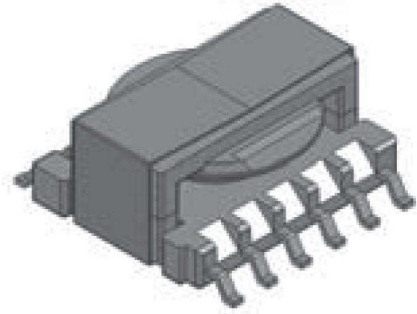


# GDAU SERIES

## Isolated SMD Gate Drive Transformer up to 150V $\mu$ s

### Features

- 150V $\mu$ s MAX ET product
- Design for high performance EV/HEV onboard SMPS
- Height : 7.8mm MAX, Pick & Place compatible
- Footprint : SMD 18 x 14.5mm MAX
- RMS current rating : up to 0.5Arms
- 1:1+1 turn ratio for bridge control
- Working frequency from 90 to 125kHz
- 3kV isolation between primary and secondary
- High operating temperature range -40 to +155°C
- AOI (Automatic Optical Inspection) component
- UL94V-0 and RoHS material
- Design compliant with AEC-Q200 requirements
- No thermal aging effect
- Weight : less than 5g



### Application

- Half- or full-bridge MOS transistors control in SMPS
- Automotive EV/HEV DC/DC converters and battery chargers
- Industrial high power SMPS



### Electrical specifications

Code	MAX ET Product (V $\mu$ s)	Turn-Ratio	Primary Inductance (uH)	Secondary DCR MAX (m $\Omega$ )	Primary DCR MAX ( $\Omega$ )	Primary to Secondary Isolation (kVdc)
GDAU-001	150	1:1+1	400-800	0.8	0.5	3

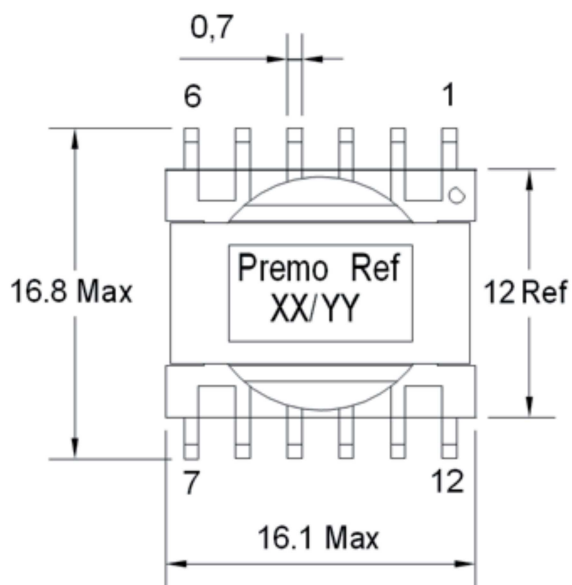
### Notes

- (1) All test data are referenced to 25°C ambient temperature
- (2) The inductance value is measured at 100kHz/0.1Vac
- (3) The isolation is tested at DC/2sec (1min for qualification) ;
- (4) The creepage distance is guaranteed > 5mm
- (5) Continuous operating temperature range must be within -40/+155°C (including self-heating of the part)
- (6) Leakage inductance value is less than 2 $\mu$ H (viewed from primary side at 100kHz/0.1Vac)
- (7) Inter-winding stray capacitance is less than 12pF (between prim shorted and sec shorted at 100kHz/0.1Vac)

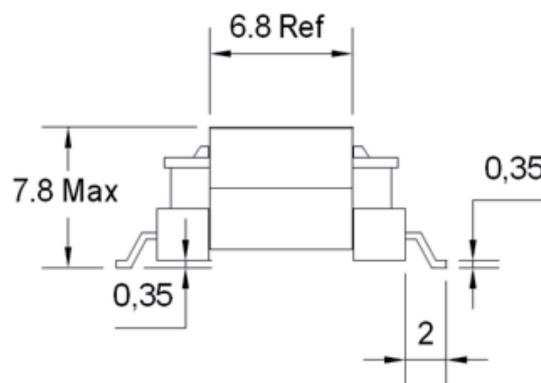
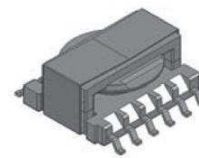
# GDAU SERIES

Isolated SMD Gate Drive Transformer up to 150V $\mu$ s

## Dimensions (mm)



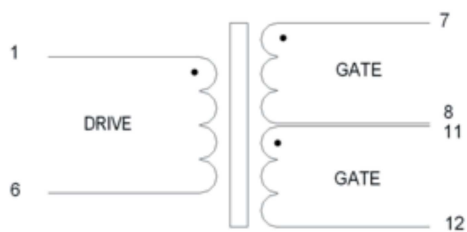
**Top View**



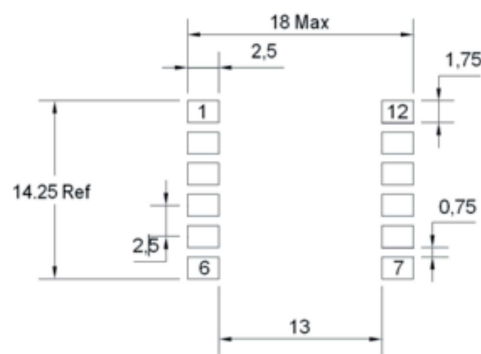
**Side View**

Coplanarity < 150 $\mu$ m between all pins

## Electrical diagram



## Recommended Pad-Layout



**TOP VIEW in mounting direction**

Dimensions in mm

Tolerance  $\pm 0.1$

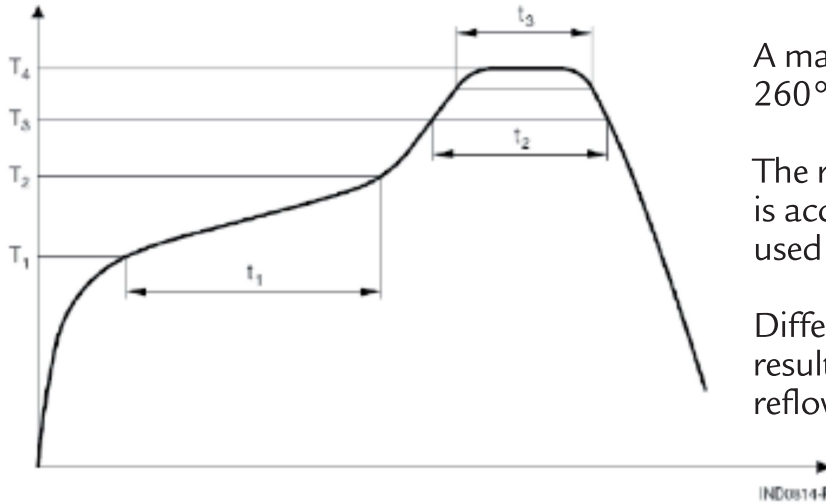
# GDAU SERIES

## Isolated SMD Gate Drive Transformer up to 150V $\mu$ s

### Soldering

Reflow or vapor-phase soldering processes are compatible to mount the component.

Pb-free solder material (based on JEDEC J-STD 020D)



A maximum soldering temperature of 260°C during 10s shall not be exceeded.

The reflow condition recommended is according to the equipment used at PREMO.

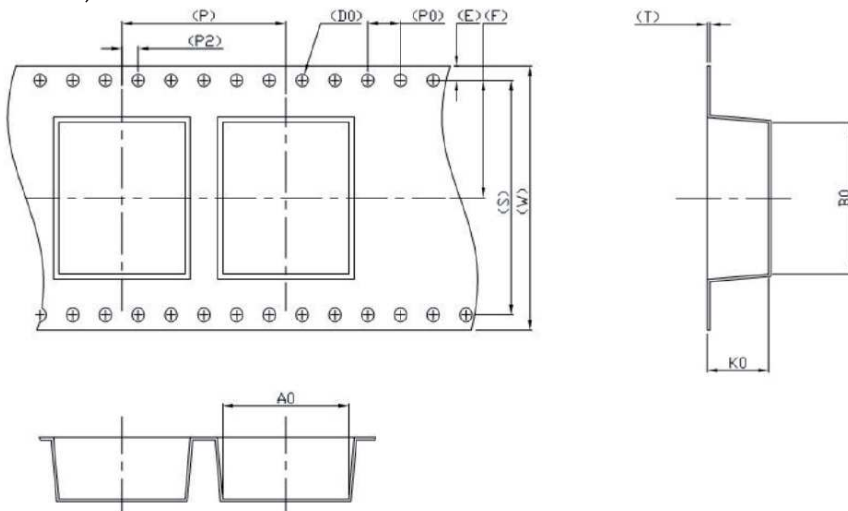
Differences could appear as a result of the type of machine, reflow conditions, method...

T <sub>1</sub> (°C)	T <sub>2</sub> (°C)	T <sub>3</sub> (°C)	T <sub>4</sub> (°C)	t <sub>1</sub> (s)	t <sub>2</sub> (s)	t <sub>3</sub> (s)
150	200	217	245	60 ... 200	60 ... 150	30

Max. time from 25 °C to T<sub>4</sub>: 480 seconds  
 Max. number of reflow cycles: 3

### Packaging

Standard Tape & Reel according to EIA-481 requirements (32mm wide carrier tape on 13" reel)



Series	AO	BO	KO	W	S	E	T	P	P0	P2	D0	Parts/Reel
GDAU	15.6	16.6	7.3	32.0	28.4	1.75	0.40	20.0	4.0	2.0	1.5	400
	(+/-0.1)	(+/-0.1)	(+/-0.1)	(+/-0.3)	(+/-0.1)	(+/-0.1)	(+/-0.05)	(+/-0.1)	(+/-0.1)	(+/-0.1)	(+0.1/-0)	(approx.)