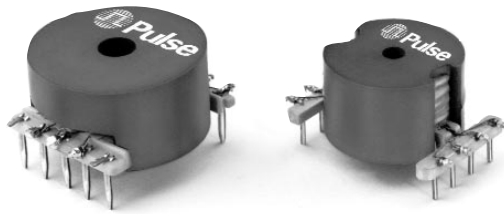


ISDN U-INTERFACE TRANSFORMERS

For Applications with 2B1Q and 4B3T Coding



-  Matched to leading transceiver ICs
-  Parts meet ANSI T1.601-1992 and ETSI ETR 080
-  Transformer models with 2000 Vrms to 3000 Vrms minimum isolation
-  Recognized to UL1459 and UL1950
-  BABT certified to EN60950

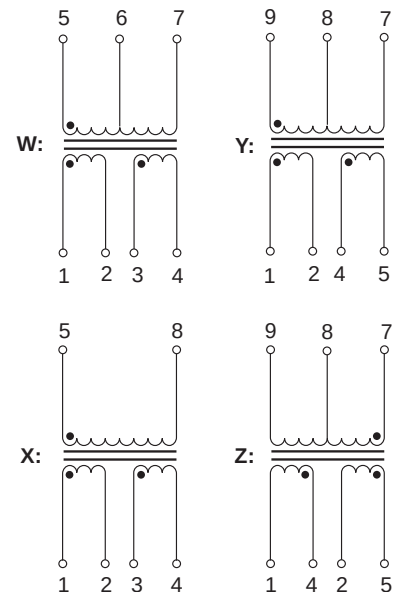
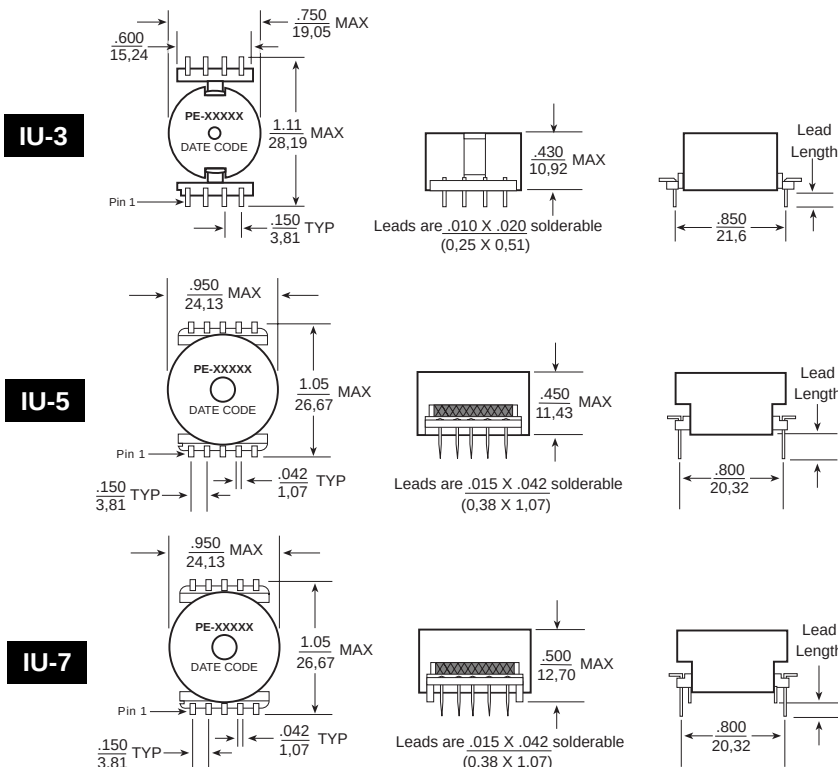
Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

Isolation Voltage (Vrms MIN)	Part Number	Turns Ratio Line:Chip (±3%)	Line Side Pins	OCL Line side (mH)	DCR Line Side (Ω)	DCR Chip Side (Ω)	IDC (mA)	Lead Length	Package/ Schematic
2000 Vrms	PE-65575*	1.65:1	(1-4)	13.0-18.0	5.2 ±15%	3.0 ±15%	50	0.15 ± 0.03 (3,81 ± 0,76)	IU-3/W ⁴
	PE-65578	1.32:1	(1-4)	7.0-8.3	2.4 MAX	2.7 MAX	55	0.15 ± 0.03 (3,81 ± 0,76)	IU-3/X
	PE-65579	2.00:1	(1-5)	25.5-28.5	11.6 MAX	6.4 MAX	60	0.17 ± 0.04 (4,32 ± 1,02)	IU-5/Y
	PE-65581	1.50:1	(4-2)	14.2-15.8	16.0 MAX	2.5 MAX	60	0.17 ± 0.04 (4,32 ± 1,02)	IU-5/Z
	PE-65583	1.50:1	(4-2)	25.6-29.0	20.0 MAX	3.0 MAX	60	0.16 ± 0.03 (4,06 ± 0,76)	IU-5/Z ²
	PE-65584	1.50:1	(1-5)	25.6-29.0	20.0 MAX	3.0 MAX	60	0.17 ± 0.04 (4,32 ± 1,02)	IU-5/Y ²
2500 Vrms	PE-68628*	1.25:1	(1-5)	26.5-29.5	12.0 MAX	7.0 MAX	80	0.16 ± 0.03 (4,06 ± 0,76)	IU-5/Y ²
	PE-68631	1.50:1	(4-2)	25.6-29.0	20.0 MAX	3.0 MAX	60	0.13 ± 0.03 (3,30 ± 0,76)	IU-7/Z ²
	PE-68681	1.50:1	(1-5)	25.6-28.4	20.0 MAX	3.0 MAX	60	0.13 ± 0.03 (3,30 ± 0,76)	IU-7/Y ²
3000 Vrms	PE-68668*	1.25:1	(1-5)	26.5-29.5	13.0 MAX	7.5 MAX	80	0.13 ± 0.03 (3,30 ± 0,76)	IU-7/Y ²
	PE-68669*	1.65:1	(1-4)	13.0-18.0	5.2 ±15%	3.0 ±15%	50	0.13 ± 0.03 (3,30 ± 0,76)	IU-3/W

NOTE: For surface mount versions of these parts, please see data sheet T614. New small surface mount package available. Contact Pulse Application Engineering at (619) 674-8100 for more information. *Operating temperature range: -40°C to 85°C.

Mechanicals

Schematics



Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$

U.S.A: TEL 619 674 8100 • EUROPE: TEL 44 1483 401700 • ASIA: TEL 65 287 8998 • WEB: <http://www.pulseeng.com>

T603.D (12/98)

Return Loss (2B1Q) (10 and 25 KHz)	Longitudinal Balance (2B1Q)		Longitudinal Balance (4B3T)		Surge Voltage Resistability (ALL)	
20 dB MIN	281 Hz to 40 KHz	55 dB MIN	5 KHz	20 dB MIN	Metallic @ 800 V Peak	10/700 µsec
—	Above 40 KHz	-20 dB/decade	20 KHz-150 KHz	40 dB MIN	Long. @ 2400 V Peak	10/560 µsec
—	—	—	1 MHz	36 dB MIN	—	—

Company	Chip	Coding	Transformer 2000 Vrms Isolation	Transformer High Isolation Models	Echo Cancellation Hybrid
Motorola	MC145472	2B1Q	PE-65579	—	—
Motorola	MC145572	2B1Q	PE-68628	PE-68668	—
National	TP 3410	2B1Q	PE-65583 ⁽¹⁾	PE-68631	—
			PE-65584 ⁽¹⁾	PE-68681	—
Siemens	PEB 2091	2B1Q	PE-65575 ⁽⁴⁾	PE-68669	PE-36005 or PE-36005W
Siemens	PEB 2090 PEB 20901	4B3T	PE-65578	—	—
Thomson	SD 5411	2B1Q	PE-65581	—	—

PE-36005	Through Hole	THT	DP-14/TH
PE-36005W	Surface Mount	SMT	DP-14/SM

1. PE-65583 and PE-65584 are electrically identical, but have different schematics.
2. Pin 6 removed for keying to printed circuit board.
3. Common Mode Chokes for EMI reduction are also available. Recommended part numbers are either PE-68624 (surface mount) or PE-65944 (through hole) – see data sheet **G002**.
4. Additional model PE-65585, equivalent to PE-65575, has standoffs. Maximum height is .475 (12.07).

DP-14

Top View Dimensions:

- Pin 1 to Pin 14: .810 MAX (20,57)
- Pin 1 to Pin 7: .100 TYP (0,54)
- Pin 1 to Pin 14: .600 MAX (15,24)
- Pin 1 to Pin 7: .120 MIN (3,05)
- Pin 1 to Pin 14: .200 MAX (5,08)

Side View Dimensions:

- TH: .300 (7,62)
- SM: .300 (7,62)
- SM: .387 (9,83)
- SM: .030 (0,77)

Leads are .010 X .020 solderable (0,25 X 0,51)

SUGGESTED SM LAYOUT

Dimensions for Suggested SM Layout:

- Pin 1 to Pin 14: .100 TYP (2,54)
- Pin 1 to Pin 14: .080 (2,03)
- Pin 1 to Pin 14: .040 (1,02)
- Pin 1 to Pin 14: .600 (15,24)
- Pin 1 to Pin 14: .170 (4,32)
- Pin 1 to Pin 14: .340 (8,64)
- Pin 1 to Pin 14: .040 (1,02)

Circuit Diagram:

The circuit diagram shows the internal connections of the PEB 2091 and PEB 36005/36005W. It includes a transformer with 18 turns, a 10nF capacitor, and a 10K resistor. The output is connected to a 10K resistor and a 10nF capacitor. The input is connected to a 10K resistor and a 10nF capacitor. The output is connected to a 10K resistor and a 10nF capacitor. The input is connected to a 10K resistor and a 10nF capacitor.

Dimensions: $\frac{\text{Inches}}{\text{mm}}$

	DP-14TH	DP-14SM
Weight	1.5 grams	1.5 grams
Tube	25/tube	25/tube

Distributor

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T603.D (12/98)