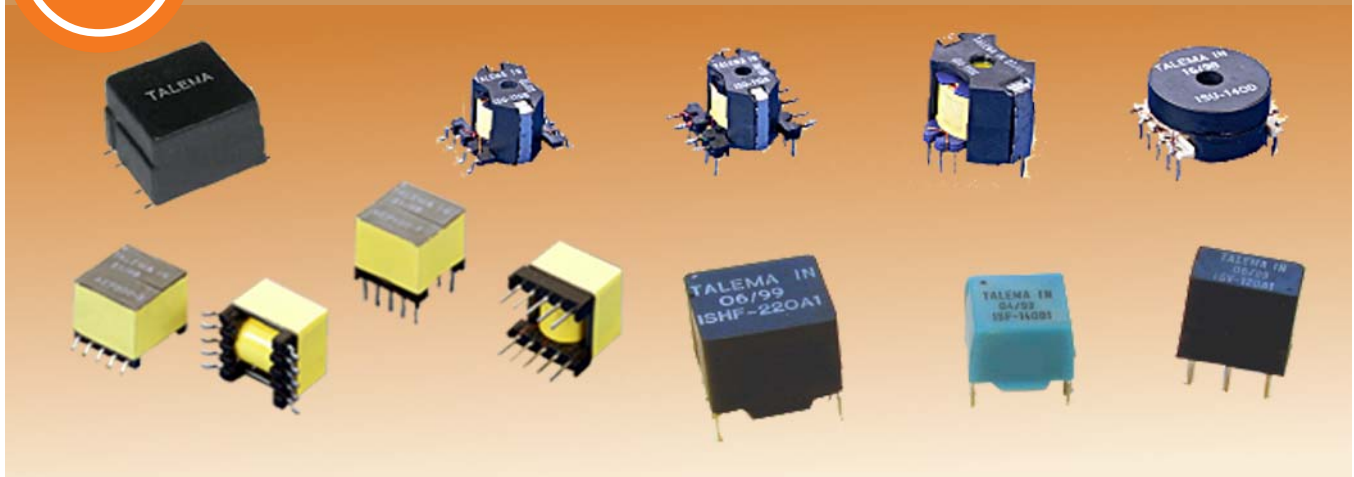




IC Chipsets - U_{KO} Interface Transformer Selection Guide



Talema has designed a cost effective range of U Interface transformers for 2B1Q and 4B3T applications for equipment transmission between customer premises and exchanges. The transformers meet all requirements of recognized U Interface IC's and ANSI standard T1.601 with a highly reliable pulse shape and return loss performance.

ISDN IC - U_{KO} Interface Transformer Cross Reference Guide

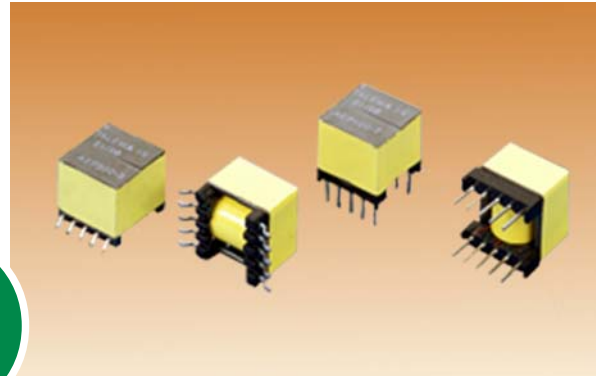
IC Mfg.	IC Part Number	Turns Ratio (Line:Chip)	Coding	Talema Part Number				
				RM6 - TH	RM6 - SMD	RM8 - TH	EPU	UK
Alcatel	MTC-20277/20279	2.00:1.25	4B3T	--	--	ISU-220C	--	
	MTC202/20277/20279	1.60:1	4B3T	--	ISU-180B & ISU-180G	ISU-180C	EPU-200B	UKJ-400
	MTC202/20276/20278	2.00:1	2B1Q	ISU-170A ISU-170A1	ISU-170B & ISU-170G	ISU-170C	EPU-400B EPU500E EPU-700E	
Legerity (AMD)	AM20902	1.32:1	4B3T	ISU-100A	ISU-100B & ISU-100G	ISU-100C	EPU-120B	UKJ-420 UKF-120 UKV-220 UKH-320
	AM2091	1.60:1	2B1Q	ISU-110A	ISU-110B & ISU-110G	ISU-110C	--	UKJ-430
Lucent	T7234/7237/7256/7264/	1.50:1	2B1Q	--	--	ISU-230C	--	
	T7262	2.50:1	2B1Q	--	--	ISU-120C	--	
Motorola	MC145572/145576	1.25:1	2B1Q	--	ISU-140B & ISU-140G	ISU-140C	EPU-300B & D	UKJ-440
National	TP34	2.00:1	2B1Q	--	--	--	EPU-400B	
	TP34/3410/3411	1.50:1	2B1Q	--	ISU-150B & ISU-150G	ISU-150C	--	
Infineon	PEB2491/8090/8091/8191	2.50:1	2B1Q	ISU-210A	--	--	EPU-110B	
	PEB2091/24902/24911 PSB21911 PEB8091/8191	1.60:1	2B1Q	ISU-110A	ISU-110B & ISU-110G	ISU-110C	EPU-100B	UKF-100 UKJ-430
	PEF80912/80913/81912 PEF81913/82912/82913	2:00:1	2B1Q	ISU-170A ISU-170A1	ISU-170B & ISU-170G	ISU-170C	EPU-400B EPU-500E EPU-700E	
	PEB2090/24901/24902 PEB8090/80900	1.32:1	4B3T	ISU-100A	ISU-100B & ISU-100G	ISU-100C	EPU-120B	UKJ-420 UKF-120 UKV-220
	PEF80902/81902/82902	1.60:1	4B3T	ISU-190A	--			UKJ-400
	PEF80902/81902/82902	2.00:1.25	4B3T	--	--	ISU-220C	--	UKV-210
	PEB80902/81902 PEF80902/81902/82902	1.80:1	4B3T	ISU-190A	ISU-190B & ISU-190G	--	EPU-200B EPU-600E	
STM (Thomson)	ST5411/5412	1.50:1	2B1Q	--	ISU-150B & ISU-150G	ISU-150C	--	
	ST5411/5412	2.00:1	2B1Q	--	--	--	EPU-400B	
	ST2071	1.32:1	4B1Q	ISU-100A	ISU-100B & ISU-100G	ISU-100C	EPU-120B	UKF-120 UKV-220 UKJ-420
Zarlink	MT8971/8971B/8172/8172B	2:1	Biphase	--	---	--	--	UKF-110



EPU Series - U_{KO} Interface Transformers

Features

- compatibility with common transceiver IC's ensures maximum loop length
- complies with ANSI standard T1.601 when used with recommended chip
- all materials approved to UL94V-0
- manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- operating temperature: -40°C to +85°C
- fully RoHS compliant and meets lead free reflow level J-STD-020C



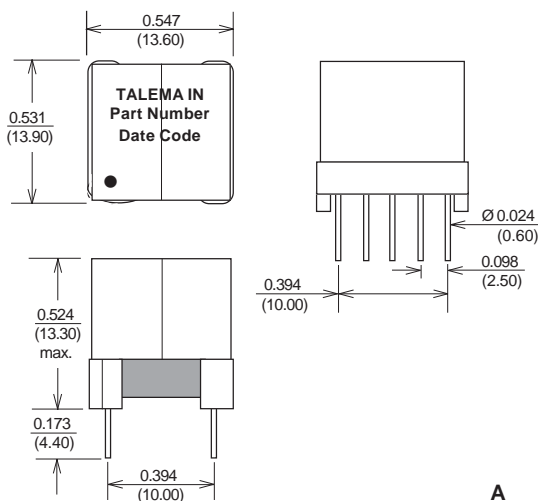
Electrical Specifications @ 25°C

Turns Ratio: **Bold** = IC Side Windings

EPU Series - U_{KO} Interface Transformers

Part Number	Lo ±8% mH	Turns Ratio ±2% Line : IC	I _{DC} mA	DCR Line Ohms Nom.	DCR IC Ohms Nom.	L _L Line Side µH Max.	C _C pF Nom.	V _P (Vrms)	Schematic
EPU-100A	16.0	1.65 : 1	60	8.4	5.2	80	45	2000	A
EPU-100B	16.0	1.65 : 1	60	8.4	5.2	80	45	2000	B
EPU-110B	14.5	1.25 : 1	60	8.2	6.7	70	50	2000	B
EPU-120A	7.9	1.32 : 1	60	5.3	4.1	60	45	2000	A
EPU-120B	7.9	1.32 : 1	60	5.3	4.1	60	45	2000	B
EPU-200A	6.15	1.6 : 1	60	3.6	2.3	40	40	2000	A
EPU-200B	6.15	1.6 : 1	60	3.6	2.3	40	40	2000	B
EPU-300B	28.0	1.25 : 1	60	19.5	16.0	150	60	2000	B
EPU-300D	28.0	1.25 : 1	60	19.5	16.0	150	60	2000	D
EPU-400B	16.0	2.00 : 1	60	8.4	4.3	80	50	2000	B
EPU-400C	16.0	2.00 : 1	60	8.4	4.3	80	50	2000	C
EPU-500E	14.5	1 : 1 : 1	60	8.4	4.3	80	80	2000	E
EPU-600E	7.5	0.9 : 0.9 : 1	60	5.4	3.0	90	45	2000	E
EPU-700E	14.5	1 : 1 : 1	60	8.6	3.2	80	60	2000	E

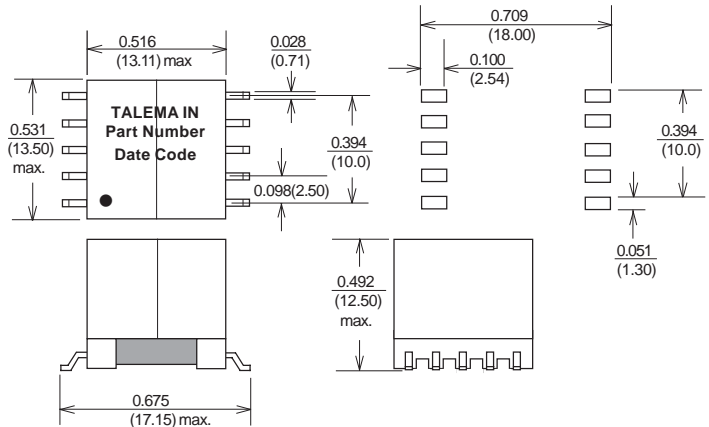
EPU-700E



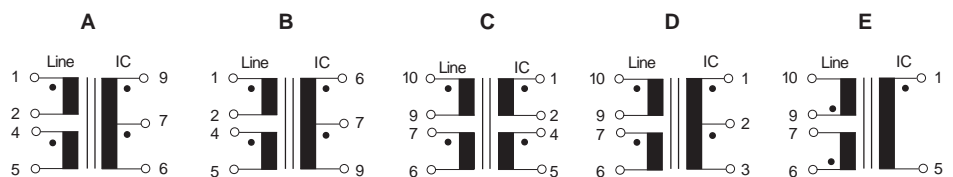
Dimensions: Inches (Millimeters)
Tolerance: ±0.010 (0.25)

Weight: 6.8 grams

EPU-100A - EPU-600E



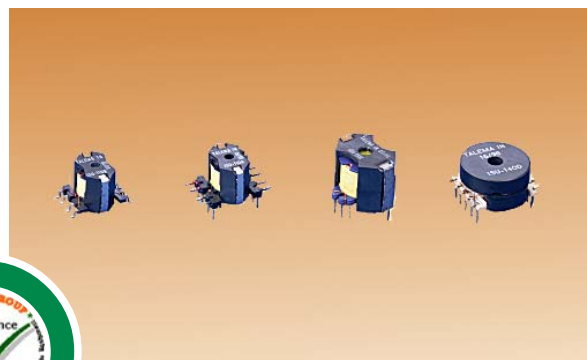
Schematics



ISU Series - U_{KO} Interface Transformers

Features

- compatibility with common transceiver IC's ensures maximum loop length
- complies with ANSI standard T1.601 when used with recommended chip
- 2000 Vrms minimum isolation
- industry standard footprints are available in four DIL and SMD package options
- manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- operating temperature: -40° to +85°C
- fully RoHS compliant and meets lead free reflow level J-STD-020C



Electrical Specifications @ 25°C

Turns Ratio: **Bold** = IC side windings

ISU Series - U_{KO} Interface Transformers

Part Number	Turns Ratio	L_p (mH)	I_{dc} (mA)	R_{CuP} (Ohms)	R_{CuS} (Ohms)	V_p (Vrms)	Package	Schematic
ISU-100A	1.32:1.32:1:1	7.1 - 8.7	60	5.4	4.1	2000	RM6 - THT	1
ISU-100B	1.32:1.32:1:1	7.1 - 8.7	60	5.4	4.1	2000	RM6-SMD-"B"	1
ISU-100C	0.66:0.66::1	7.1 - 8.7	60	2.3	1.8	2000	RM8 - THT	2
ISU-100G	1.32:1.32:1:1	7.1 - 8.7	60	5.4	4.1	2000	RM6-SMD-"G"	1
ISU-110A	1.6:1.6:1:1	13.0 - 16.0	60	6.4	5.9	2000	RM6 - THT	1
ISU-110B	1.6:1.6:1:1	13.0 - 16.0	60	5.8	5.9	2000	RM6-SMD-"B"	1
ISU-110C	0.8:0.8:1	13.0 - 16.0	60	3.8	2.5	2000	RM8 - THT	2
ISU-110G	1.6:1.6:1:1	13.0 - 16.0	60	6.4	5.9	2000	RM6-SMD-"G"	1
ISU-120C	2.50:1	14.5 - 18.0	60	5.0	2.2	2000	RM8 - THT	2
ISU-130D	2.00:1	25.5 - 28.5	60	11.6	6.4	2000	PT23 - THT	4
ISU-130C	2.00:1	25.5 - 28.5	60	7.9	3.3	2000	RM8 - THT	3
ISU-140B	1.25:1.25:1:1	26.5 - 29.7	60	11.2	9.1	2000	RM6-SMD-"B"	1
ISU-140E	1.25:1	26.5 - 29.7	80	12.0	7.0	2000	PT23 - THT	4
ISU-140C	1.25:1.25::1/1	26.5 - 29.7	80	6.0	4.0	2000	RM8 - THT	3
ISU-140G	1.25:1.25:1:1	26.5 - 29.7	60	11.2	9.1	2000	RM6-SMD-"G"	1
ISU-150B	1.5:1.5:1:1	25.5 - 28.5	60	11.5	7.6	2000	RM6-SMD-"B"	1
ISU-150D	1.50:1	25.5 - 28.5	60	20.0	3.0	2000	PT23 - THT	5
ISU-150C	0.75:0.75:1	25.5 - 28.5	60	18.0	7.5	2000	RM8 - THT	4
ISU-150G	1.5:1.5:1:1	25.5 - 28.5	60	11.5	7.6	2000	RM6-SMD-"G"	1
ISU-160D	1.50:1	14.2 - 16.0	60	16.0	2.5	2000	PT23 - THT	5
ISU-160C	1.50:1	14.2 - 16.0	60	5.0	3.4	2000	RM8 - THT	2
ISU-170A	1:1:1	13.0 - 16.0	60	5.2	3.3	2000	RM6 - THT	3
ISU-170A1	1:1:1	13.0 - 16.0	60	6.5	3.3	2000	RM6 - THT	5
ISU-170B	2:2:1:1	13.0 - 16.0	60	10.4	5.2	2000	RM6-SMD-"B"	1
ISU-170C	1:1:1	13.0 - 16.0	60	3.8	2.5	2000	RM8 - THT	2
ISU-170G	2:2:1:1	13.0 - 16.0	60	10.4	5.2	2000	RM6-SMD-"G"	1
ISU-180B	1.6:1.6:1:1	5.5 - 6.5	60	4.0	2.5	2000	RM6-SMD-"B"	1
ISU-180G	1.6:1.6:1:1	5.5 - 6.5	60	4.0	2.5	2000	RM6-SMD-"G"	1
ISU-190A	0.9:0.9:1	7.1 - 8.7	60	4.7	2.6	2000	RM6-THT	3
ISU-190B	0.9:0.9:1	7.1 - 8.7	60	4.7	2.6	2000	RM6-SMD-"B"	3
ISU-190G	0.9:0.9:1	7.1 - 8.7	60	4.7	2.6	2000	RM6-SMD-"G"	3
ISU-200A	1.60:1:1	25.5 - 30.2	60	10.0	12.0	2000	RM6 - THT	4
ISU-210A	1.25:1.25:1:1	13.0 - 16.0	60	6.6	6.8	2000	RM6 - THT	1
ISU-220C	1:1:1.25	6.9 - 8.1	60	2.0	1.4	2000	RM8 - THT	2
ISU-230C	0.75:0.75 : 1	72 - 88	60	14.5	7.5	2000	RM8 - THT	4

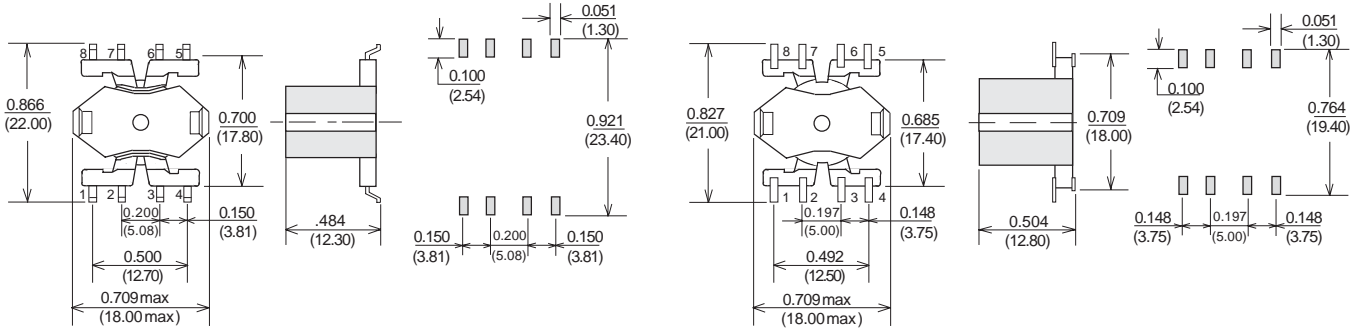
Packaging Style • ISDN U_{KO} Interface Transformers

Package Style

RM6

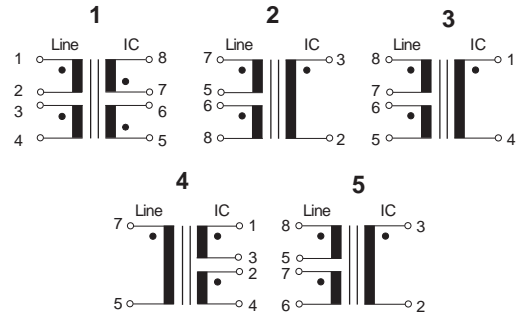
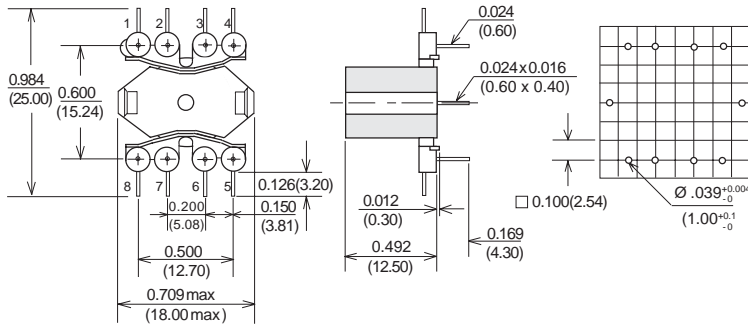
SMD - "B"

SMD - "G"



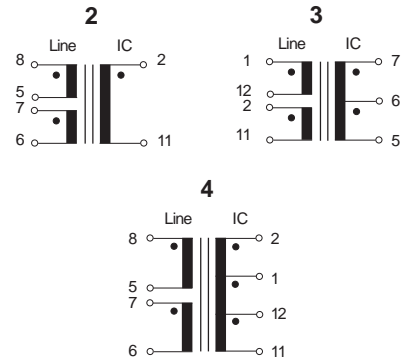
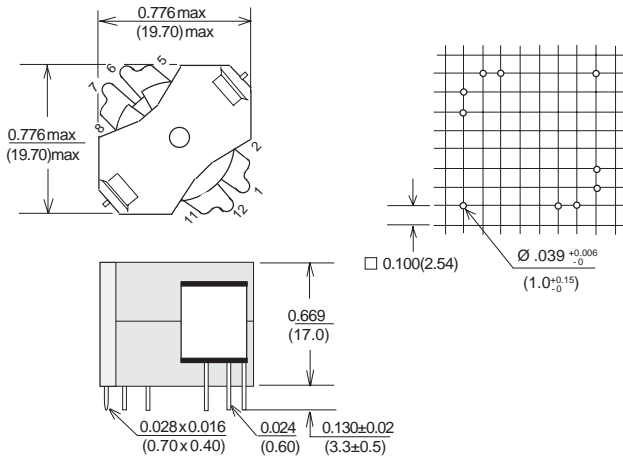
THT

RM6 - SMD & THT Schematic



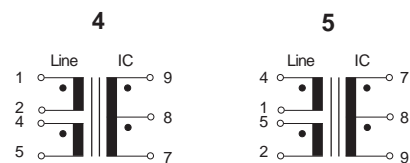
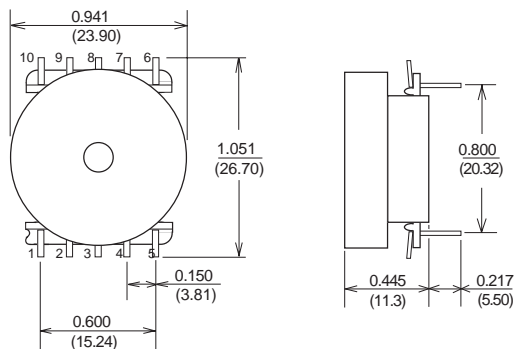
RM8 - THT

RM8 - THT Schematics



PT23 - THT

PT23 - THT Schematics

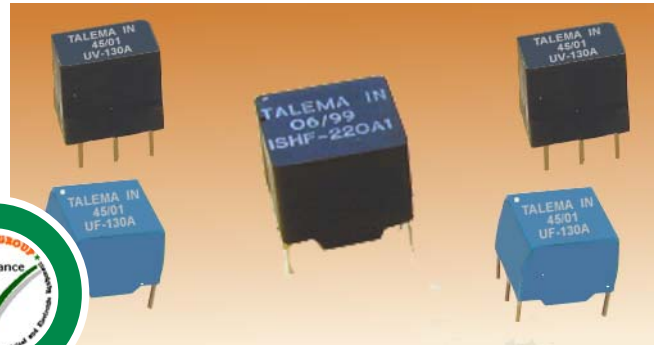




ISDN • U_{KO} THT Single Interface Transformer

Features

- compatibility with common transceiver IC's ensures maximum loop length
- complies with ANSI standard T1.601 when used with recommended chip
- all materials approved to UL94V-0
- manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- operating temperature: -40°C to +85°C
- fully RoHS compliant



Electrical Specifications @ 25°C

Turns Ratio: **Bold** = IC Side Windings

U_{KO} Interface Transformers Complies with Basic Insulation Level EN60950, UL1950 and UL1459

Part Number	Turns Ratio ±1%	L _P (mH Min)	I _{DC} (mA)	L _L (μH)	C _C (pF Max)	DCR (Ohms per winding)		V _P (Vrms)	Schematic
						Pri	Sec		
UKF-100	0.8:0.8:1	12.6 - 15.4	60	20	200	9.0	5.1	2000	2
UKF-105	0.8:0.8:1	12.6 - 15.4	60	20	200	9.0	5.1	2000	3
UKF-110	2:1	10.8 - 13.8	60	2	55	1.3	0.7	2000	1
UKF-120	0.66:0.66:1	4.5 - 5.9	60	10	150	5.2	4.0	2000	3
UKV-210	1:1: 1.25	11.3 - 15.1	60	30	120	12	7.5	2000	3
UKV-220	0.66:0.66:1	4.5 - 5.9	60	15	150	5.2	4.0	2000	3
UKH-320	0.66:0.66:1	4.5 - 5.9	60	50	20	7.6	4.0	3000	4

Test Conditions:

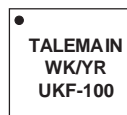
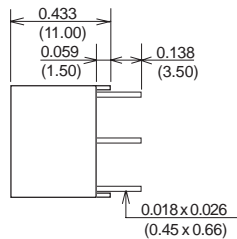
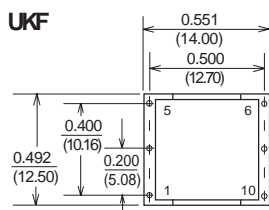
Inductance: Line side windings in series - measurement @ 10kHz, 100mVrms

Leakage Inductance: Line side windings in series, IC side windings short circuited - measurement @100kHz, 100mVrms

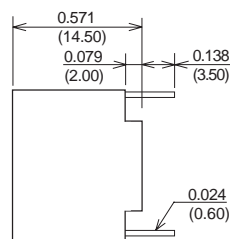
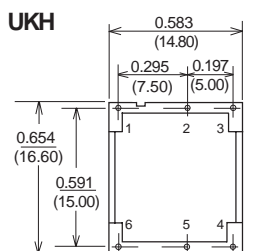
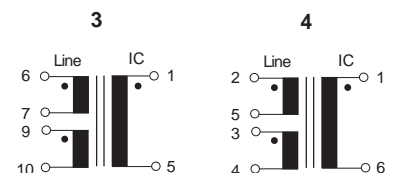
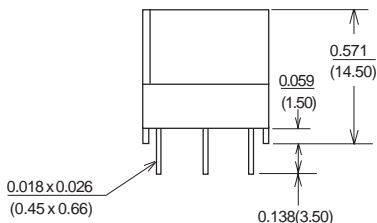
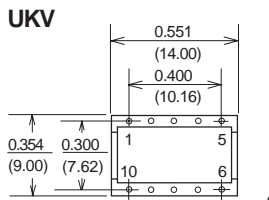
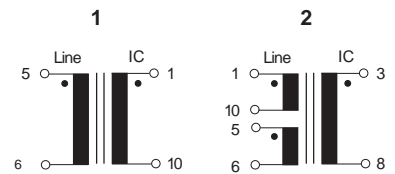
Coupling Capacitance: IC side winding to Line side windings in parallel @ 10kHz, 100mVrms

Test Voltage: 2.0kV for 2 Sec. = line side windings in series to IC winding

0.5kV for 2 Sec. - line side winding to line side winding



Schematic



Dimensions: Inches (Millimeters)
Tolerance: ±0.010 (0.25) unless specified otherwise



ISDN - U_{KO} SMD Single Interface Transformers

Features

- compatibility with common transceiver IC's ensures maximum loop length
- complies with ANSI standard T1.601 when used with recommended chip
- compact sizes in surface mount package
- all materials approved to UL94V-0
- manufactured in an ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- operating temperature: -40°C to +85°C
- fully RoHS compliant and meets lead free reflow level J-STD-020C



Electrical Specifications @ 25°C

Turns Ratio: **Bold** = IC Side Windings

Surface Mount U _{KO} Interface Transformers									
Complies with Reinforced Insulation Level EN60950, UL1950 and UL1459									
Part Number	Turns Ratio ±2%	L _p (mH min)	L _L (µH)	I _{DC} (mA)	C _C (pF Max)	DCR (Ohms)		V _p (Vrms)	Schematic
						Primary	Secondary		
UKJ-400	0.8:0.8:1	4.6 - 6.2	10	60	150	5.2	3.5	2000	1
UKJ-420	0.66:0.66:1	4.5 - 6.1	10	60	220	5.2	4.0	2000	1
UKJ-430	0.8:0.8:1	11.3 - 15.1	26	60	210	5.4	3.3	2000	1
UKJ-440	1:1: 1.6	21.6 - 27.1	30	60	420	11.2	9.6	2000	2

Test Conditions:

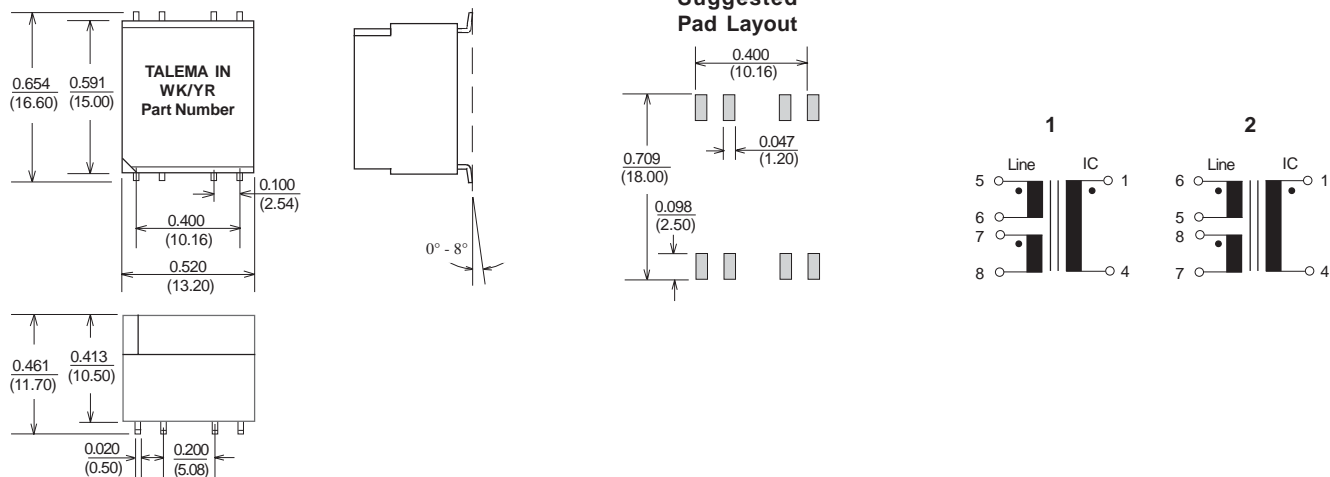
Inductance: Line side windings in series - measurement @ 10kHz, 100mVrms

Leakage Inductance: Line side windings in series, IC side winding short circuited - measurement @ 100kHz, 100mVrms

Coupling Capacitance: IC side winding in series to Line side windings in series @ 10kHz, 100mVrms

Dimensions & Schematic

UKJ



Surface Coplanarity will be 0.004(0.10) maximum

Dimensions: Inches (Millimeters)

Tolerance: ±0.010 (0.25) unless specified otherwise