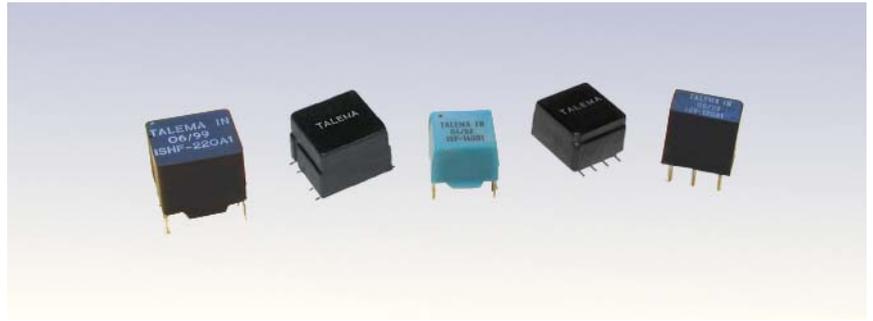


IC - S₀ Single Interface Transformer Selection Guide

Talema manufactures a wide range of transformers for all S₀ ISDN applications. A complete listing of transceiver IC's with recommended Talema transformers is listed on the following cross reference chart.



Performance has been proven in the many design-in's of our products in these applications. Quality and consistency is guaranteed through 100% testing of the specified parameters for Primary Inductance, Leakage Inductance, Turns Ratio, DC resistance and Interwinding Capacitance. This ensures that the Return Loss and Pulse Waveshape requirements for S-Interface can be met. Additionally, all parts are tested for 1500V minimum isolation.

Standard Packaging: SMD styles - Tape and Reel; TH styles - Anti Static tubes.

ISDN IC - S₀ Interface Transformer Cross Reference Guide

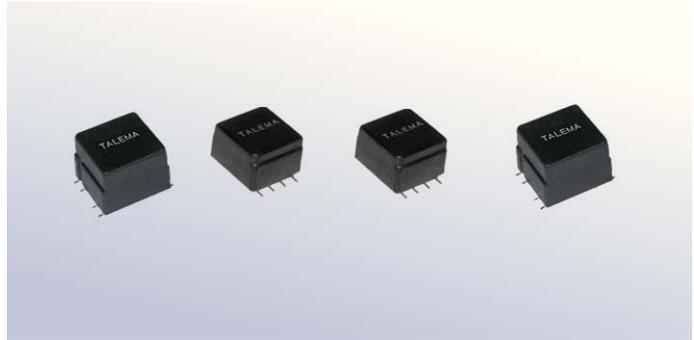
IC Manufacturer	IC Part Number	Talema Part Number						
		Through Hole			Surface Mount			
		Flat	Vertical	3kV Flat	Miniature	Compact	Standard	3kV
Alcatel Micro	MTC2028, MTC20276, MTC20277 MTC20279, MTC202172	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C
Cologne Chip	HFC-Sxxx Series	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C
Legerity (AMD)	AM79C30A, AM79C32A	ISF-140B1	ISV-140B1	ISHF-240B1	ISJ-140B ISJ-140D	SMJ-140B	SWJ-140B SWJ-140C	SHJ-240B SHJ-240C
Lucent	T7234, T7250, T7252, T7254, T7256, T7259, T7340, T9000	ISF-130B1	ISV-130B1	ISHF-230B1		SMJ-130B	SWJ-130B SWJ-130D	SHJ-230B or C
	T7901, T7903	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C
Mietec	MTC-2072	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C
Mitel	MT8930, MT8931	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C
Motorola	MC145474, MC145475	ISF-100B1	ISV-100B1	ISHF-200B1	ISJ-100B ISJ-100D	SMJ-100B	SWJ-100B SWJ-100C	SHJ-200B SHJ-200C
	MC145574	ISF-130B1	ISV-130B1	ISHF-230B1		SMJ-130B	SWJ-130B SWJ-130D	SHJ-230B or C
National	TP3420, TP3421	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C
NEC	D98201	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C
SGS	ST5420, ST5421	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C
Infineon	PEB80900, PEF80912, 80913 PEF81912, 81913, 82912, 82913 PEF81902, 82902	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C
	PEB/PEF3081, 3086 PSB/PSF3186, 21150 PSB21381, 21382, 21383, 21384	ISF-100B1	ISV-100B1	ISHF-200B1	ISJ-100B ISJ-100D	SMJ-100B	SWJ-100B SWJ-100C	SHJ-200B SHJ-200C
VLSI	VNS8000	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C
Yahama	YN7505	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C
Zarlink	MT8930/8931	ISF-120A1 ISF-140B1	ISV-120A1 ISV-140B1	ISHF-220A1 ISHF-240B1	ISJ-140B ISJ-140D	SMJ-120A SMJ-140B	SWJ-140B SWJ-140C	SHJ-220A SHJ-240B or C



ISDN - S₀ SMD Single Interface Transformers

Features

- designed for optimum compatibility with all established interface IC's
- excellent and consistent balance between windings
- compact sizes in through-hole and surface mount packages
- complies fully with CCITT.I.430 recommendations and corresponding national standards for S-Interface
- manufactured in ISO-9001 approved Talema facility
- operating temperature: 0 to 70°C



Electrical Specifications @ 25°C

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

ISJ, SMJ & SWJ Series comply with Basic Insulation Level EN60950, UL1950 and UL1450

Part Number	L _P (mH min)	Turns Ratio	L _L (μH)	ΔI _{DC} (mA)	C _C (pF Max)	R _{CU^P} (Ohms)	R _{CU^S} (Ohms)	V _P (Vrms)	Schematic
ISJ-100B or D	25	1:1:1:1	2	--	60	3.8	3.8	1500	B or D
ISJ-140B or D	25	1:1: 2:2	2	--	50	4.0	8.0	1500	B or D
SMJ-100B	30	1:1:1:1	5	4	100	1.65	1.7	1500	B
SMJ-120A	30	1:1: 4	5	4	100	1.65	3.4	1500	A
SMJ-130B	30	1:1: 2,5:2,5	5	4	100	1.65	4.4	1500	B
SMJ-140B	30	1:1: 2:2	5	4	100	1.65	3.4	1500	B
SWJ-100B or C	30	1/1: 1/1	10	5	150	1.7	2.0	1500	B or C
SWJ-130B	30	1/1: 2,5/2,5	10	5	150	1.7	4.6	1500	B
SWJ-140B or C	30	1/1: 2/2	10	5	150	1.7	4.0	1500	B or C

SHJ Series Interface Transformers comply with Reinforced Insulation Level EN60950 and UL1950**

SHJ-200B or C	30	1:1:1:1	10	5	45	1.7	1.9	3000	B or C
SHJ-220A	30	1:1: 4	10	5	45	1.7	3.7	3000	A
SHJ-230B, C or D	30	1:1: 2,5:2,5	10	5	45	1.7	4.7	3000	B, C or D
SHJ-240B or C	30	1:1: 2:2	10	5	45	1.7	3.7	3000	B or C

** S₀ Transformer modules comply with Reinforced Insulation Level EN60950:1992/A4: 1997, para. 2.9.4.4 when tested in accordance with 6.4.1

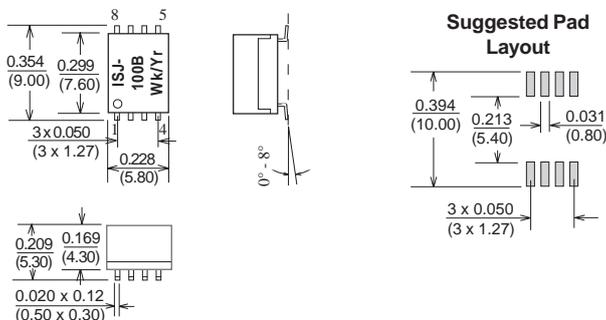
Test Conditions:

Inductance and coupling capacitance: 10kHz, 100mV
Leakage Inductance: 100kHz, 100mV

Standard Packaging: Tape and Reel

Dimensions

ISJ



Schematics



Surface Coplanarity will be 0.004(0.10)

Dimensions: Inches (Millimeters)

Tolerance: ±0.010 (0.25) unless specified otherwise

Packaging and Dimensions • S₀ Chip Style SMD Single Interface Transformers

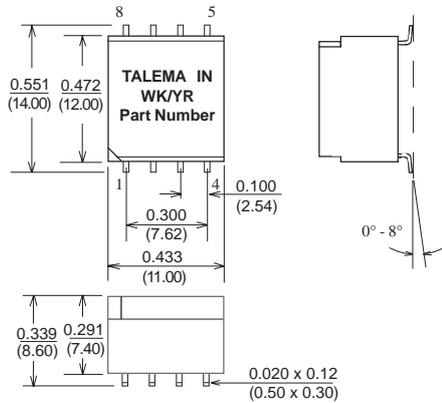
Dimensions: Inches (Millimeters)
Tolerance: ±0.010 (0.25) unless specified otherwise

Surface Coplanarity will be 0.004(0.10) maximum

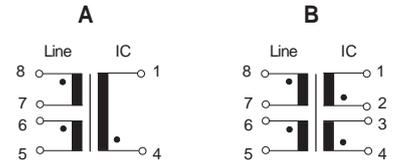
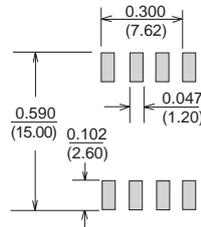
Package Style

Schematic

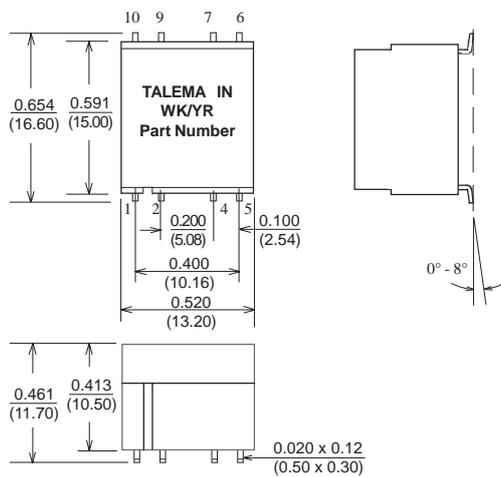
SMJ



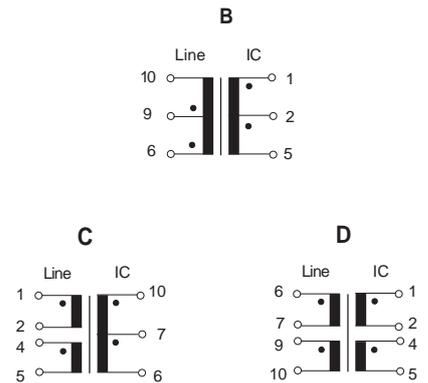
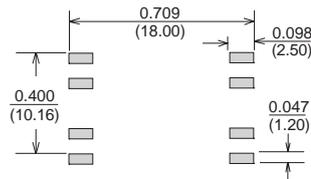
Suggested Pad Layout



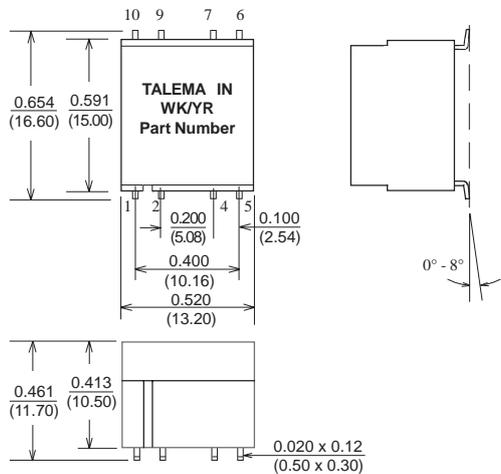
SWJ



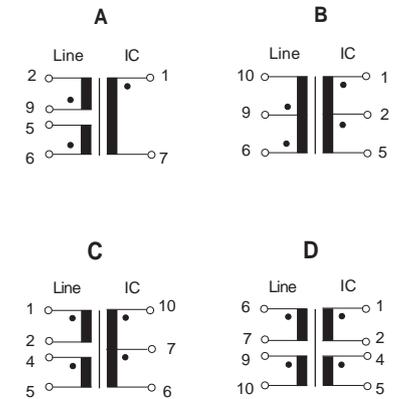
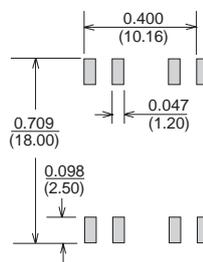
Suggested Pad Layout



SHJ



Suggested Pad Layout

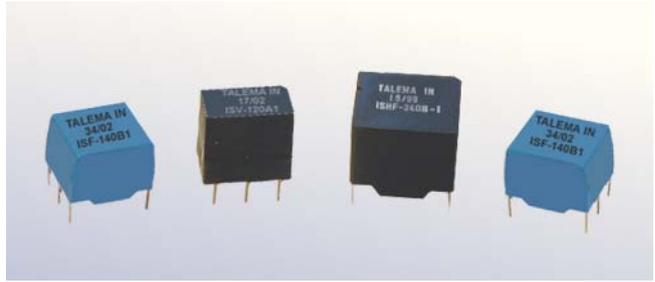




ISDN S₀ DIL Style Through Hole Interface Transformers

Features

- designed for optimum compatibility with all established interface IC's
- excellent and consistent balance between windings
- complies fully with CCITT.I.430 recommendations and corresponding national standards for S-Interface
- manufactured in ISO-9001 approved Talema facility
- operating temperature: 0 to 70°C



Electrical Specifications @ 25°C

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

ISF & ISV Series comply with Supplementary Insulation Level EN60950, UL1950 and UL1450

Part Number	L _P (mH Min)	Turns Ratio	L _L (μH)	I _{DC} (mA)	C _C (pF Max)	R _{CU P} (Ohms)	R _{CU S} (Ohms)	V _P (Vrms)	Schematic
ISF / ISV-100B1	30	1:1:1:1	10	5	150	1.7	2.0	1500	B1
ISF / ISV-120A1	30	1:1:4	10	5	150	1.7	4.0	1500	A1
ISF / ISV-130B1	30	1:1: 2,5:2,5	10	5	150	1.7	4.5	1500	B1
ISF / ISV-140B1	30	1:1: 2:2	10	5	150	1.7	4.0	1500	B1

ISHF Series Interface Transformers comply with Reinforced Insulation Level EN60950 **

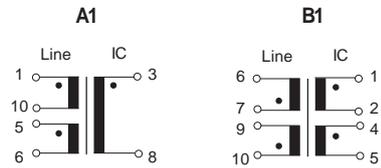
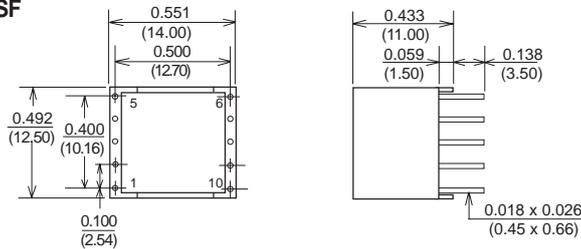
ISHF-200B1	30	1:1:1:1	15	5	45	2.4	2.0	3000	B1
ISHF-220A1	30	1:1:4	15	5	45	2.4	5.6	3000	A1
ISHF-230B1	30	1:1: 2,5:2,5	15	5	45	2.4	6.8	3000	B1
ISHF-240B1	30	1:1: 2:2	15	5	45	2.4	5.6	3000	B1

** S₀ Transformer modules comply with Reinforced Insulation Level EN60950:1992/A4: 1997, para. 2.9.4.4 when tested in accordance with 6.4.1

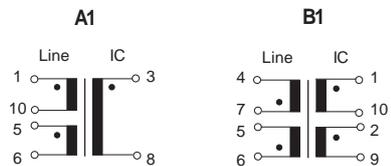
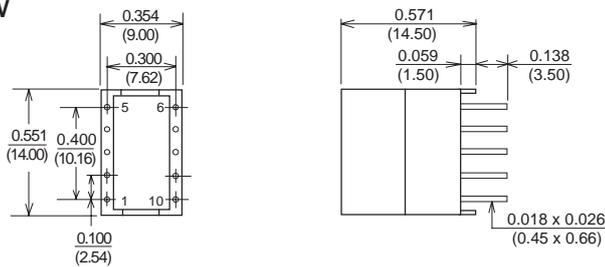
Package Style

Schematic

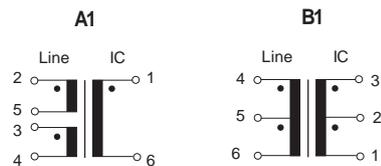
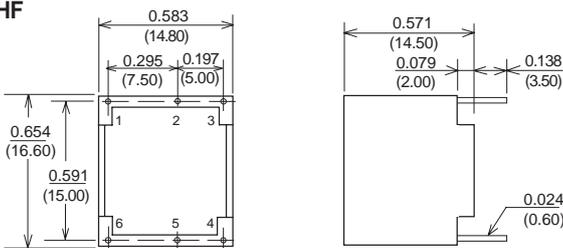
ISF



ISV



ISHF



Dimensions: Inches (Millimeters)

Tolerance: ±0.010 (0.25) unless specified otherwise

Germany: Int.+4989-841 00-0 • Ireland: Int.+35 375-48 666 • Czech Rep: Int.+420 19-744 9303 • India: Int.+91 427-340 492

<http://www.talema-nuvotem.com>

(07-05 Communications\ISDN\So-J Trafo)