	–	2000	A	2
TX1202	1:1:1	3.0	200	9	28	1.4	1.3	1.7	2000	B	1
TX1203	2:1:1	12	400	35	30	4.0	1.8	2.4	2000	B	1
TX1204	1:1:1	7.4	310	20	55	2.9	2.5	3.4	2000	B	1
TX1205	1:1:1	22	550	85	18	10.6	8.9	12.2	2000	B	1
TX1206	1:1:1	3.0	200	3	280	1.3	1.3	1.3	500VDC	B	1
TX1207	1:1	3.0	200	22	23	1.2	1.0	–	3500	A	2
TX1208	1:1	0.8	130	4	20	0.4	0.3	–	4000	A	2
TX1209	1.2CT: 1CT	8.8	340	60	25	2.5	2.5	–	2000	C	1
TX1210	2:1:1	24	570	70	20	7.5	3.5	4.5	2000	B	1
TX1211	1:1:1	6.0	285	30	30	4.0	4.0	4.0	2000	B	1
TX1212	100:1	6.1	280	–	6	0.7	0.1	–	2000	A	2

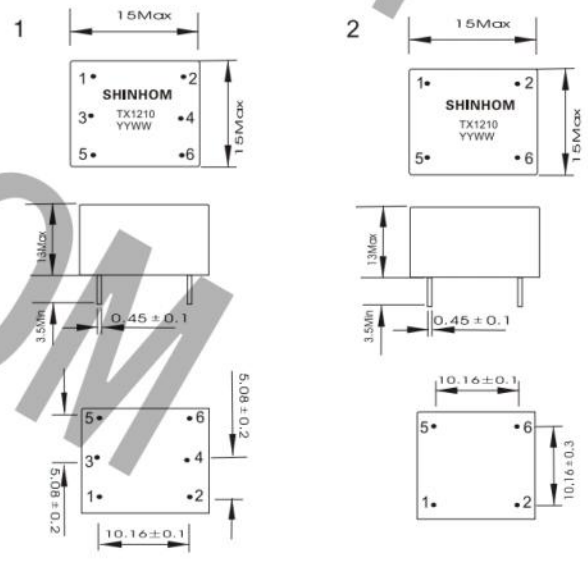
TECHNICAL INFORMATION

- Soldering methods : Wave, Reflow.
- Operating Temperature:0℃ to 70℃.
- Storage Temperature : -55℃ to 125℃.
- Peak wave solder temperature 300℃ for 10 seconds.

PIN CONNECTIONS(TOP (VIEW)

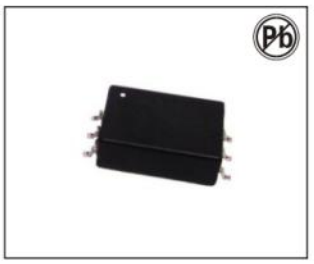


MECHANICAL DIMENSIONS



Note: All dimensions in mm

PUSH-PULL TRANSFORMER /SMPS TRANSFORMER
GT07 SERIES



FEATURES:

- Small size
- Surface mount
- Low profile
- Operating temp: -40℃ to 125℃
- Functional or Reinforced Insulation
- SN6501 Push Pull Driver Training Video
- Hi-Pot: 2.5KVAC, 60 seconds
- RoHS compliant

APPLICATION:

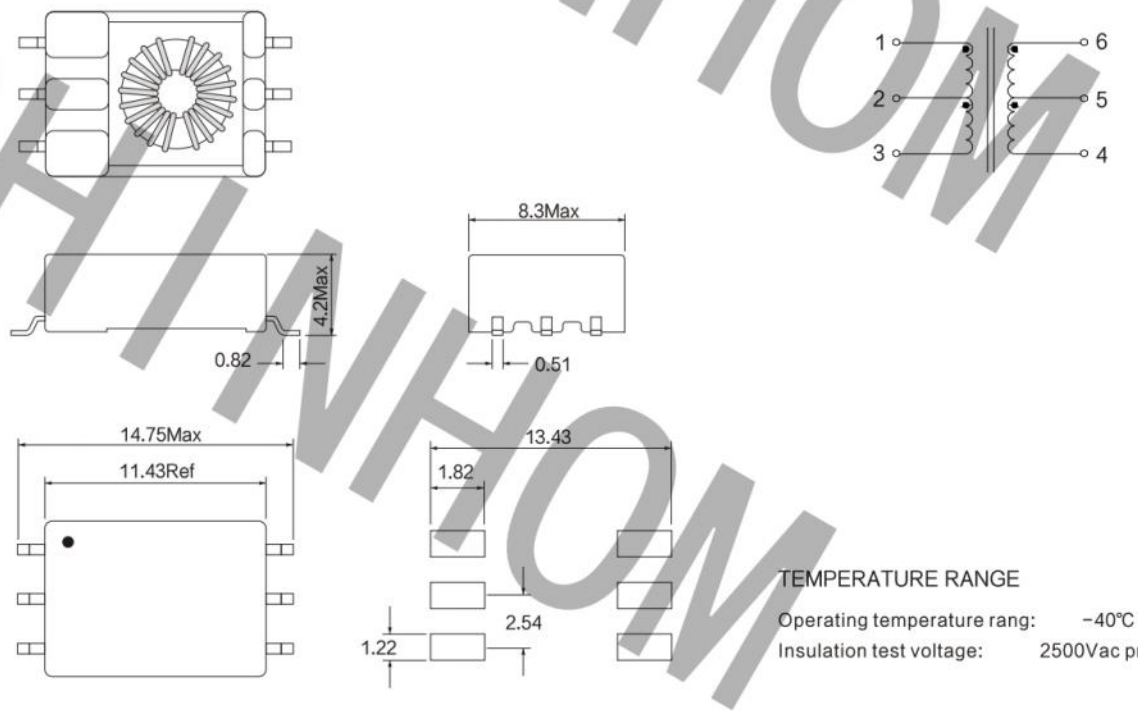
- AC motor drives
- Medical equipment
- PLC analog and digitall/O modules
- Isolated gate driver power supplies
- Uninterruptible power supplies (UPS)
- Solarinverters
- Polyphase energy meters
- Protection relays and IED

ELECTRICAL CHARACTERISTICS@25℃

Part Number	Turns ratio (1-3):(6-4)	L(1-3) (uH) Min 100KHz,0.1V	LK(1-3) (nH) Typ. 100KHz,0.1V Short 4-6	DCR(1-3) (Ω) ±15%	DCR(6-4) (Ω) ±15%	ET N1/bipolar waveform (V-usec) Max	Capacitance (1,3)to(6,4) (pF)Max
GT07-01	1:4	200	200	0.29	1.35	15	8.25
GT07-02	1:2.5	200	200	0.285	0.85	15	/
GT07-03	1:7	200	250	0.45	4.15	15	8
GT07-04	1:4.67	200	200	0.295	2	15	7
GT07-05	1:1.17	200	220	0.14	0.175	15	8
GT07-06	1:1.67	200	200	0.13	0.375	15	8.5
GT07-07	1:2.1	200	350	0.18	0.135	15	7.25
GT07-08	1:6.17	200	200	0.17	3.45	15	8

TECHNICAL INFORMATION & WINDING

Dimensions(mm)

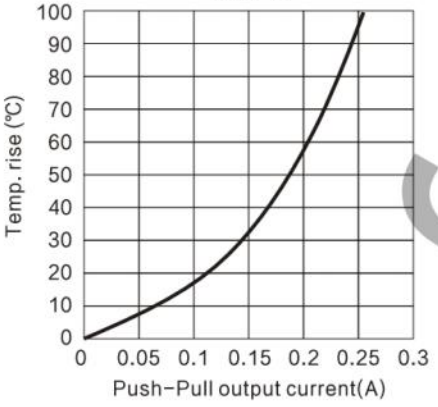


TEMPERATURE RANGE

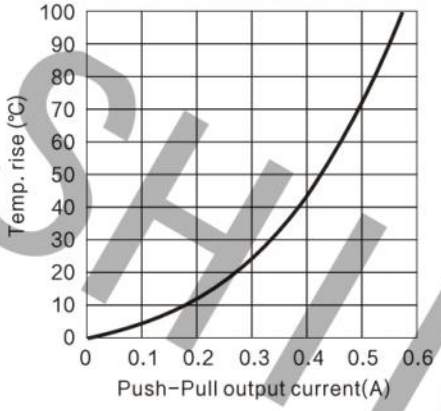
Operating temperature rang: -40℃ to +125℃

Insulation test voltage: 2500Vac pri to sec

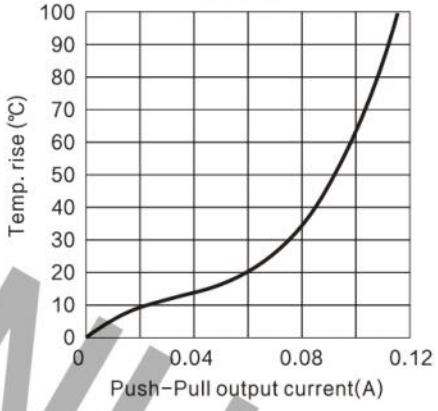
GT07-01



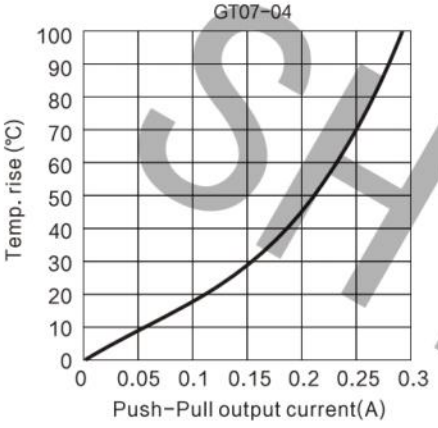
GT07-02



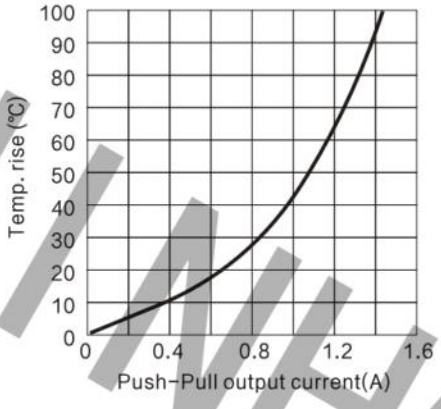
GT07-03



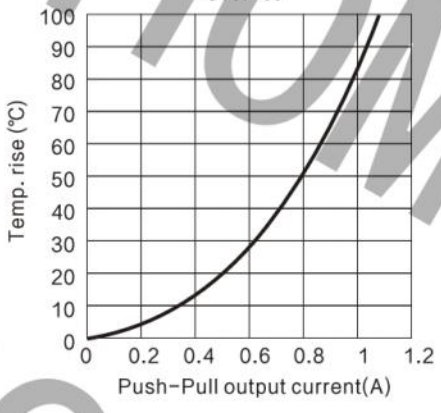
GT07-04



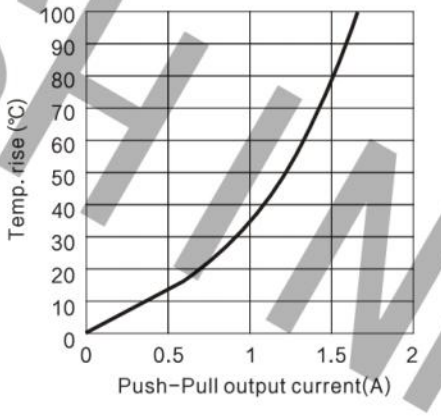
GT07-05



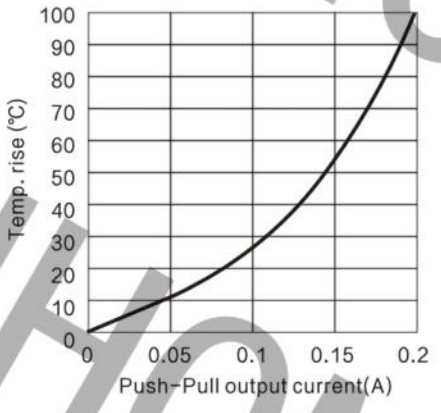
GT07-06



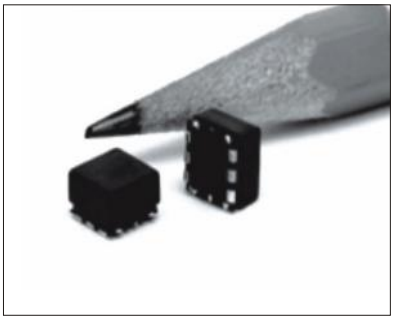
GT07-07



GT07-08



GT01 Series
Gate Drive Transformer



Features

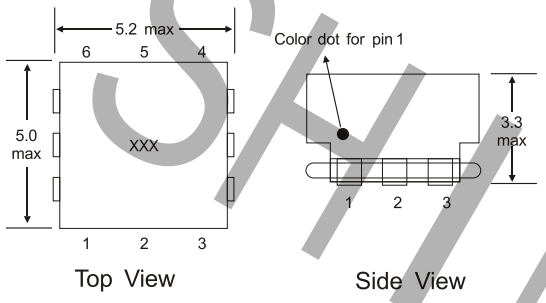
- Smallest size available on the market
- Designed for frequencies from 500 kHz to over1 Mhz
- Flat top for pick and place applications
- Multiple turns ratios available

Applications

- Voltage Regulator Modules
- High Frequency AC/DC and DC/DC Converters
- Pulse/Signal Transformers
- Multiple turns ratios available

Packaging diameter: 13”,Reel width: 16mm,Pieces/reel: 2000

Mechanical Recommended PCB layout Schematic



Electrical Specifications

Part Number	Turns Ratio N1:N2:N3	Inductance [1] (μh,min.)	DCR [1] (mΩ,max.)	Lkg,Ind. (nH)	E-T Product [5] ($V_{\mu s}$)	Hi-Pot (V_{dc})
GT01-110-007	1:1	200	180:180	130	7.5	500
GT01-110-011	1:1	450	470:470	180	11.2	500
GT01-110-015	1:1	800	620:620	200	15.0	500
GT01-120-007	1:2	50	95:180	75	7.5	500
GT01-120-010	1:2	90	180:330	75	10.0	500
GT01-120-015	1:2	200	250:520	95	15.0	500
GT01-111-007	1:1:1	20	270:270:270	100	7.5	500
GT01-111-011	1:1:1	450	470:470:470	150	11.2	500
GT01-122-007	1:2:2	50	130:260:260	65	7.5	500
GT01-122-010	1:2:2	90	220:430:430	75	10.0	500
GT01-122-015	1:2:2	200	330:690:690	130	15.0	500
GT01-133-007	1:3:3	22	100:270:270	100	7.5	500
GT01-133-011	1:3:3	50	170:460:460	70	11.2	500
GT01-133-015	1:3:3	90	220:650:650	80	15.0	500

1.Tested at 100kHz,0.1Vrms. 2.Electrical specifications at 25℃.
3.Operating range: -40℃ to+130℃ 4.Meets UL 94V-0.
5.E-T product rating is for secretary - ondary(gate) windings and is based upon a flux density of 2200 Gauss at 25℃ in a bipolar drive application.

GATE DRIVER TRANSFORMER

GT02 SERIES

FEATURES:

- RoHS compliant
- Basic insulation
- 1500VDC insulation between Gate and Driver
- Surface mount design
- Operating frequency: 50KHz and up
- Custom design is available
- Solder profile acc.JEDEC-20C
- Footprint size: 8.4 x 5.7 x 4.0

APPLCATIONS:

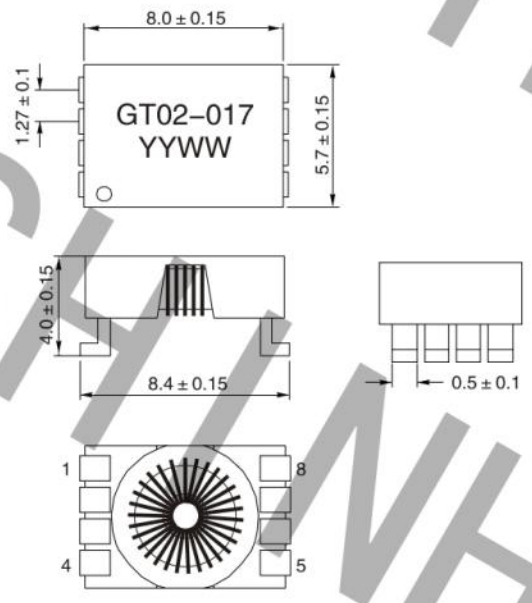
- Telecom power
- Base stations
- Servers

ELECTRICAL CHARACTERISTICS@25℃

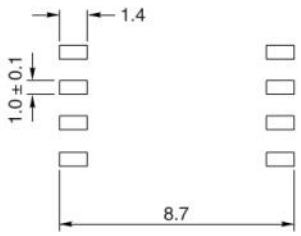
Part Number	Turns ratio N1:N2:N3 (±3%)	Inductance(4-1) (uH) ±20% 100KHz,0.1V	LK(4-1) (uH) Min 100KHz,0.1V Short other pins	DCR(4-1) (mΩ) Max	Hi-Pot (Vrms) N1 to N2,N3
GT02-017	37:36:36	33	10	646	1500Vdc
GT02-018	42:23:23	43	10	710	1500Vdc
GT02-019	33:44:44	28	10	669	1500Vdc
GT02-029	10:25	2.5	0.5	85	1500Vdc

TECHNICAL INFORMATION & WINDING

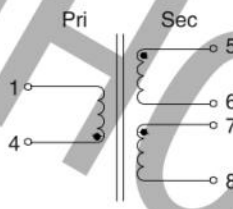
Dimensions(mm)



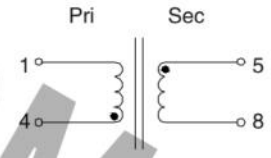
SUGGESTED PAD LAYOUT



GT02-017
GT02-018
GT02-019



GT02-029



ABSOLUTE MAXIMUM RATINGS

Operating temperature rang:	-40℃ to +125℃ (including self temperature rise)
Storage temperature rang:	-40℃ to +125℃

SOLDERING INFORMATION

Peak reflow temperature:	250℃
Pin finish:	Hot dipped tin
Moisture sensitivity level:	2

PACKAGING INFORMATION

Tape&Reel:	200pcs per reel

NOTES

1. Electrical specification at 25℃

GT03 Series
Gate Drive Transformer

Features

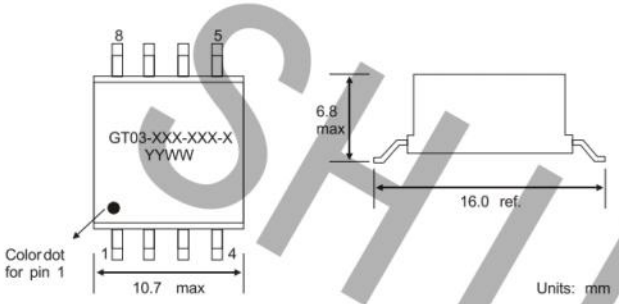
- Meets medical VDE creepage/clearance
- Optimized for frequencies from 100 kHz to 350 kHz
- Suitable for pick and place applications

Applications

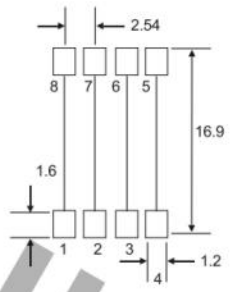
- Gate Drive Transformer
- AC/DC and DC/DC Converters
- Signal Transformer Across Isolation Barrier

Packaging Reel diameter: 13 ", Reel width: 24mm, Pieces/reel: 500

Mechanical



Recommended PCB layout



Schematic

Electrical Specifications

Part Number	Turns Ratio Drive:Gate	Drive lud.1 (μH,min.)	DCR (mΩ,max.)	Lkg.Ind. (NH,max.)	E-T Prod[5] (V-μs)	Hi-Pot
GT03-111-034-A	1:1:1	882	550:550	300	34.6	1500Vdc
GT03-111-052-A	1:1:1	1985	850:850	370	51.9	1500Vdc
GT03-111-069-A	1:1:1	2000	1300:1300	300	69	1500Vdc
GT03-111-110-A	1:1:1	5100	1900:1900	550	110	1500Vdc
GT03-122-037-A	1:2.5:2..5	162	265:590	180	37.1	1500Vdc
GT-03-122-055-A	1:2.5:2.5	365	400:900	300	55.6	1500Vdc
GT-03-111-034-B	1:1:1	882	600:600	360	34.6	3750Vdc
GT03-111-069-B	1:1:1	2000	1460:1300	470	69	3750Vdc
GT03-122-037-B	1:2.5:2.5	162	280:590	240	37.1	3750Vdc
GT03-111-034-C	1:1:1	882	600:600	360	34.6	3750Vdc
GT03-111-069-C	1:1:1	2000	1430:1300	470	69	3700Vdc
GT03-122-037-C	1:2.5:2.5	162	280:590	240	37.1	3750Vdc

GT03-XXX-XXX-A: 0mm creepage/clearance B: 3mm creepage/clearance C: 8mm creepage/clearance

1. Tested at 100kHz,0.1Vrms.
2. Electrical specifications at 25℃.
3. Operating range: -40℃ to +130℃
4. Meets UL 94V-0.
5. E-T product rating is for secondary (gate) windings and is based upon flux density of 2200 Gauss at 25℃ in a bipolar drive application.
6. Meets Class F(155℃) insu - lation system requirements.

SMD GATE DRIVE TRANSFORMERS

GT05 SERIES

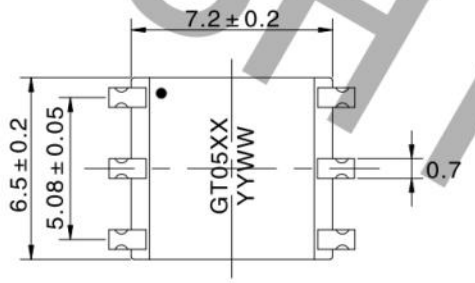
FEATURES:

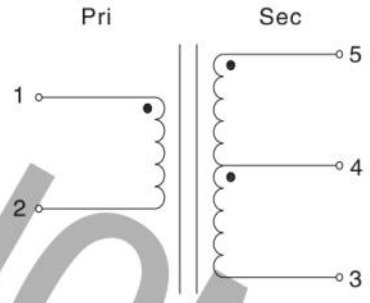
- 2700VDC insolation between Gate and Drive
- Operating frequency: 50KHz and up
- Three windings (one drive and two gates)

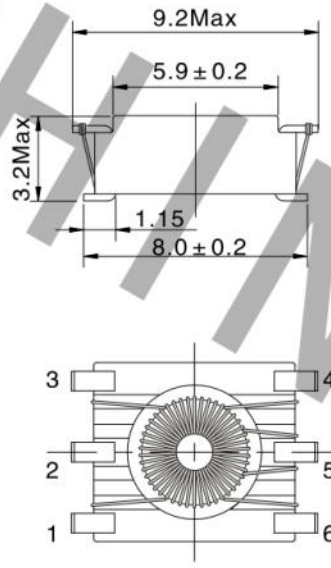
ELECTRICAL CHARACTERISTICS@25℃

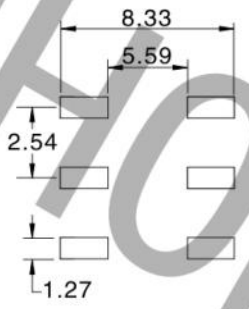
Part Number	Turns ratio	Pri–Sec Insulation (Vdc)	Volt–usec Max (1–2)	Pri inductance 100KHz,0.1V (uH) ± 35%	Lk 100KHz,0.1V (uH) Max	DCR 1–2 (Ω)Max	DCR 5–4 (Ω)Max	DCR 4–3 (Ω)Max
GT0501	1:1:1	2700	21.0	780	0.4	0.85	0.85	0.85
GT0502	1:1:1	1500	21.0	780	0.4	0.85	0.85	0.85
GT0503	2:1:1	2300	30.0	1600	1.5	1.10	0.65	0.65
GT0504	1.43:1:1	2300	21.0	820	2.0	0.80	0.65	0.65

PHYSICAL CHARACTERISTICS & WINDING









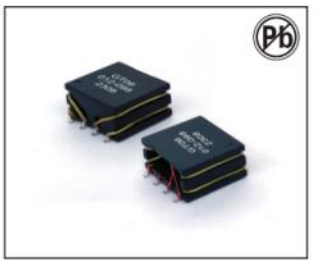
Recommended Pad

- The Maximum volt– μ sec rating limits the peak flux density to 2500 Gauss when used in a unipolar drive application. For bi–polar drive applications, a maximum volt–sec of 1.5 times this rating is acceptable (ie: volt* μ sec rating = (voltage applied to the primary) * dutycycle / Frequency = V * alpha / Freq_Hz = V * μ sec
- All inductance tests measured at 100kHz, 100mV. Leakage inductance measured from (1–2) with 3,4,5 shorted.
- The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
- Operating temperature: –40℃ to +125℃

Note:All specifications subject to change without notice.

ISOLATION POWER TRANSFORMER /GATE DRIVER TRANSFORMER

GT06 SERIES



FEATURES:

- Push Pull Converter Transformer
- IEC 60950 and 61558 basic insulation
- Compliant, 12mm creepage 4000Vrms isolation (600Vrms continuous)
- Conforms AEC-Q200 and IATF16949

ELECTRICAL CHARACTERISTICS@25℃

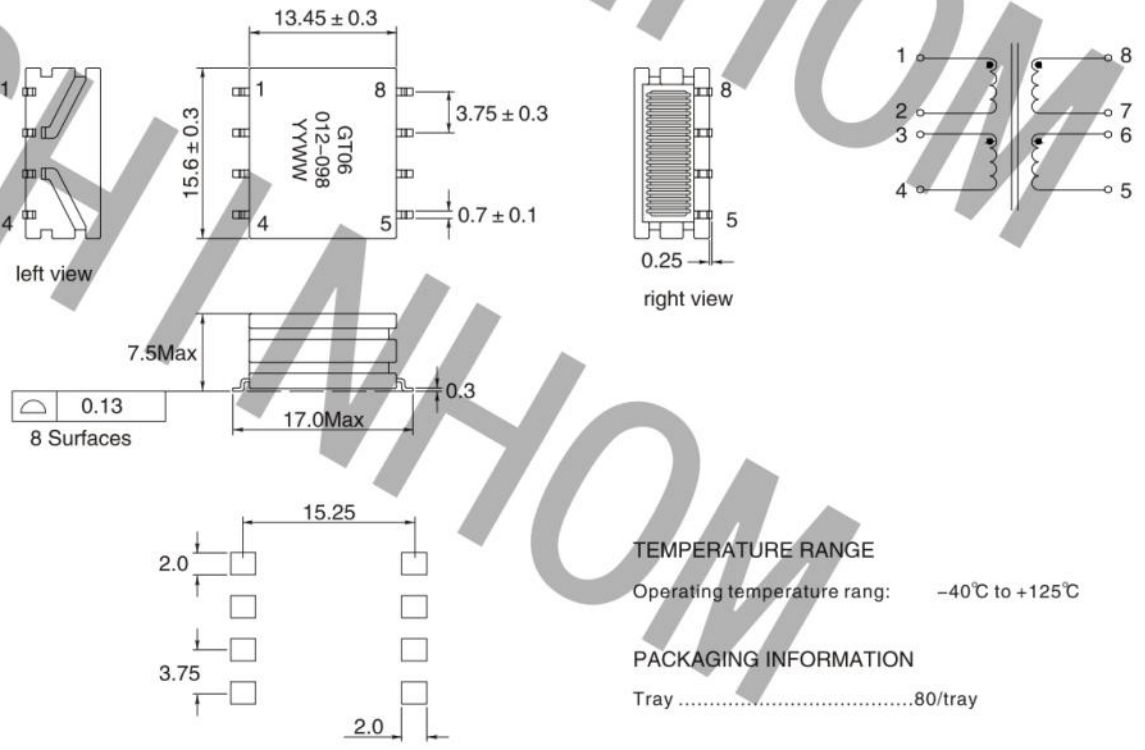
Part Number	Turns ratio (1–4):(8–5)	L(1–4) (uH) ±35% 10KHz,0.1V	LK(1–4) (uH) Max 100KHz,0.1V Short 5–8	DCR(1–4) (Ω) Max	DCR(5–8) (Ω) Max	ET(1–4) (V–usec) Max	Capacitance (1,4)to(5,8) (pF)Max
GT06–011–109	1CT:1CT	3200	6.0	1.1	1.0	109	36
GT06–045–109	4CT:5CT	3200	4.0	1.1	1.25	109	36
GT06–034–098	3CT:4CT	2600	3.0	1.0	1.5	98	36
GT06–012–098	1CT:2CT	2600	3.0	1.0	1.9	98	40
GT06–038–098	3CT:8CT	2600	3.0	1.0	2.2	98	40
GT06–013–098	1CT:3CT	2600	3.0	1.0	2.75	98	40
GT06–027–098	2CT:7CT	2600	3.0	1.0	3.0	98	40
GT06–015–070	1CT:5CT	1350	3.0	0.8	3.2	70	30

Notes:

- The ET Max is calculated to limit the core loss and temperature rise at 200KHz based on a bipolar flux swing of 180mT Peak.
- For Push–Pull topology, where the voltage is applied across half the primary winding turns, the ET needs to be derated by 50% for the same flux swing.
- The AEC–Q200 temperature and humidity operational life testing was completed using a dielectric strength test of 4000Vdc.

TECHNICAL INFORMATION & WINDING

Dimensions(mm)



TEMPERATURE RANGE

Operating temperature rang: –40℃ to +125℃

PACKAGING INFORMATION

Tray 80/tray

SMT GATE DRIVE TRANSFORMERS

T02,03,04,05 SERIES

FEATURES:

- Low profile–2.75mm
- Designed for frequency from 50KHz to 1MHz
- Suiteable for pick and place applications

OPTIONS:

- Packaging:Tape & Reel is standard Bulk packaging available for smaller quantities

COMMON APPLICATIONS:

- Gate drive transformer
- AC–DC and DC/DC Converters
- Pulse/signal transformers

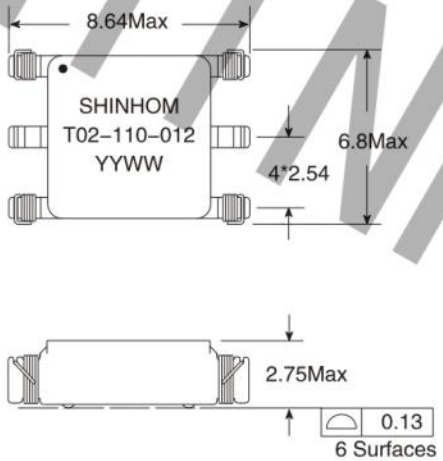
ELECTRICAL CHARACTERISTICS:

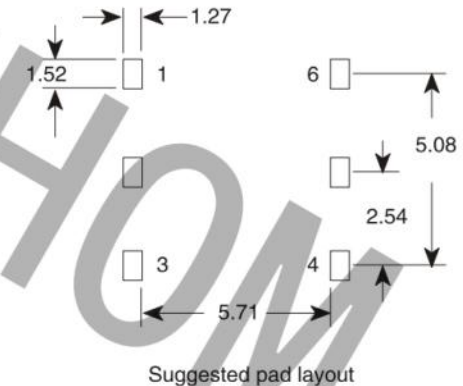
Part Number	Truns ratio	Pri L(0A) (uH) Min 100KHz,0.1V	Lk (uH) Max 100KHz,0.1V	Pri DCR (Ω)Max	Sec DCR (Ω)Max	E–T Prod V*usec
Operational insulation						
T02–110–012	1:1	403	0.46	0.60	0.60	12
T03–111–016	1:1:1	437	0.85	0.85	0.85	16
T05–111–060	1:1:1	1800	0.60	1.60	1.60	60
Basic insulation(1.4mm Creepage and clearance between primary and secondary)						
T04–110–028	1:1	864	0.75	0.82	0.82	28
T04–111–028	1:1:1	840	0.75	1.05	1.05	28
T05–110–055	1:1	1490	0.80	1.15	1.15	55.5
T05–211–055	2:1:1	1425	0.80	1.15	0.575	55.5
T05–311–055	2.5:1:1	1486	0.80	1.15	0.425	55.5

NOTES:
Dielectric Strength: 1500Vrms Pri to Sec
Operating temperature:–40℃ to +130℃(include temperature rise)
E–T Product rating is for secondary (gate) windings and is based upon a flux density of 2200 Gauss at 25℃ in a bipolar drive application.
Leakage inductance is measured at primary terminals with all secondaries shorted.

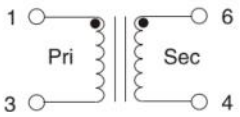
PHYSICAL CHARACTERISTICS

T02 Series





Suggested pad layout



Weight .....0.28 grams
Tape & Reel 1500/reel
Tube.....60/tube
Unless otherwise specified, all tolerances are ± 0.25

SMT GATE DRIVE TRANSFORMERS

T02,03,04,05 SERIES

FEATURES:

- Low profile–2.75mm
- Designed for frequency from 50KHz to 1MHz
- Suiteable for pick and place applications

OPTIONS:

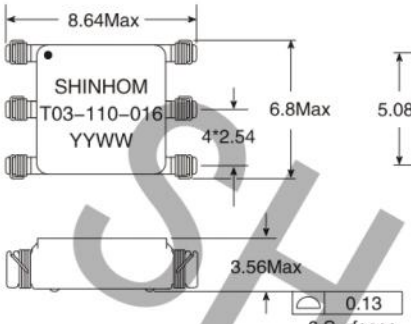
- Packaging:Tape & Reel is standard Bulk packaging available for smaller quantities

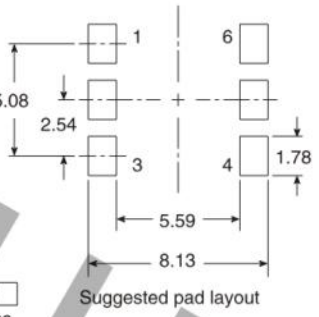
COMMON APPLICATIONS:

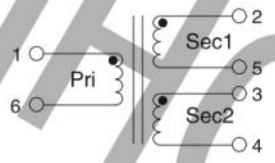
- Gate drive transformer
- AC–DC and DC/DC Converters
- Pulse/signal transformers

PHYSICAL CHARACTERISTICS

T03 Series

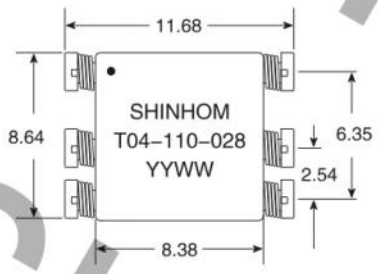


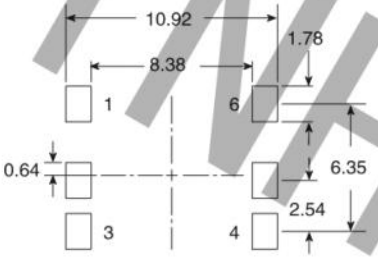




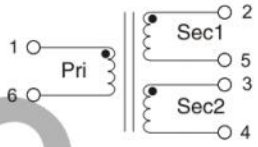
Weight .....0.23 grams
Tape & Reel 800/reel
Tube.....75/tube
Unless otherwise specified, all tolerances are ± 0.25

T04 Series





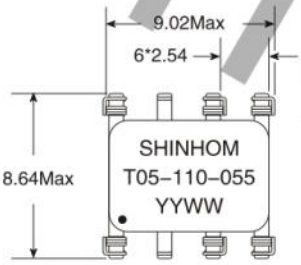
T04–111–028

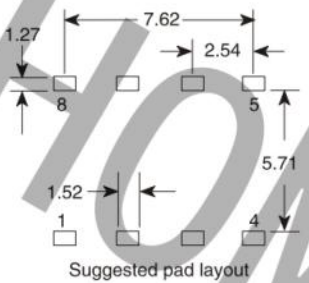


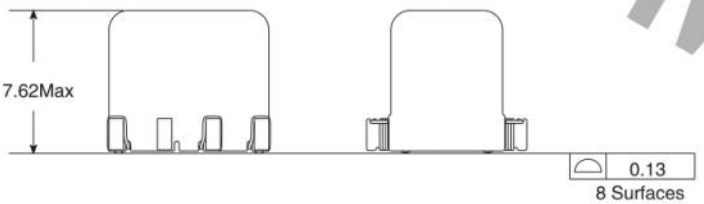
T04–110–028

Weight .....0.48 grams
Tape & Reel 900/reel
Tube.....60/tube
Unless otherwise specified, all tolerances are ± 0.25

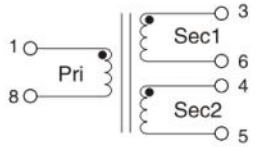
T05 Series



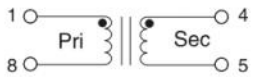




T05–111–060 T05–211–055 T05–311–055



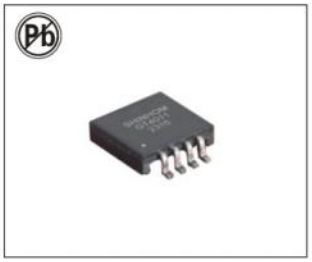
T05–110–055



Weight .....0.60 grams
Tape & Reel 400/reel
Tube.....50/tube
Unless otherwise specified, all tolerances are ± 0.25

PCMCIA DC/DC TRANSFORMER

GT401 SERIES



FEATURES:

- Isolation voltages up to 4.5KVrms
- Operating Temp: –40℃ to +85℃
- Low Profile SMD Isolation Modules for DC/DC Converters
- The GT401 series of 8 pin transformers provide the isolation and voltage outputs required for small, low cost DC/DC converter circuits.
- Designed specifically for use with the Maxim'TM MAX845 monolithic oscillator/power drivers with 3.3V or 5V power source.
- RoHS compliant

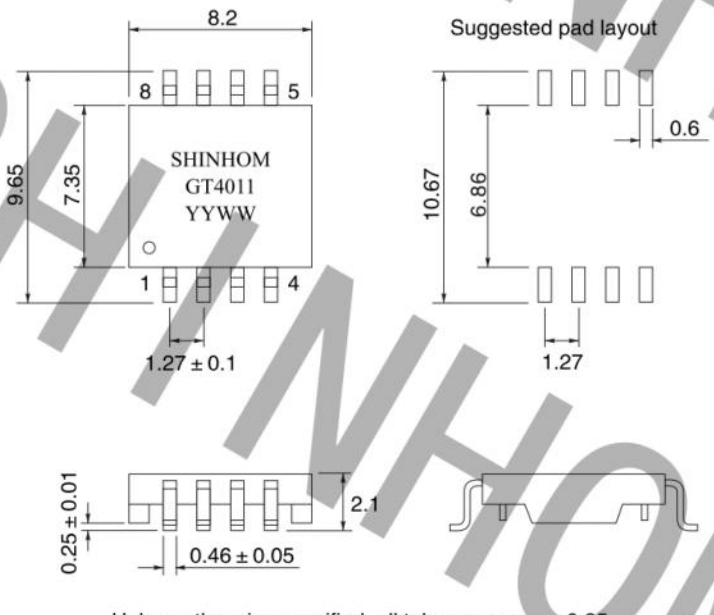
ELECTRICAL CHARACTERISTICS:

Part Number	Inductance L0(μH)Typ.	Turns ratio Pri:Sec ± 3%	Cw/w (pF)Max	Isolation (Vrms)	Circuit
GT4011	240	1:1:1	17	500	A
GT4012	240	1:1:0.75	15	500	A
GT4013	240	1:1:1.5	19	500	A
GT4014	240	1:1:1.33:1.33	22	500	B
GT4015	240	1:1:1:1	21	500	B

- PRI Pins: 1–2 & 3–4
- PRI DCR: 0.6Ω max.
- ET Constant: 5.5 V–usmin.

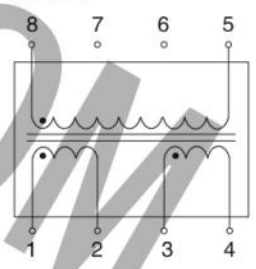
TECHNICAL INFORMATION & PHYSICAL CHARACTERISTICS:

Dimensions(mm)

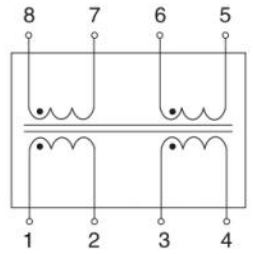


Unless otherwise specified, all tolerances are ± 0.25

Circuit A

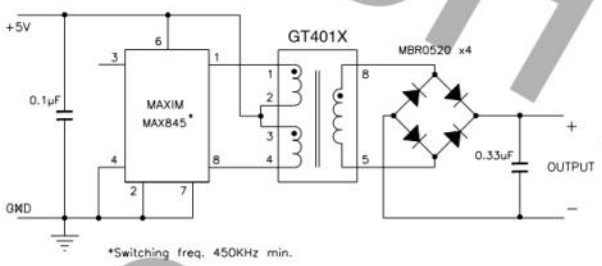


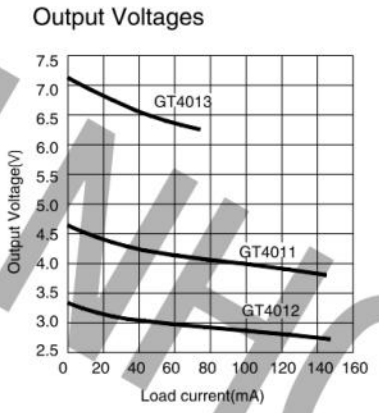
Circuit B

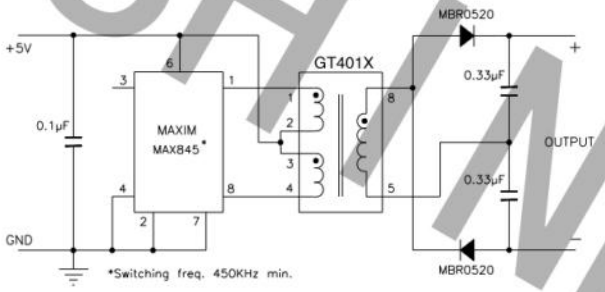


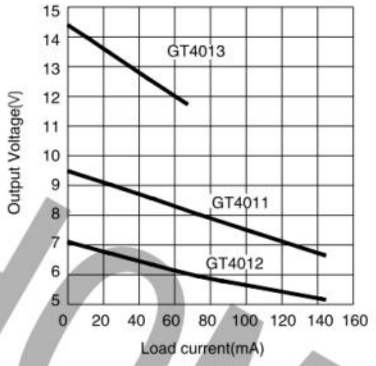
Maxim™ MAX845 DC/DC Converter Application Note:

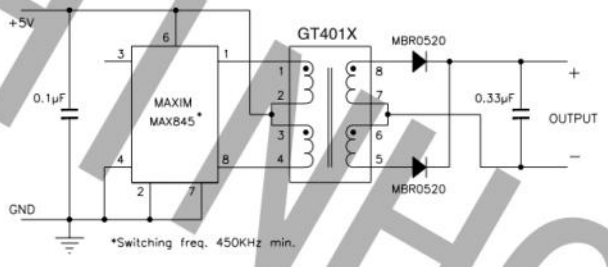
The GT401X series of transformers have been designed specifically for use with the Maxim™ MAX845 monolithic oscillator/power driver with 3.3V or 5V power source. Multiple output voltages can be achieved depending on the diode circuit and transformer selected.

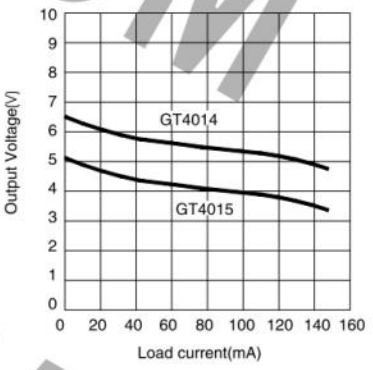






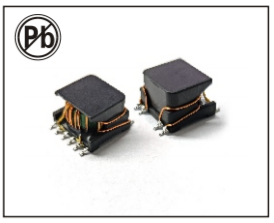






SMD GATE DRIVE TRANSFORMERS

GT09 SERIES



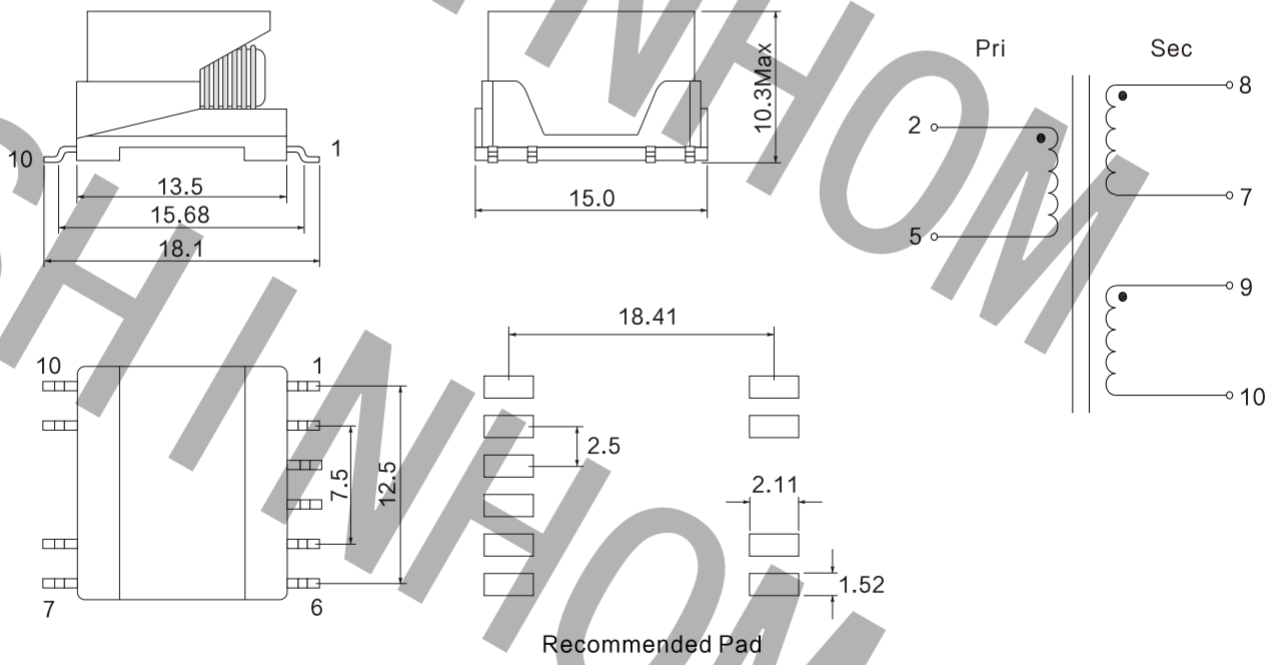
FEATURES:

- Toroid core for high coupling and low radiation
- Isolated gate driver power supply
- Wide input supply voltage up to 20 V Supports up to 5W output power
- Frequency of 50 kHz or 65 kHz
- Duty cycle adjustment from 10% to 50%
- Adjustable overcurrent threshold Short circuit protection of outputs Over-tensignals operation Small space-saving package
- Hi-Pot: Pri to Sec 4.5KVAc, 60 seconds
- RoHS compliant

ELECTRICAL CHARACTERISTICS@25℃

Part Number	Turns ratio N1:N2:N3	Pri inductance (uH) Min	Pri LK 100KHz,0.1V (uH) Max	DCR 2-5 (Ω) Max	DCR 8-7,9-10 (Ω) Max	Vin (Vdc)	Out1 (Vdc)	I out (mA)
GT09-001	1.71:1:1	730@100KHz	4	0.115	0.085	13.5	22.5	130
GT09-002	1.25:1:1	710@66KHz	3	0.10	0.40	15	22.5	130
GT09-003	1.5:1:1	750@50KHz	2.7	0.085	0.085	15	19	160
GT09-004	1.4:1:1	470@50KHz	2	0.085	0.085	15	20.5	153

PHYSICAL CHARACTERISTICS & WINDING

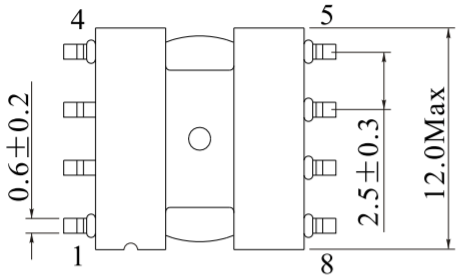


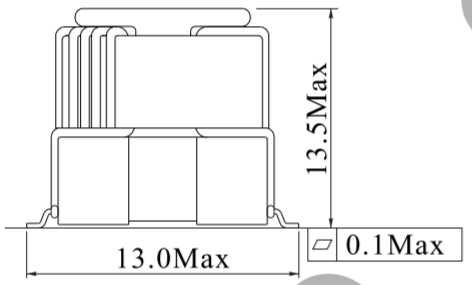
- Rated Current: Temp. rise 40℃ Typ
- Operating temperature: -40℃ to +125℃
- Storage Temperature: 15℃ up to 25℃,65% RH max.

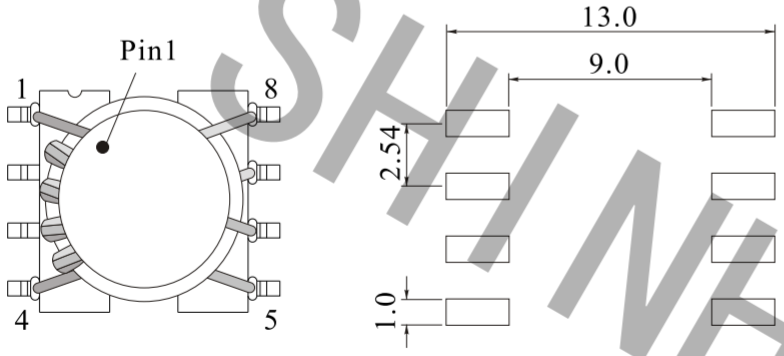
Note:All specifications subject to change without notice.

Rev.	Description	Date
A0	New release	2025.10.27

1.PHYSICAL CHARACTERISTICS(mm)

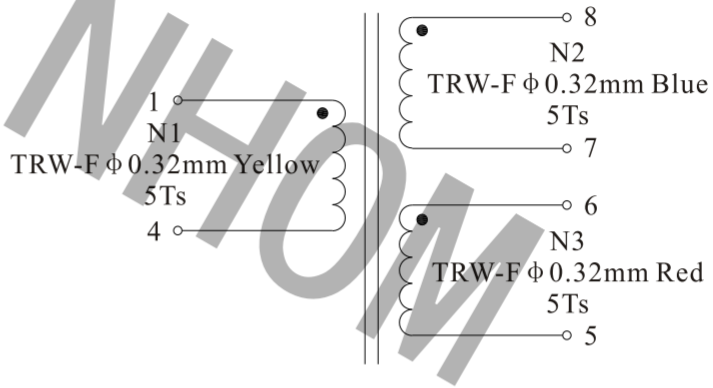






PCB Layout

2.ELECTRONICAL SCHEMATIC



Triple wire winding

3.ELECTRONICAL SPECIFICATIONS

Turns ratio: (1-4):(8-7):(6-5)=1:1:1

Inductance(each winding): 10.9uH±30%@1.0KHz,1V

DCR(each winding): 30mΩMax

Hi-Pot: 3000Vac,5mA,60S between Pin1-6,8

Operating temperature: -40℃ to +105℃

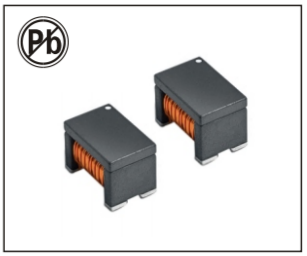
Sotrage temperature: -20℃ to +65℃

NAME:	Drive transformer		
CUSTOMER P/N:		DATE:	2025-10-27
SHINHOM P/N:	GT1064	REV: A0	PAGE
DRAWN BY	CHECKED BY	APPROVE BY	

SHINHOM
SHAANXISHINHOM ENTERPRISE CO LTD

LLC HALF-BRIDGE TRANSFORMERS

GTX7045 Series



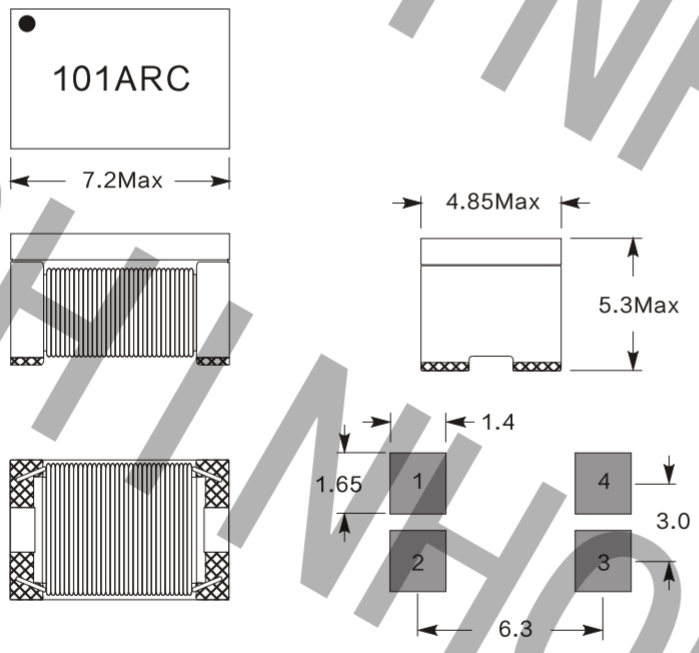
FEATURES:

- Low interwinding capacitance to minimize EMI and achieve high Common Mode Transient Immunity
- Ideal for automotive OBC and traction Inverters in EV/HEV
- Highly automated for cost-effective and exceptional quality and reliability
- AEC-Q200 (-40℃ to +125℃) and Isolation 4000VDC
- Core material: Ferrite
- RoHS compliant

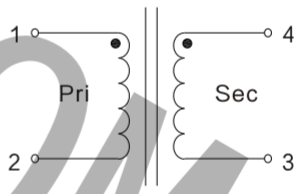
STANDARD SPECIFICATION:

Part Number	Turns ratio	Inductance (uH) ± 30%		DCR (Ω) Max		Leakage inductance (uH) ± 20%		Irms (mA)	Volt-time product (V-usec)	Cap (pF)Max
	Pri:Sec	Pri	Sec	Pri	Sec	Pri	Sec			
GTX7045-750ARC	1:1	75	75	0.35	0.35	8.5	8.5	730	33.9	0.75
GTX7045-101ARC	1:1	100	100	0.40	0.40	9.5	9.5	680	38.8	0.90
GTX7045-121DRC	1.5:1	120	54	0.42	0.28	12.5	5.5	660	38.8	0.70
GTX7045-121ERC	1.33:1	120	68	0.42	0.32	12	6.5	660	45.3	0.70
GTX7045-121FRC	1.2:1	120	84	0.42	0.35	11	7.5	660	38.8	0.75
GTX7045-131BRC	2.5:1	130	21	0.44	0.17	15	2.5	660	45.3	0.70
GTX7045-141CRC	2.0:1	140	35	0.45	0.23	15	3.5	640	45.3	0.75

PHYSICAL CHARACTERISTICS

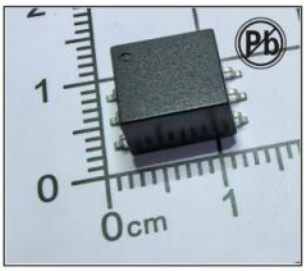


TECHNICAL INFORMATION:



1. Electrical specifications at 25℃
2. Inductance measured at 100 kHz, 0.1 Vrms, 0 ADC
3. Leakage Inductance LL is measured at100 KHz, 0.1 Vrms
4. Current that causes a 40℃ rise from 25℃ when applied to the primary winding with secondary current defined by the turns ratio.
5. Capacitance Cp is measured at 250 KHz, 0.1 Vrms
6. 2800 Vrms, 4000 VDC; one minute isolation (hipot) measured between primary and secondary. 4.9 mm creepage and clearance Material Group 1 (CTI>600).
7. Operating temperature: -40℃ to +125℃.
8. Storage temperature: -40℃ to +125℃. (Tape and reel packaging -40℃ to +80℃)

DC-DC ISOLATION TRANSFORMER
GT5030-2W Series



FEATURES:

- Wide operating temperature range: -40 ℃ to+125 ℃
- Isolation voltage 4000VDC
- SMD package
- Industry standard pin
- Toroidal core structure

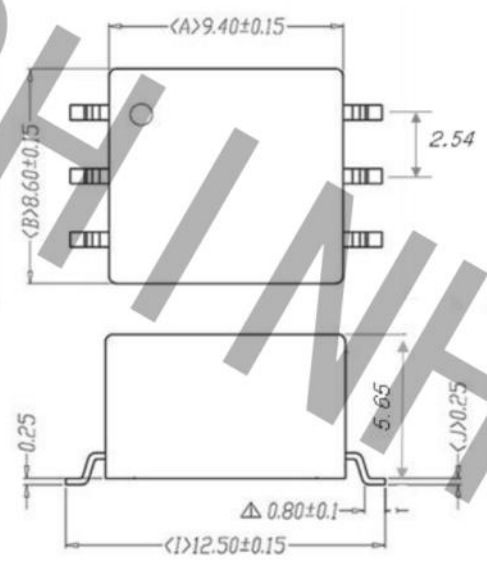
GT5030-2W series DC-DC isolation transformer is a high-performance ring transformer specially designed for use with various power management chips, which can provide input and output isolation. It can precisely customize the turn ratio for customers to achieve high-precision voltage conversion and isolation.

STANDARD SPECIFICATION@25℃:

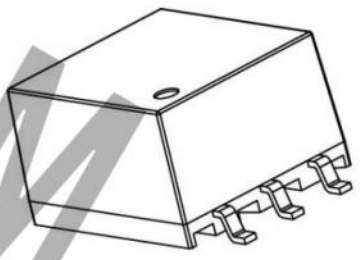
Product model	Turns ratio	Primary Inductance (+/-20%) @1kHz, 1V	Primary D.C. Resistance (Max)	Leakage Inductance (Max) @1kHz, 1V	Interwinding Capacitance (Max) @1kHz, 1V	Peak current (Max)	Potting form	Packaging form
GT5030-2WPT	1:1.1	250μH	0.5Ω	25μH	12pF	400mA	Potting	Tube
GT5030-2WNT	1:1.1	250μH	0.5Ω	25μH	12pF	400mA	Non potting	Tube
GT5030-2WPR	1:1.1	250μH	0.5Ω	25μH	12pF	400mA	Potting	Reel
GT5030-2WNR	1:1.1	250μH	0.5Ω	25μH	12pF	400mA	Non potting	Reel

Potting code: P- Potting , N- Non potting
Packaging form: T- Tube , R- Reel

PHYSICAL CHARACTERISTICS

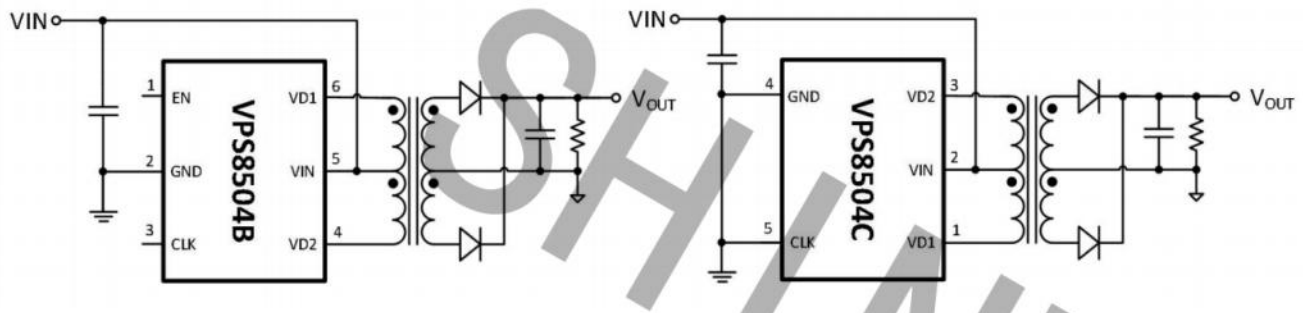


TECHNICAL INFORMATION:



Note:
Dimensions in mm
Terminal diameter tolerance:+/-0.10
Undeclared tolerance:+/-0.50

Circuit Design and Application

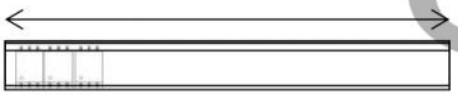


General Characteristics

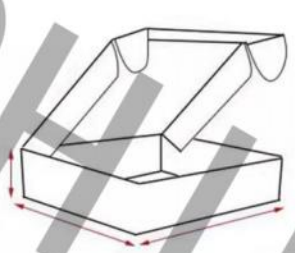
Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation voltage	Input-output, Test time 1 minute, Leakage current less than 1 mA	4000	--	--	VDC
Insulation resistance	Input-output, Insulation voltage 500VDC	1000	--	--	MΩ
Working temperature	Temperature ≥ 85 ℃ for derating (See Figure 4)	-40	--	+125	℃
Storage temperature		-55	--	+155	℃
Storage humidity	Non condensing	--	--	95	%RH
Housing temperature rise during operation	Ta=25 ℃, Nominal input, Full output	--	15	25	℃
Soldering temperature resistance of pins	The distance from the welding spot to the shell is 1.5mm, 10 seconds	--	--	300	℃
	REFLOW:Peak temperature Tc ≤ 235 ℃, maximum time above 217 ℃ for 60 seconds.	--	--	235	℃
Mean time between failures【MTBF】	MIL-HDBK-217F@25℃	3500	--	--	kHours
Housing material	Black flame retardant and heat-resistant plastic (UL94V-0)				
Overall dimensions	9.40 x 8.60 x 5.90mm				
Weight	1.0g(Typ.)				
Cooling mode	Natural air cooling				

Packaging Method

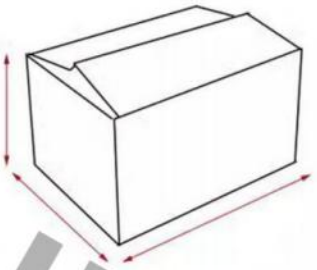
Tube



60 Pieces/Tube

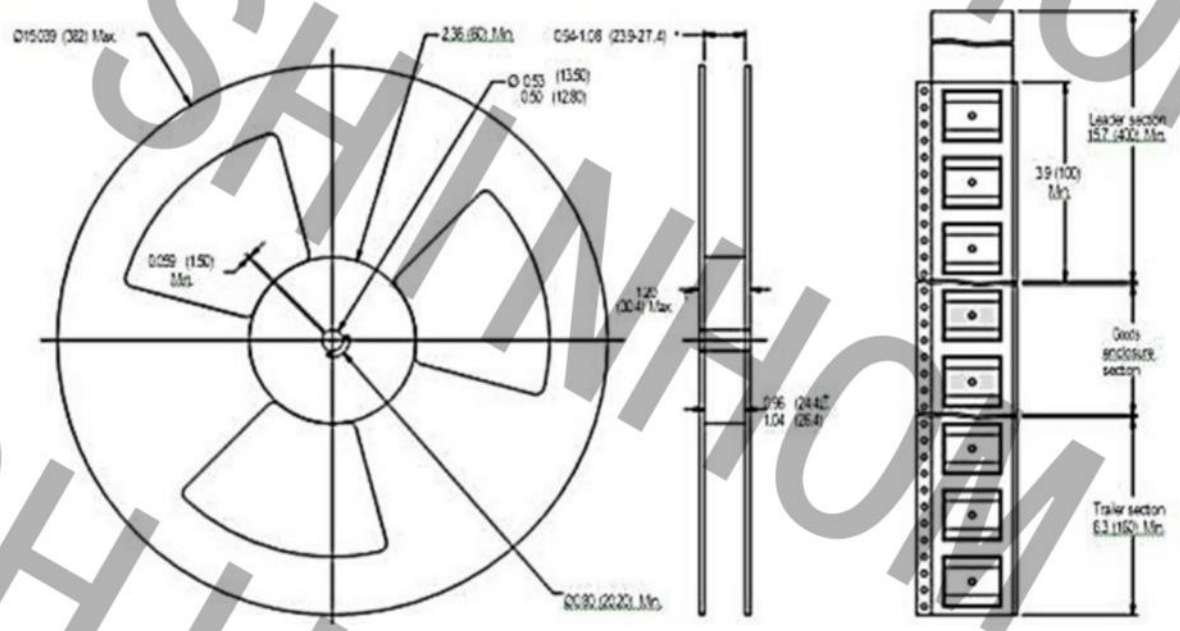


1800 Pieces/Inner box



9000 Pieces/Outer box

Reel



500 Pieces/Tape & Reel

Notes

1. The operating current shall not exceed the specified range, otherwise permanent and unrecoverable damage may be caused;
2. Unless otherwise specified, the parameters in this manual are measured at 25 ℃ and 40%~75% humidity ;

GATE DRIVER TRANSFORMER FOR IGBT

GT28 SERIES

FEATURES:

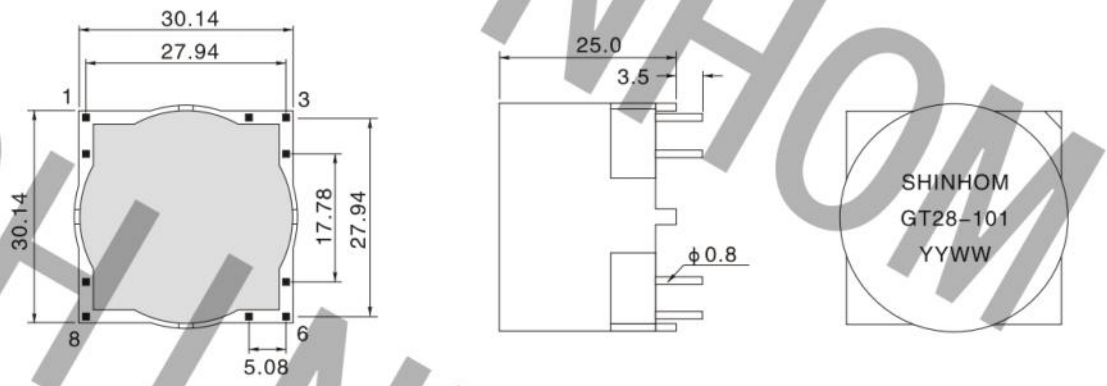
- Low coupling capacitance, high anti-interference capability
- Low leakage, excellent output pulse waveform
- No switch delay, high instantaneous transmission power
- High electrical strength, safe and reliable
- Fully enclosed, good mechanical and corrosion resistance
- Compact size, DIP installation
- Size 30.14x27.94x25mm
- Conforms to UL91-V0

ELECTRICAL CHARACTERISTICS@25℃

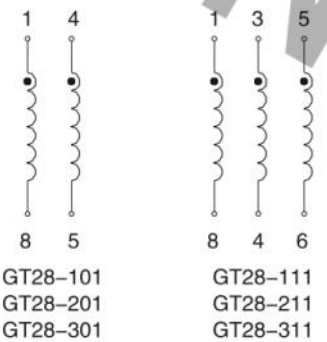
Part Number	Turns ratio	Pri Inductance (mH) 1.0KHz,0.3V	Pri impulse voltage (V)	Sec impulse voltage (V)	Pulse width (uS)	Et Constant (Vus) Min	Hi-Pot (kVrms) 50Hz,1min
GT28-101	1:1	2~5	15	13	66.6	1000	6
GT28-201	2:1	2~5	20	9	50	1000	6
GT28-301	3:1	2~5	30	9	33.3	1000	6
GT28-111	1:1:1	2~5	15	13	66.6	1000	6
GT28-211	2:1:1	2~5	20	9	50	1000	6
GT28-311	3:1:1	2~5	30	9	33.3	1000	6

TECHNICAL INFORMATION & WINDING

Dimensions(mm)



Winding



GT28-101
GT28-201
GT28-301

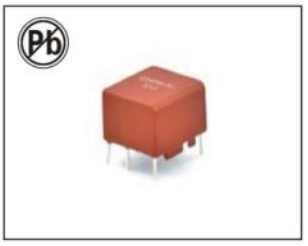
GT28-111
GT28-211
GT28-311

NOTES

- Electrical specification at 25℃
- Ambient temperature ranges from -40℃ to +85℃
- Insulation heat resistance Class F(155℃)
- Insulation resistance 1000MΩ Min
- Operating frequency 100Hz~50KHz

GATE DRIVE TRANSFORMERS FOR IGBT

GT4099 Series



FEATURES:

- Low coupling capacitance
- High insulation strength (reinforced insulation)
- Very high corona extinction voltage
- Compact designs in THT and SMT casings

DESCRIPTION:

In modern variable–frequency drives (VFD) IGBT are used in the inverter stage for frequency conversion. The corresponding Gate Driver Circuit needs to supply the necessary power for switching. In medium to high power applications DC/DC converters are usually used for this purpose.

Gate Drive Transformers for IGBT are the key element in these converters maintaining the safe galvanic separation between the intermediate circuit and the low voltage control side.

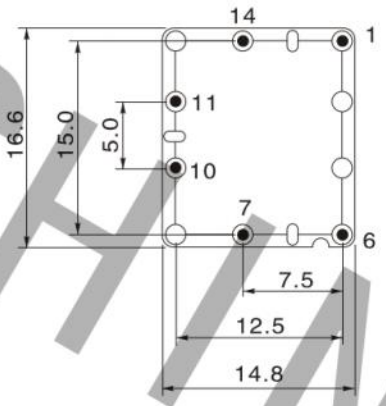
By using toroidal cores made from nanocrystalline it is possible to transmit the required switching power in extremely compact casings saving valuable PCB space. Advanced insulation and winding concepts ensure highest corona extinction voltages as well as low coupling capacitances.

A large portfolio for typical working voltages between 500 V and 1200 V is available.The transformers feature different transmission ratios and voltage–time areas for demanding applications.

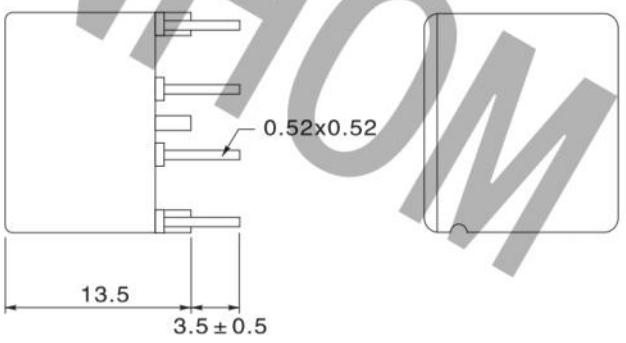
STANDARD SPECIFICATION:

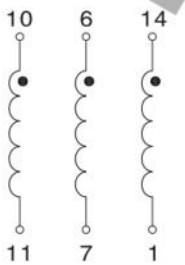
Part Number	Turns ratio	Operating frequency (KHz)	Transmittable power (W)	Pri. Inductance (mH)Min @10KHz	Pri. Leakage inductance (Short Sec.) (uH)Typ. @100KHz	Capacitance Pri to Sec (pF)Typ.	Max Working Voltage (V)	Hi–Pot (kV)
GT4099–011	1:1:1	100	8	0.95	2.4	2.5	500	4.5

PHYSICAL CHARACTERISTICS



TECHNICAL INFORMATION:





Notes:

Electrical specification at 25℃

Operating temperature range: –40℃ to +105℃

Storage temperature range: –40℃ to +105℃

GATE DRIVE TRANSFORMERS FOR IGBT

GT4185 Series

FEATURES:

- Low coupling capacitance
- High insulation strength (reinforced insulation)
- Very high corona extinction voltage
- Compact designs in THT and SMT casings

DESCRIPTION:

In modern variable-frequency drives (VFD) IGBT are used in the inverter stage for frequency conversion. The corresponding Gate Driver Circuit needs to supply the necessary power for switching. In medium to high power applications DC/DC converters are usually used for this purpose.

Gate Drive Transformers for IGBT are the key element in these converters maintaining the safe galvanic separation between the intermediate circuit and the low voltage control side.

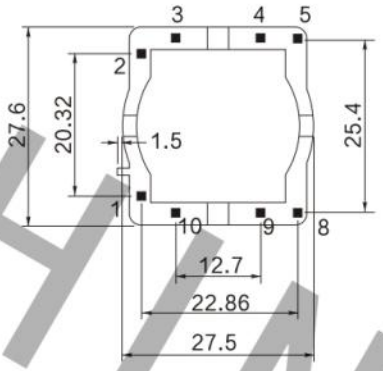
By using toroidal cores made from nanocrystalline it is possible to transmit the required switching power in extremely compact casings saving valuable PCB space. Advanced insulation and winding concepts ensure highest corona extinction voltages as well as low coupling capacitances.

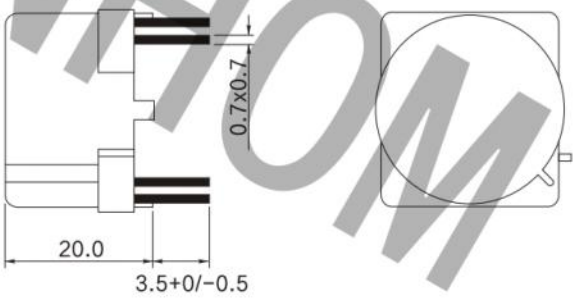
A large portfolio for typical working voltages between 500 V and 1200 V is available.The transformers feature different transmission ratios and voltage-time areas for demanding applications.

STANDARD SPECIFICATION:

Part Number	Turns ratio	Operating frequency (KHz)	Transmittable power (W)	Pri. Inductance (mH)Min @10KHz	Pri. Leakage inductance (Short Sec.) (uH)Typ. @100KHz	Capacitance Pri to Sec (pF)Typ.	Max Working Voltage (V)	Hi-Pot (kV)
GT4185-046	2:1	20	20	22	4	40	1200	4.5

PHYSICAL CHARACTERISTICS





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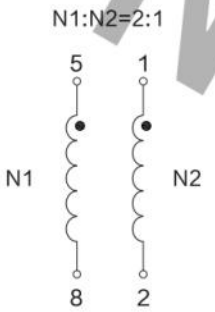
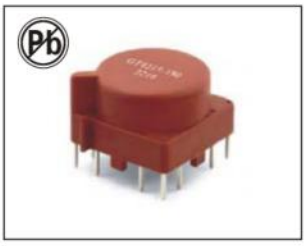


Notes:
Electrical specification at 25℃
Operating temperature range: -40℃ to +105℃
Storage temperature range: -40℃ to +105℃

GATE DRIVE TRANSFORMERS FOR IGBT

GT4215 Series



FEATURES:

- Low coupling capacitance
- High insulation strength (reinforced insulation)
- Very high corona extinction voltage
- Compact designs in THT and SMT casings

DESCRIPTION:

In modern variable–frequency drives (VFD) IGBT are used in the inverter stage for frequency conversion. The corresponding Gate Driver Circuit needs to supply the necessary power for switching. In medium to high power applications DC/DC converters are usually used for this purpose.

Gate Drive Transformers for IGBT are the key element in these converters maintaining the safe galvanic separation between the intermediate circuit and the low voltage control side.

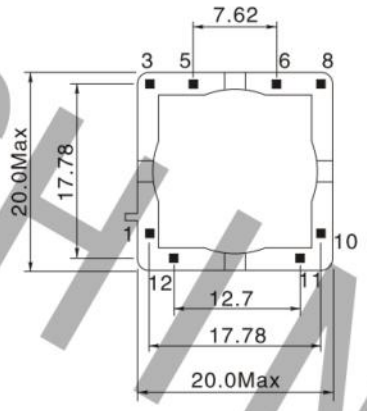
By using toroidal cores made from nanocrystalline it is possible to transmit the required switching power in extremely compact casings saving valuable PCB space. Advanced insulation and winding concepts ensure highest corona extinction voltages as well as low coupling capacitances.

A large portfolio for typical working voltages between 500 V and 1200 V is available.The transformers feature different transmission ratios and voltage–time areas for demanding applications.

STANDARD SPECIFICATION:

Part Number	Turns ratio	Operating frequency (KHz)	Transmittable power (W)	Pri. Inductance (mH)Min @10KHz	Pri. Leakage inductance (Short Sec.) (uH)Typ. @100KHz	Capacitance Pri to Sec (pF)Typ.	Max Working Voltage (V)	Hi–Pot (kV)
GT4215–180	1:1:1	60	10	2.98	0.5	20	600	6.75

PHYSICAL CHARACTERISTICS



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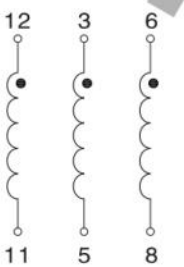


Notes:

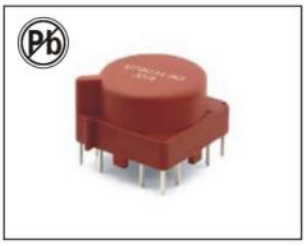
Electrical specification at 25℃

Operating temperature range: –40℃ to +105℃

Storage temperature range: –40℃ to +105℃

GATE DRIVE TRANSFORMERS FOR IGBT

GT4615 Series



FEATURES:

- Low coupling capacitance
- High insulation strength (reinforced insulation)
- Very high corona extinction voltage
- Compact designs in THT and SMT casings

DESCRIPTION:

In modern variable–frequency drives (VFD) IGBT are used in the inverter stage for frequency conversion. The corresponding Gate Driver Circuit needs to supply the necessary power for switching. In medium to high power applications DC/DC converters are usually used for this purpose.

Gate Drive Transformers for IGBT are the key element in these converters maintaining the safe galvanic separation between the intermediate circuit and the low voltage control side.

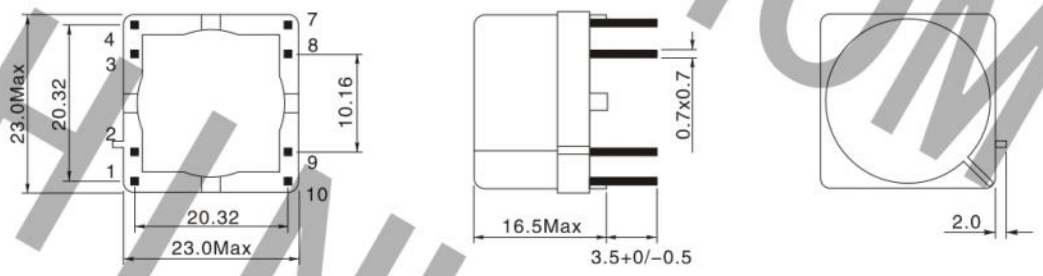
By using toroidal cores made from nanocrystalline it is possible to transmit the required switching power in extremely compact casings saving valuable PCB space. Advanced insulation and winding concepts ensure highest corona extinction voltages as well as low coupling capacitances.

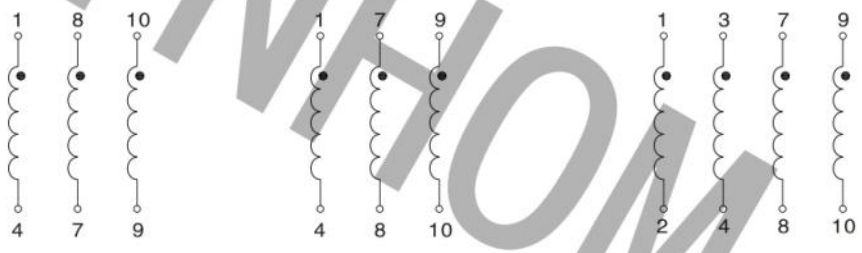
A large portfolio for typical working voltages between 500 V and 1200 V is available.The transformers feature different transmission ratios and voltage–time areas for demanding applications.

STANDARD SPECIFICATION:

Part Number	Turns ratio	Operating frequency (KHz)	Transmittable power (W)	Pri. Inductance (mH)Min @10KHz	Pri. Leakage inductance (Short Sec.) (uH)Typ. @100KHz	Capacitance Pri to Sec (pF)Typ.	Max Working Voltage (V)	Hi–Pot (kV)
GT4615A–065	2.9:1:1	100	42	14.5	9	10	1200	2.2
GT4615A–070	1:1:1.11:1.11	90	8	0.8	13	5	900	5
GT4615B–047	1:1:1	100	10	3	0.25	25	848	5
GT4615C–067	1:1:1	20	10	14.4	1.0	50	600	6.75

PHYSICAL CHARACTERISTICS TECHNICAL INFORMATION:





GT4615B–047

GT4615A–065
GT4615C–067

GT4615A–070

Notes:
Electrical specification at 25℃
Operating temperature range: –40℃ to +105℃
Storage temperature range: –40℃ to +105℃

GATE DRIVE TRANSFORMERS FOR IGBT

GT5032 Series

FEATURES:

- Low coupling capacitance
- High insulation strength (reinforced insulation)
- Very high corona extinction voltage
- Compact designs in THT and SMT casings

DESCRIPTION:

In modern variable–frequency drives (VFD) IGBT are used in the inverter stage for frequency conversion. The corresponding Gate Driver Circuit needs to supply the necessary power for switching. In medium to high power applications DC/DC converters are usually used for this purpose.

Gate Drive Transformers for IGBT are the key element in these converters maintaining the safe galvanic separation between the intermediate circuit and the low voltage control side.

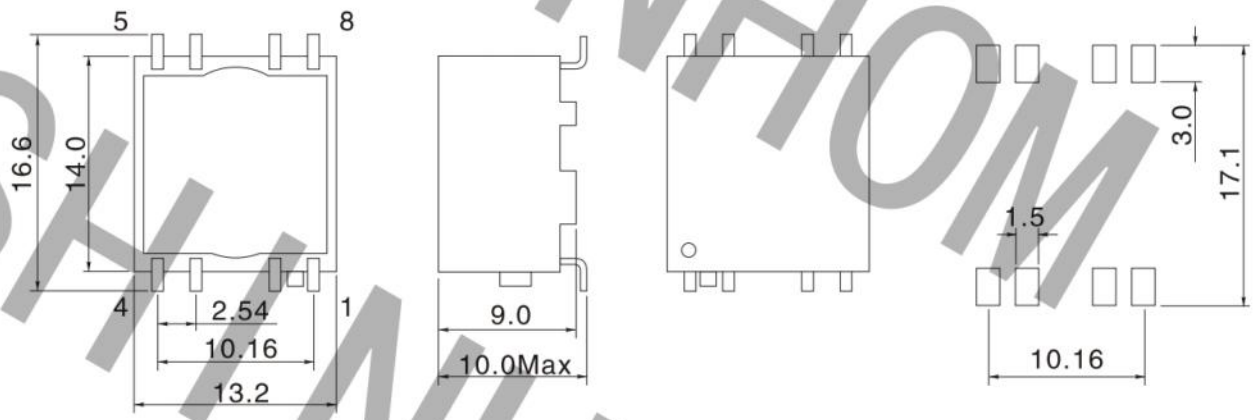
By using toroidal cores made from nanocrystalline it is possible to transmit the required switching power in extremely compact casings saving valuable PCB space. Advanced insulation and winding concepts ensure highest corona extinction voltages as well as low coupling capacitances.

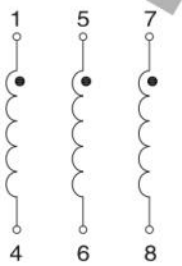
A large portfolio for typical working voltages between 500 V and 1200 V is available.The transformers feature different transmission ratios and voltage–time areas for demanding applications.

STANDARD SPECIFICATION:

Part Number	Turns ratio	Operating frequency (KHz)	Transmittable power (W)	Pri. Inductance (mH)Min @10KHz	Pri. Leakage inductance (Short Sec.) (uH)Typ. @100KHz	Capacitance Pri to Sec (pF)Typ.	Max Working Voltage (V)	Hi–Pot (kV)
GT5032–112	1:1:1	80	5	0.7	2.8	3.8	300	5.0

PHYSICAL CHARACTERISTICS TECHNICAL INFORMATION:





Notes:

Electrical specification at 25℃

Operating temperature range: –40℃ to +105℃

Storage temperature range: –40℃ to +105℃

GATE DRIVE TRANSFORMERS FOR IGBT

GT5046 Series

FEATURES:

- Low coupling capacitance
- High insulation strength (reinforced insulation)
- Very high corona extinction voltage
- Compact designs in THT and SMT casings

DESCRIPTION:

In modern variable–frequency drives (VFD) IGBT are used in the inverter stage for frequency conversion. The corresponding Gate Driver Circuit needs to supply the necessary power for switching. In medium to high power applications DC/DC converters are usually used for this purpose.

Gate Drive Transformers for IGBT are the key element in these converters maintaining the safe galvanic separation between the intermediate circuit and the low voltage control side.

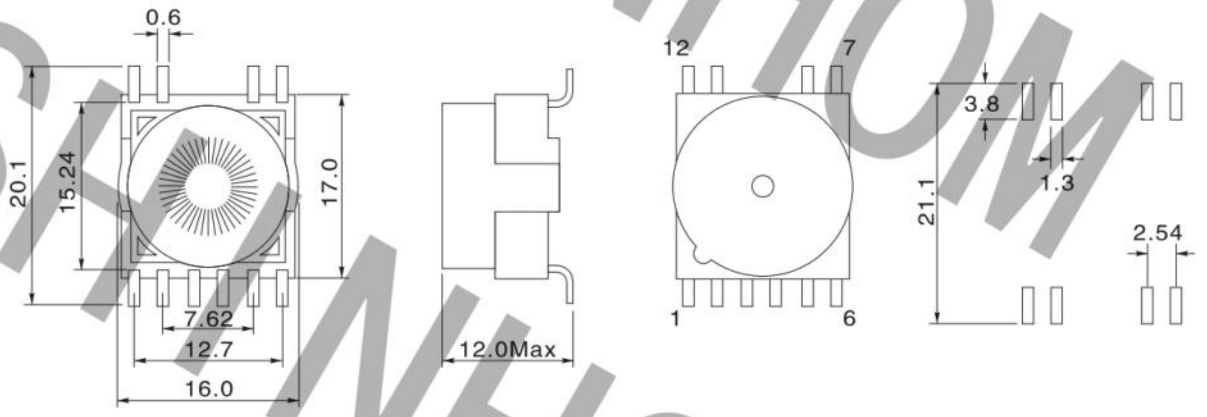
By using toroidal cores made from nanocrystalline it is possible to transmit the required switching power in extremely compact casings saving valuable PCB space. Advanced insulation and winding concepts ensure highest corona extinction voltages as well as low coupling capacitances.

A large portfolio for typical working voltages between 500 V and 1200 V is available.The transformers feature different transmission ratios and voltage–time areas for demanding applications.

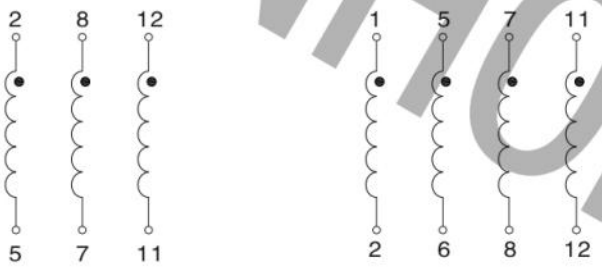
STANDARD SPECIFICATION:

Part Number	Turns ratio	Operating frequency (KHz)	Transmittable power (W)	Pri. Inductance (mH)Min @10KHz	Pri. Leakage inductance (Short Sec.) (uH)Typ. @100KHz	Capacitance Pri to Sec (pF)Typ.	Max Working Voltage (V)	Hi–Pot (kV)
GT5046–100	1:1.2:1.2	100	3	1.4	0.3	12	848	1.8
GT5046–007	1:1:1	100	6.5	1.4	0.3	13	848	4.5
GT5046–008	1:1:1:1	100	4.5	2.32	6.7	9	848	4.5

PHYSICAL CHARACTERISTICS



TECHNICAL INFORMATION:



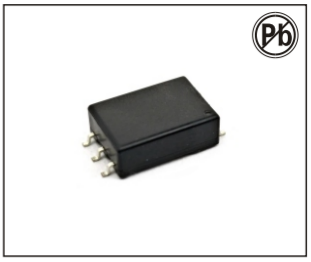
GT5046–100
GT5046–007

GT5046–008

Notes:
Electrical specification at 25℃
Operating temperature range: –40℃ to +105℃
Storage temperature range: –40℃ to +105℃

ISOLATION POWER TRANSFORMER /GATE DRIVER TRANSFORMER

GT0513 SERIES



FEATURES:

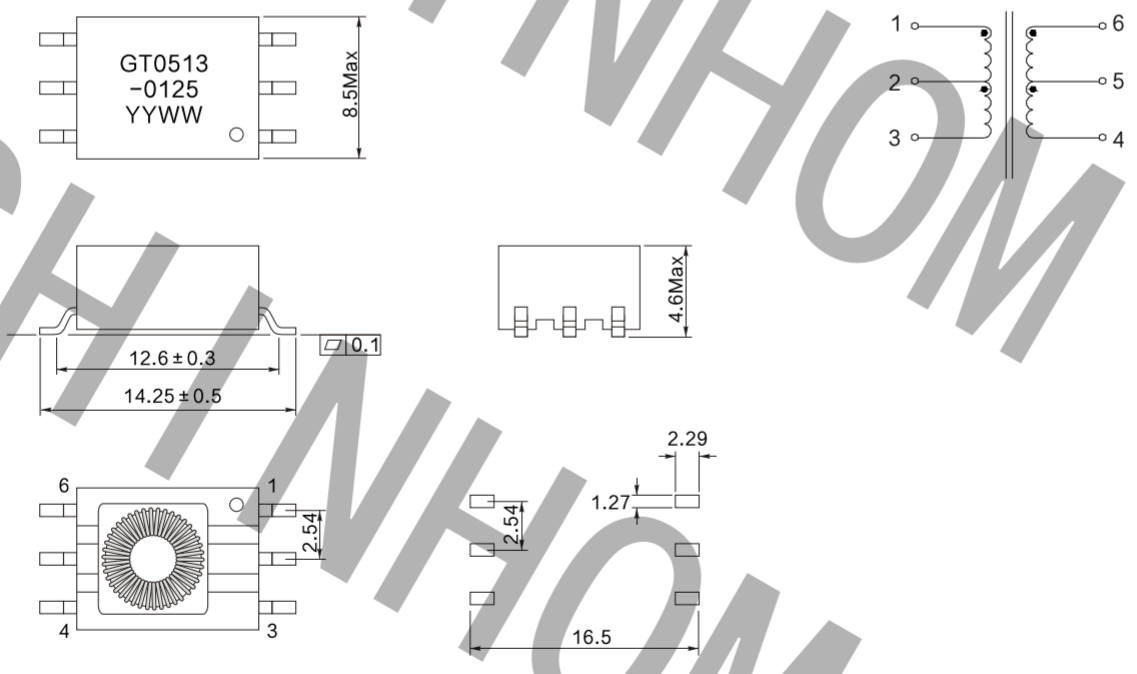
- Push Pull Converter Transformer, BMS Isolation/Gate driver transformer
- IEC 60950 and 61558 basic insulation
- Compliant, High creepage 4000Vrms isolation (600Vrms continuous)
- Conforms AEC-Q200 and IATF16949

ELECTRICAL CHARACTERISTICS@25℃

Part Number	Turns ratio (1-3):(6-4)	L(1-3) (uH) Min 100KHz,0.1V	LK(1-3) (nH) typ. 100KHz,0.1V Short 4-6	DCR(1-3) (Ω) Max	DCR(4-6) (Ω) Max	ET(1-3) (V-usec) Max	Capacitance (1,3)to(4,6) (pF)Max
GT0513-0140	1CT:4CT	200	200	0.29	1.35	15	9
GT0513-0125	1CT:2.5CT	200	200	0.28	0.85	15	7
GT0513-0170	1CT:7CT	200	250	0.45	4.15	15	8
GT0513-0147	1CT:4.7CT	200	200	0.29	2.0	15	7
GT0513-0112	1CT:1.2CT	200	200	0.14	0.17	15	9
GT0513-0117	1CT:1.7CT	200	200	0.13	0.37	15	9
GT0513-0211	2.1CT:1CT	200	350	0.18	0.13	15	7
GT0513-0162	1CT:6.2CT	200	200	0.47	3.45	15	8

TECHNICAL INFORMATION & WINDING

Dimensions(mm)



1.Test condition:100 kHz/0.1V,All data is tested based on 25℃ ambient temperature.
2.Operating Temperature: -40℃ to +105℃ (Temperature rise included).
3.Storage Temperature: 5 to 40℃.