

**TRANSFORMER  
(ISDN)**

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## FEATURES

- MEET THE PULSE WAVEFORM TEMPLATE OF CCITT I.430 WHEN RECOMMENDED TRANSFORMER AND CHIP PAIR IS USED
- EXCELLENT LONGITUDINAL BALANCE
- 2KV RMS VOLTAGE ISOLATION
- RECOGNIZED BY UL 1950.

## TEST CONDITIONS

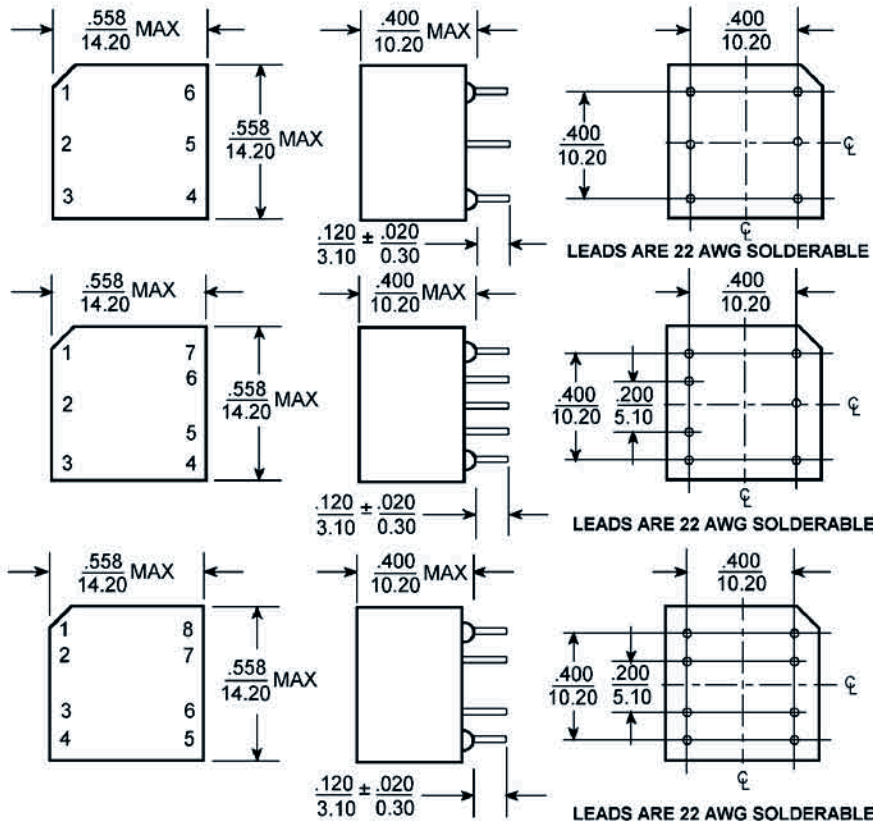
- Inductance ----- 10KHZ/200mV
- Leakage Inductance ----- 100KHZ/1V
- Interwinding Capacitance -- 1MHZ/1V

## ELECTRICAL SPECIFICATIONS @25°C

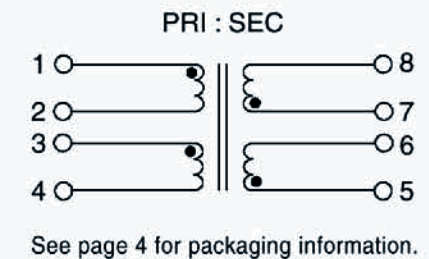
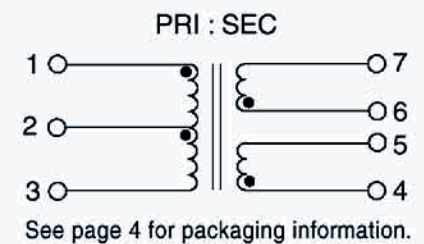
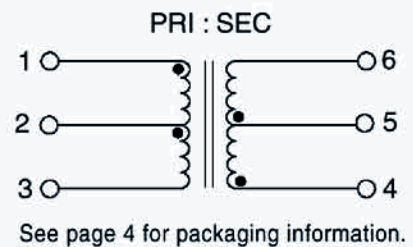
PART NUMBER	RATIO (±2%)	OCL Pri. (mH min.)	LL Sec. (uH max.)	CW/W (pf max.)	CD Pri. (pf max.)	DCR Pri. (Ω±15%)	DCR Sec. (Ω±15%)	ΔIdc (mA max.)
40T-2231A	1:1	22	5	100	40	2.4	2.4	1
40T-2232B	1:1.8	22	15	100	140	2.5	4.2	1
40T-2233A	1:2	22	15	100	80	2.3	4.0	1
40T-2234B	1:2.5	22	20	100	290	2.5	5.8	1
40T-2235C	1:2.5	22	15-40	100	290	2.5	5.8	1
40T-2236A	1:2	22	11	100	180	2.5	5.0	1



## MARKINGS AND DIMENSIONS



## SCHEMATICS



Dimensions: inches/mm

Unless otherwise specified, all tolerances are ±.010/±0.25



# 41T/43T SERIES

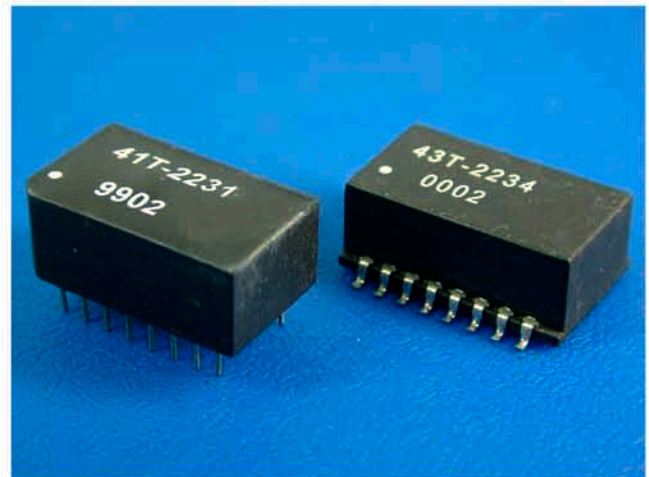
## ISDN S-INTERFACE TRANSFORMER SURFACE MOUNT AND THROUGH HOLE

### FEATURES

- MEETS PULSE WAVEFORM TEMPLATE OF CCITT I.430 WHEN RECOMMENDED TRANSFORMER AND CHIP PAIR IS USED
- EXCELLENT LONGITUDINAL BALANCE
- 2KVrms ISOLATION VOLTAGE
- RECOGNIZED BY UL 1950.

### TEST CONDITIONS

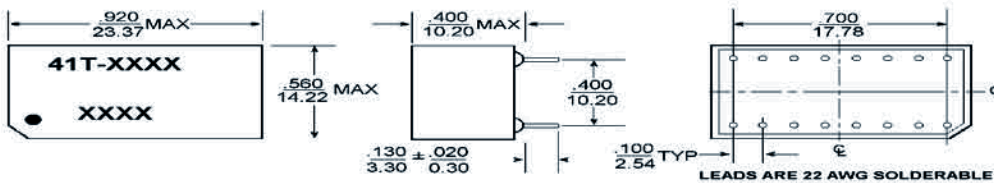
- Inductance ----- 10KHZ/200mV
- Leakage Inductance ----- 100KHZ/1V
- Interwinding Capacitance -- 1MHZ/1V



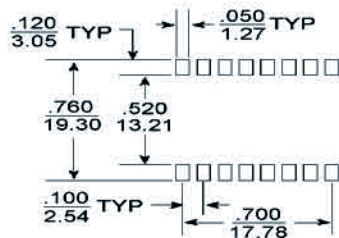
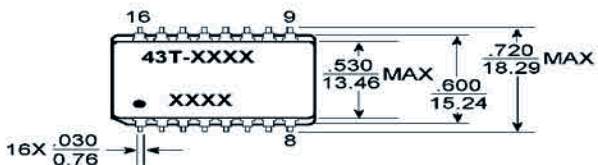
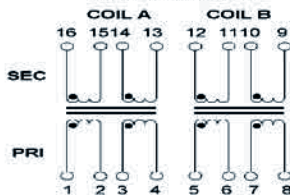
### ELECTRICAL SPECIFICATIONS @25°C-Operating temperature 0°C TO 70°C

PART NUMBER	RATIO (±2%)		OCL Pri. (mH min.)	LL Sec. (uH max.)		CW/W (pf max.)	CD Pri. (pf max.)		DCR Pri. (Ω±15%)		DCR Sec. (Ω±15%)		ΔIdc (mA max.)
	A	B	A&B	A	B	A&B	A	B	A	B	A	B	
41T/43T-2231	1:1	1:2	22	5	5	100	42	80	2.4	2.3	2.4	4.0	1
41T/43T-2232	1:1	1:1	22	5	5	100	42	42	2.4	2.4	2.4	2.4	1
41T/43T-2233	1:1.8	1:1.8	22	15	15	100	140	140	2.5	2.5	4.2	4.2	1
41T/43T-2234	1:2	1:2	22	15	15	100	80	80	2.5	2.5	4.3	4.3	1
41T/43T-2235	1:2.5	1:2.5	22	8-40	8-40	100	110	110	2.5	2.5	5.8	5.8	1
41T/43T-2236	1:2	1:2	22	11	11	100	180	180	2.4	2.4	4.4	4.4	1

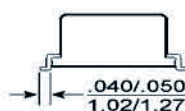
### MARKINGS AND DIMENSIONS



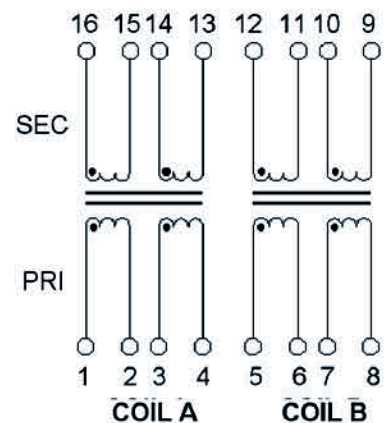
#### Schematics



#### SUGGESTED PAD LAYOUT



### SCHEMATICS

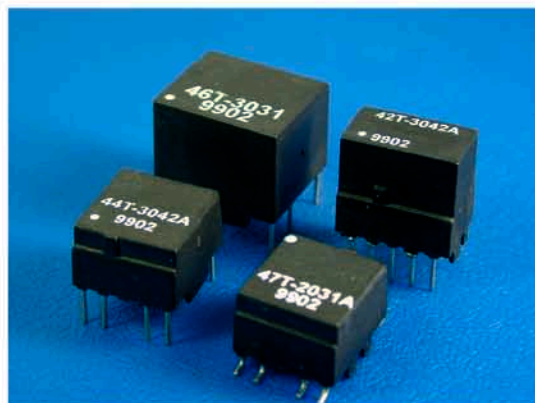


Dimensions: inches/mm

Unless otherwise specified,  
all tolerances are ±.010/±0.25

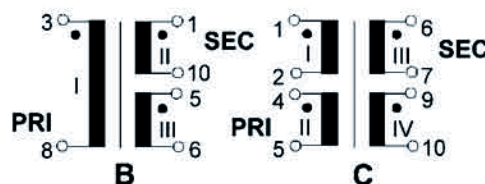
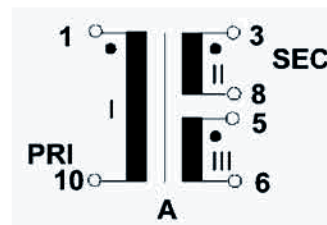
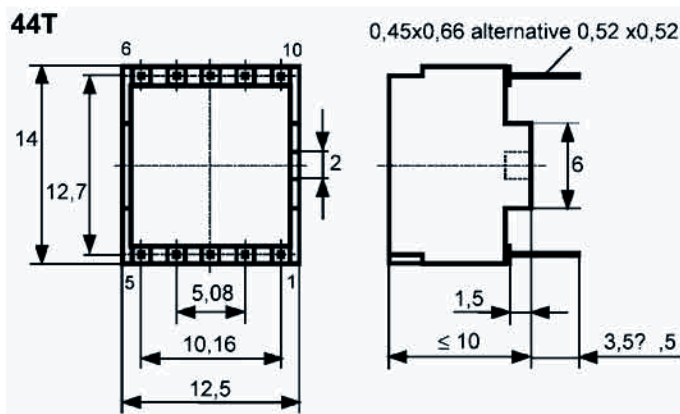
### FEATURES

- The pulse masks are easily realized due to adjusted leakage inductances
- Optimum common mode rejection of the output signal due to low coupling capacitances
- The impedance masks are reliably fulfilled even during DC premagnetization
- High DC capability, therefore phantom power feeding is unproblematic

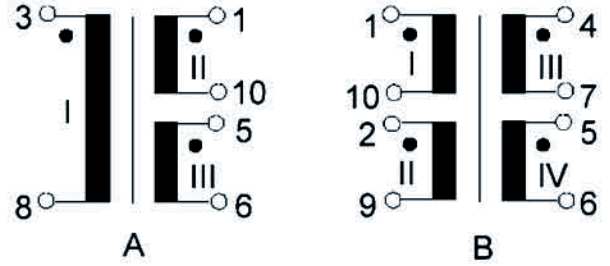
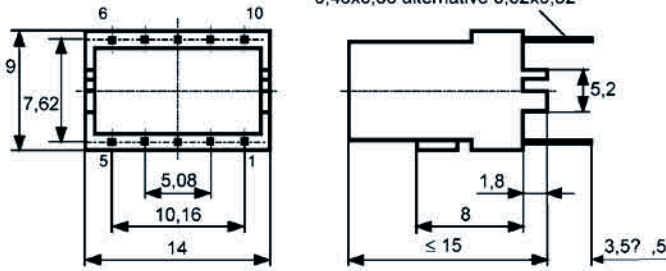


PART NUMBER	Turns Ratio	$\Delta I_{DC}$	$L_H$ MH min.	$L_S$ $\mu H$ max	$C_K$ pF max	$C_W$ pF max	$R_{CU,B}$ $\Omega$	$R_{CU,L}$ $\Omega$	$U_P$ KV <sub>eff</sub> /KV <sub>rms</sub>	schematic
44T-3046B	4:1:1	3	$\geq 30$	$\leq 3$	$\leq 45$	30	3,8	1,2	1,5	B
44T-3042C	2:2:1:1	5	$\geq 30$	$\leq 5$	$\leq 140$	110	5,0	1,6	1,5	C
44T-3041C	1:1:1:1	5	$\geq 30$	$\leq 5$	$\leq 120$	30	1,6	1,6	1,5	C
44T-3043C	1,8:1,8:1:1	5	$\geq 30$	$\leq 5$	$\leq 120$	80	4,0	1,6	1,5	C
44T-3044C	2,5:2,5:1:1	5	$\geq 30$	$\leq 7$	$\leq 140$	200	6,0	1,6	1,5	C
42T-3046B	4:1:1	3	$\geq 30$	$\leq 3$	$\leq 45$	30	3,8	1,2	1,5	B
42T-3042C	2:2:1:1	5	$\geq 30$	$\leq 5$	$\leq 120$	110	5,0	1,6	1,5	C
42T-3041C	1:1:1:1	5	$\geq 30$	$\leq 5$	$\leq 120$	30	1,6	1,6	1,5	C
42T-3043C	1,8:1,8:1:1	5	$\geq 30$	$\leq 5$	$\leq 120$	80	4,0	1,6	1,5	C
42T-3044C	2,5:2,5:1:1	5	$\geq 30$	$\leq 7$	$\leq 140$	200	6,0	1,6	1,5	C
47T-3042A	2:2:1:1	5	$\geq 30$	$\leq 5$	$\leq 140$	120	4,6	1,6	1,5	A
47T-3041A	1:1:1:1	5	$\geq 30$	$\leq 5$	$\leq 120$	30	1,6	1,6	1,5	A
47T-3043A	2,5:2,5:1:1	5	$\geq 30$	$\leq 7$	$\leq 140$	200	6,0	1,6	1,5	A
46T-3042B	2,5/2,5:1/1	5	$\geq 30$	$\leq 15$	$\leq 45$	200	4,0	2,0	4,0	B
46T-3043B	1,8/1,8:1/1	5	$\geq 30$	$\leq 15$	$\leq 45$	120	2,6	2,0	4,0	B
46T-3041B	1/1:1/1	5	$\geq 30$	$\leq 15$	$\leq 45$	40	1,6	2,0	4,0	B
46T-3044B	2/2:1/1	5	$\geq 30$	$\leq 15$	$\leq 45$	130	3,0	2,4	4,0	B
46T-3041A	4:1:1	1	$\geq 30$	$\leq 3$	$\leq 45$	30	2,2	0,4	4,0	A
46T-2541C	4:1:1	1	$\geq 25$	$\leq 3$	$\leq 30$	60	1,8	0,4	4,0	C
46T-3045B	2/2:1/1	5	$\geq 30$	$\leq 15$	$\leq 45$	130	3,0	2,4	4,0	B

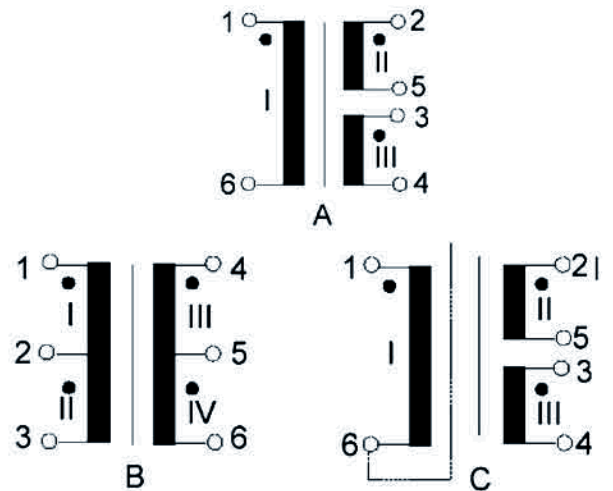
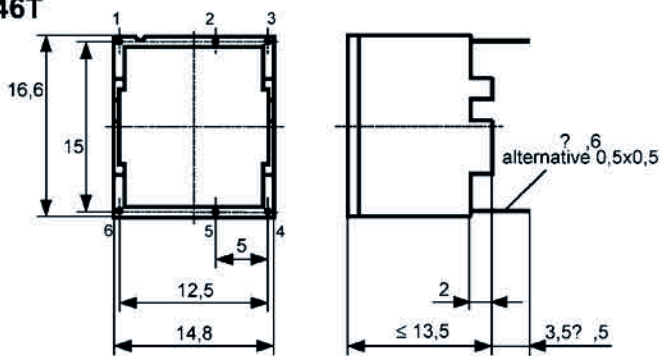
### CONNECTIONS



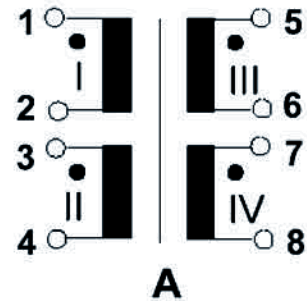
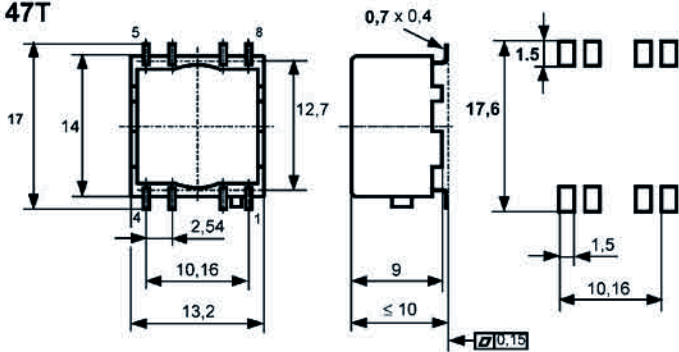
### 42T



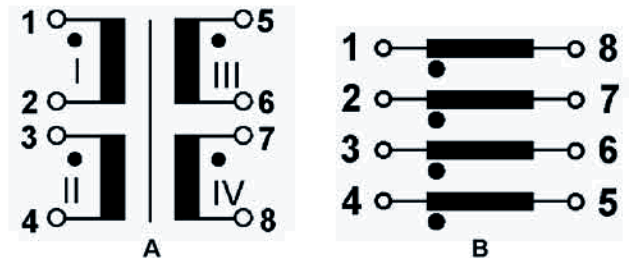
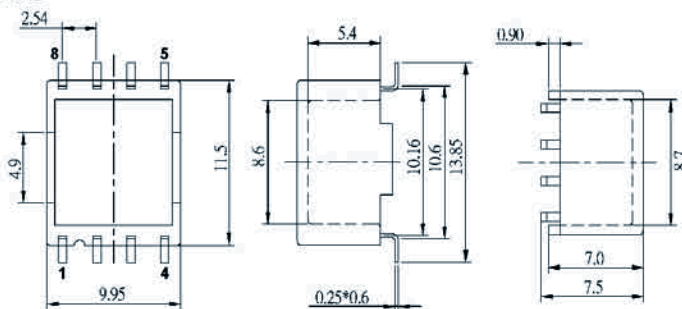
### 46T



### 47T



### 47TS



Dimensions: mm Unless otherwise specified, all tolerances are  $\pm 0.25$

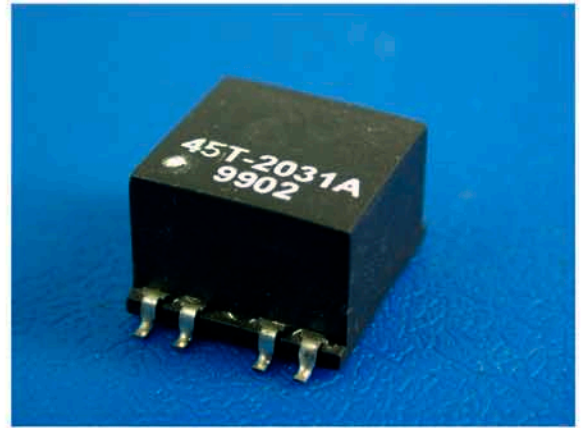


# 45T SERIES

# ISDN S-INTERFACE TRANSFORMER SURFACE MOUNT, SINGLE, 1.5 AND 3 KVrms

## FEATURES

- MEETS THE PULSE WAVEFORM TEMPLATE OF CCITT 1.430 USING RECOMMENDED TRANSFORMER AND CHIP PAIR.
- COMPACT SMT TRANSFER-MOLDED PACKAGE WITH 1.5KV AND 3KV COMPATIBLE FOOTPRINTS.



## TEST CONDITIONS

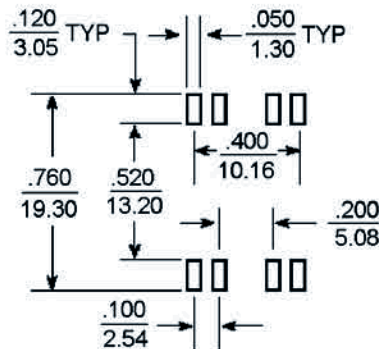
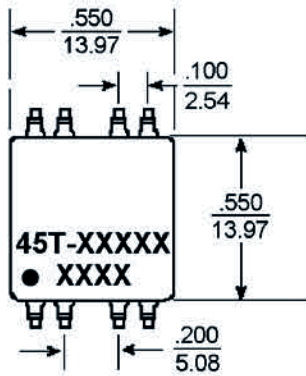
- Inductance ----- 10KHZ/200mV
- Leakage Inductance ----- 100KHZ/1V
- Interwinding Capacitance -- 1MHZ/1V

## ELECTRICAL SPECIFICATIONS @25°C-Operating temperature 0°C TO 70°C

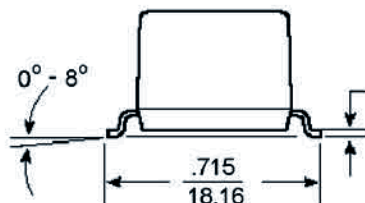
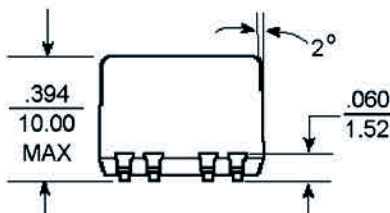
PART NUMBER	RATIO ±2%	OCL PRI (mH MIN)	LL SEC (μH MAX)	Cw/w (pF MAX)	CD PRI (pF MAX)	DCR PRI (Ω MAX)	DCR SEC (Ω MAX)	Δ IDC (mA MAX)	ISOLATION VOLTAGE (Vrms min)	PRIMARY PINS
45T-2232B	1:2	22	5	120	180	2.5	5.2	3	1500	1-10,5-6
45T-2231C	1:1	22	5	120	180	2.5	2.5	3	1500	1-10,5-6
45T-2233C	1:2.5	22	10	150	180	2.5	6	3	1500	1-10,5-6
45T-2232C	1:2	22	5	120	180	2.5	5	3	1500	1-10,5-6
45T-2232A	1:2	22	15	120	180	1.3	3.0	3	1500	6-7,9-10
45T-2232A3	1:2	22	15	45	100	1.3	3.0	3	3000	6-7,9-10
45T-2231A3	1:1	22	15	45	100	1.3	1.3	3	3000	6-7,9-10
45T-2233A3	1:2.5	22	15	45	100	1.3	3.5	3	3000	6-7,9-10
45T-2234A3	1:2	22	15	45	100	1.3	3.0	5	3000	6-7,9-10

## MARKINGS AND DIMENSIONS

## SCHEMATICS

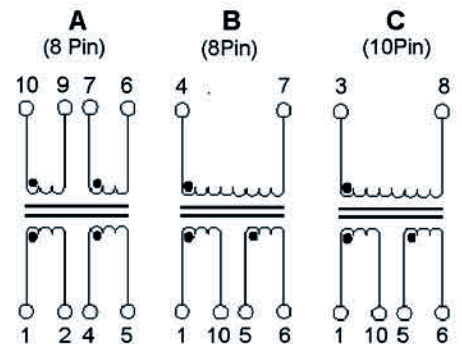


### SUGGESTED PAD LAYOUT



Dimensions: inches/mm

Unless otherwise specified, all tolerances are ±.010/±0.25





# 46T SERIES

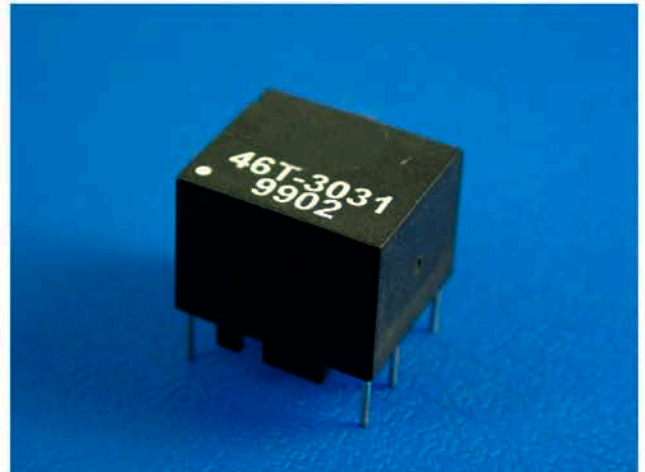
# ISDN S-INTERFACE TRANSFORMER THROUGH HOLE, SINGLE, 3000Vrms

## FEATURES

- MEETS THE PULSE WAVEFORM TEMPLATE OF CCITT 1.430 WHEN RECOMMENDED TRANSFORMER AND CHIP PAIR ARE USED.
- INDUSTRY STANDARD FOOTPRINT.
- 3KV, Isolation .
- 5mA  $\Delta$ idc-Ideal FOR NT1 APPLICATIONS.

## TEST CONDITIONS

- Inductance ----- 10KHz/100mV
- Leakage Inductance ----- 100KHz/100mV
- Interwinding Capacitance -- 100KHz/100mV

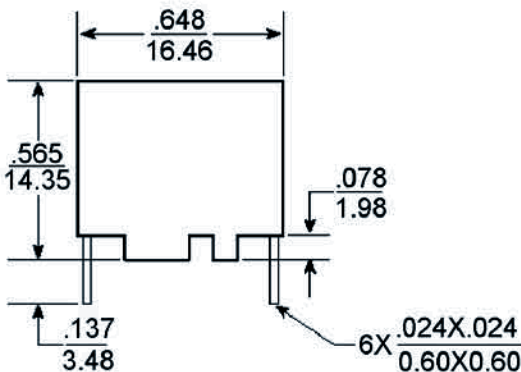
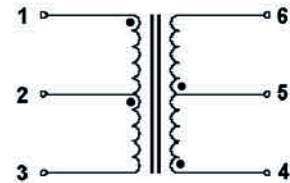
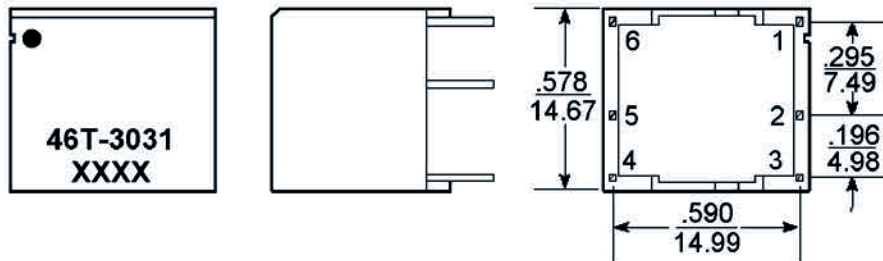


## ELECTRICAL SPECIFICATIONS @25°C-OPERATING TEMPERATURE 0°C TO 70°C

PART NUMBER	TRANSFORMER							$\Delta$ IDC (mA MAX)	SECONDARY PINS
	RATIO $\pm$ 2%	OCL PRI (mH MIN)	LL SEC ( $\mu$ H MAX)	Cw/w (pF MAX)	CD PRI (pF MAX)	DCR PRI ( $\Omega$ MAX)	DCR SEC ( $\Omega$ MAX)		
46T-3031	1CT:2CT	30	15	75	50	3.4	5.4	5	1-3

## MARKINGS AND DIMENSIONS

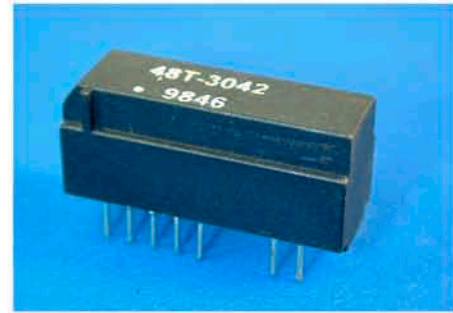
## SCHEMATICS



Dimensions: inches/mm  
Unless otherwise specified,  
all tolerances are  $\pm$ .005/ $\pm$ 0.13

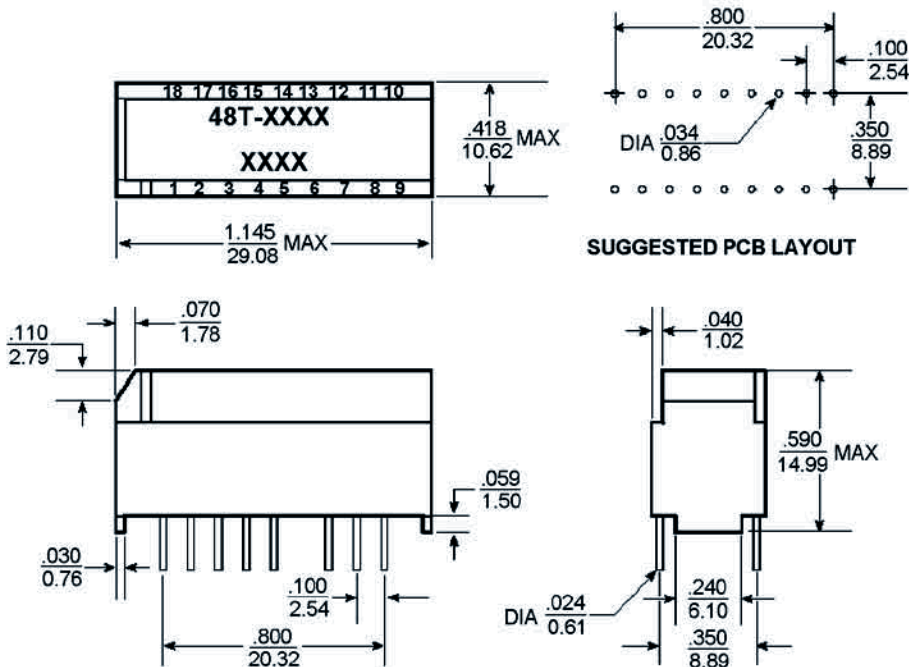
### FEATURES

- Meets the pulse waveform template of CCITT 1.430 when recommended module and chip pair are used
- Compatible with industry standard footprints
- Developed for enhanced EMC performance

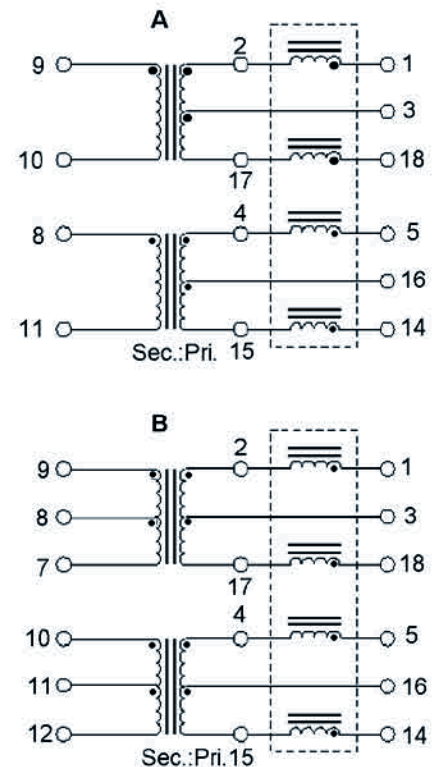


Part Number	Transformer							Choke		$\Delta$ IDC mA Max	SECONDARY Pins
	Ratio $\pm$ 2% (Pri:Sec)	OLC Pri (mH Min)	LI Ses ( $\mu$ H MAX)	Cw/w (pF Max)	CD Pri (pF Max)	DCR Pri ( $\Omega$ +25%MAX)	DCR Sec ( $\Omega$ MAX)	OCL (mH Min)	DCR ( $\Omega$ )		
48T-3031B	1CT:1CT	30	10	150	100	3.2	3.2(+25%)	4.7	1.2	5	9-7,10-12
48T-3032B	1CT:2CT	30	30	150	100	3.2	5.4(+25%)	4.7	1.2	5	9-7,10-12
48T-3033B	1CT:2.5CT	30	30	150	100	3.2	9.0	4.7	1.2	5	9-7,10-12
48T-3032A	1:2CT	30	30	150	100	3.2	5.4(+25%)	4.7	1.2	5	9-10,8-11
48T-3033A	4:1:1	30	3	120	100	2.5	0.4	3.6	1.3	3	9-10,8-11
48T-3034A	4:1:1	30	3	120	100	2.5	0.4	9.0	1.3	3	9-10,8-11
48T-3036A	4:1:1	30	3	120	100	2.5	0.8	4.0	1.3	3	9-10,8-11

### MARKINGS AND DIMENSIONS



### SCHEMATICS



Dimensions: inches/mm

Unless otherwise specified, all tolerances are  $\pm 0.005/\pm 0.13$





# 49T SERIES ISDN S-INTERFACE TRANSFORMER

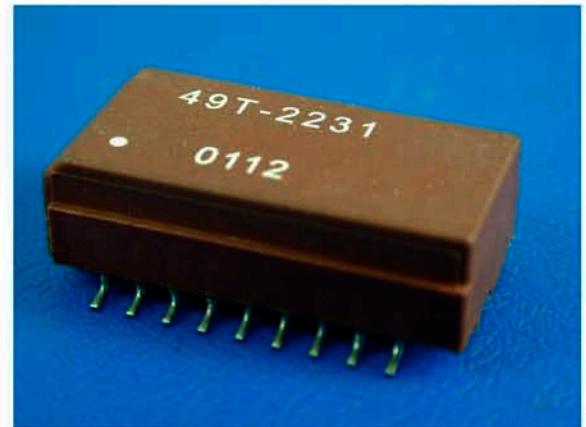
## SURFACE MOUNT, DUAL, 1500Vrms

### FEATURES

- MEETS THE PULSE WAVEFORM TEMPLATE OF CCITT 1.430 WHEN RECOMMENDED TRANSFORMER AND CHIP PAIR ARE USED.
- DEVELOPED FOR ENHANCED EMC PERFORMANCE.
- EXCELLENT LONGITUDINAL BALANCE.
- TRANSFER MOLDED PACKAGE.
- LOW OR HIGH FREQUENCY CHOKE OPTIONS AVAILABLE.

### TEST CONDITIONS

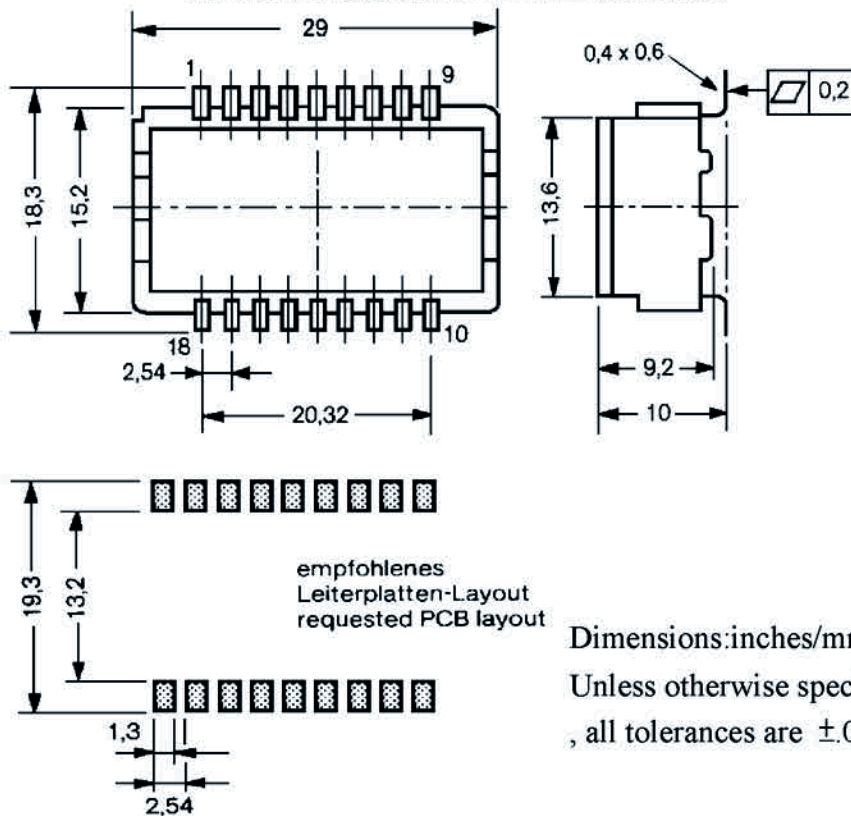
- Inductance ----- 10KHz/100mV
- Leakage Inductance ----- 100KHz/100mV
- Interwinding Capacitance -- 10KHz/100mV



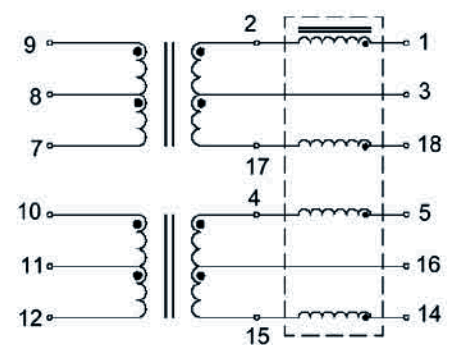
### ELECTRICAL SPECIFICATIONS @25°C - OPERATING TEMPERATURE 0°C TO 70°C

PART NUMBER	TRANSFORMER								CHOKE OCL/DCR (mH/Ω MAX)	Δ IDC (mA MAX)	SECONDARY PINS
	RATIO ±2%	OCL PRI (mH MIN)	LL SEC (μH MAX)	Cw/w (pF MAX)	CD PRI (pF MAX)	DCR PRI (Ω MAX)	DCR SEC (Ω MAX)				
49T-3031	1CT:2CT	30	10	150	100	3.4	5.4	4.7/1.4	3	9-7,10-12	
49T-3032	1CT:2.5CT	30	10	150	100	3.4	7.0	4.7/1.4	3	9-7,10-12	
49T-3033	1CT:2CT	30	10	150	100	3.4	5.4	4.7/1.4	3	9-7,10-12	
49T-3034	1CT:2.5CT	30	10	150	100	3.4	7.0	4.7/1.4	3	9-7,10-12	

### MARKINGS AND DIMENSIONS



### SCHEMATIC



Dimensions: inches/mm  
Unless otherwise specified  
, all tolerances are ±.010/±0.25

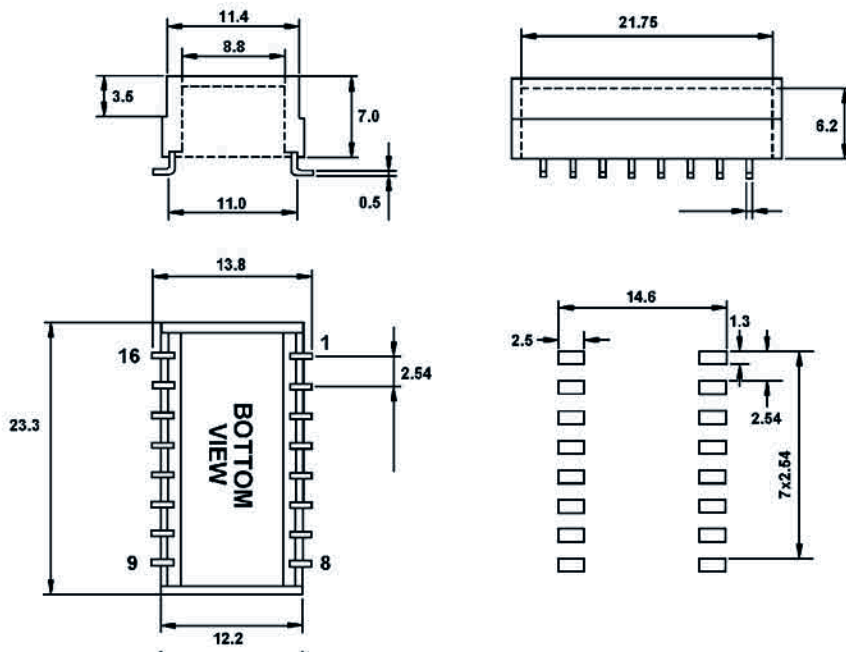
## ELECTRICAL SPECIFICATIONS @25°C

PART NUMBER	Turns Ratio (Line: Chip) ( $\pm 2\%$ )	Line Side Inductance (mH min.)	Interwinding Capacitance (pF max)	Line Side Leakage Inductance (uH max)	DCR Line Side ( $\Omega \pm 15\%$ )	DCR Line Side ( $\Omega \pm 15\%$ )	Schematics
49TM-3031**A	1Split: 1Split	30	100	5	2.9	2.8	A
49TM-3032**B	1CT: 1CT	30	100	5	2.9	2.8	B
49TM-3033**A	1Split: 1Split	30	100	5	3.0	5.4	A
49TM-3034**B	1CT: 2CT	30	100	5	3.0	5.4	B
49TM-3035**A	1Split: 1Split	30	100	5	3.0	6.8	A
49TM-3036**B	1CT: 2.5CT	30	100	5	3.0	6.8	B

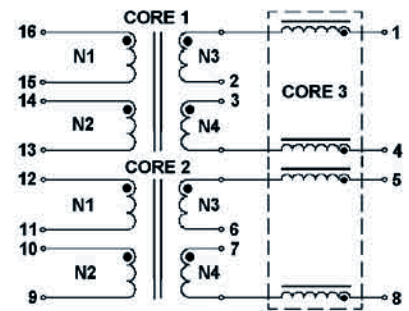
PART NUMBER	Common Mode Choke									
	-00		-51		-12		-52		-53	
	OCL (uH)	DCR ( $\Omega$ max)	OCL (uH)	DCR ( $\Omega$ max)	OCL (uH)	DCR ( $\Omega$ max)	OCL (uH)	DCR ( $\Omega$ max)	OCL (mH)	DCR ( $\Omega$ max)
49TM-3031**A	None		50	0.4	100	0.6	500	1.4	5.0	2.0
49TM-3032**B	None		50	0.4	100	0.6	500	1.4	5.0	2.0
49TM-3033**A	None		50	0.4	100	0.6	500	1.4	5.0	2.0
49TM-3034**B	None		50	0.4	100	0.6	500	1.4	5.0	2.0
49TM-3035**A	None		50	0.4	100	0.6	500	1.4	5.0	2.0
49TM-3036**B	None		50	0.4	100	0.6	500	1.4	5.0	2.0

1. Inductance: Main Transformers 10KHz/100mV. CMC 100KHz/20mV.
2. Leakage Inductance & Interwinding Capacitance: 100KHz/100mV.

## MARKINGS AND DIMENSIONS



## SCHEMATIC A



## SCHEMATIC B

