

承 认 书

RoHS

SPECIFICATION FOR APPROVAL

客户名称 CUSTOMER			
客户料号 MODEL NO			
产品名称 PART NAME	10/100Base-T TRANSFORMER		
产品型号 PART TYPE	HST-0041SAR		
版 本 REV	A1		
签 名 SIGNATURE	制 图: DRAWING BY	审 核: CHECKED BY	批 准: APPROVED BY
客户承认 CUSTOMER APPROVAL	承认印: SIGNET		
	签 名: SIGNATURE		

Revision History:

Revision	Revision Descriptions	Drawing by	Checked by	Approved by	Issued date
A0	Quotation Release	DGY	Jiang Wang	Peter Lee	2008-11-1
A1	New release	DGY	Jiang Wang	Peter Lee	2010-12-6

10/100 BASE TRANSFORMER

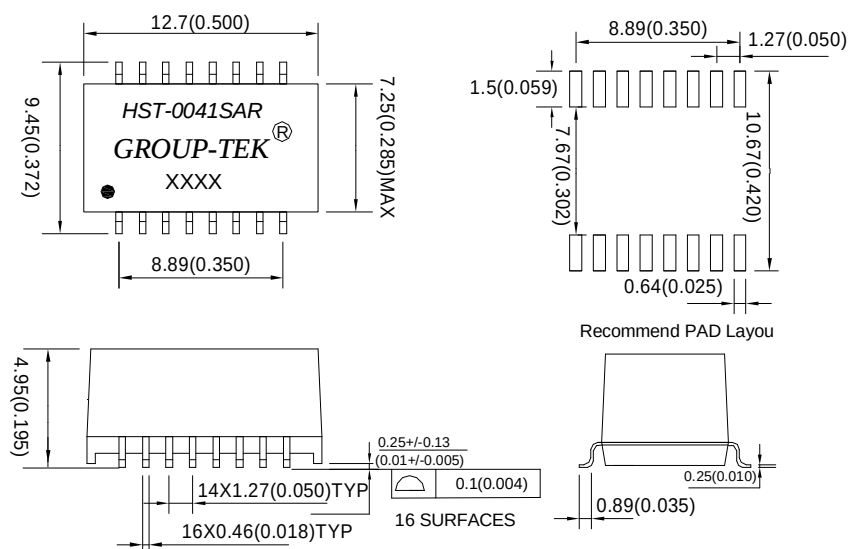
Features:

- Designed to meet IEEE 802.3 requirements.
- Primary inductance(Lp)350uH min.@ 100KHz,0.1Vrms,8mA .
- Designed for reflow soldering at temperatures up to 260°C.
- RoHS compliance.

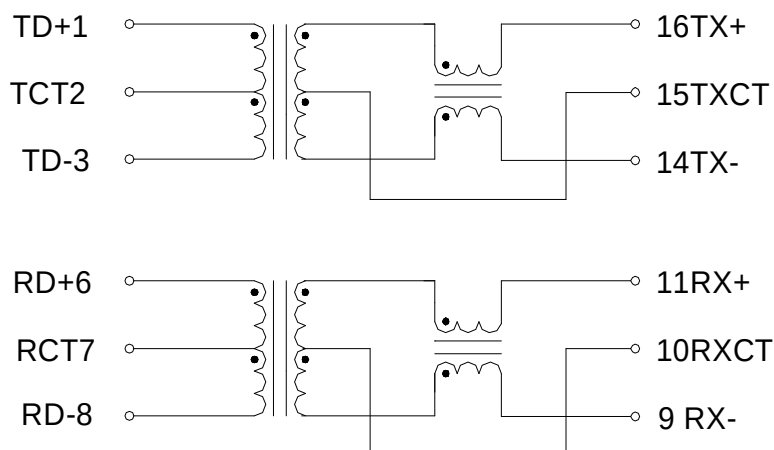
Specifications: at 25 °C. Operating Temperature 0°C to +70°C

Part NO	Turns Ratio		Insertion loss (dB Max)	Return loss (dB Min)			Differential to CommonMode Rejection(dB Min)			Crosstalk (dB Min) MHz			Hipot (Vrms min)
	TX	RX		30	60	80	30	50	100	30	60	100	
HST-0041SAR	1:1	1:1	-1.1	-18	-14	-12	-42	-37	-33	-45	-40	-35	1500

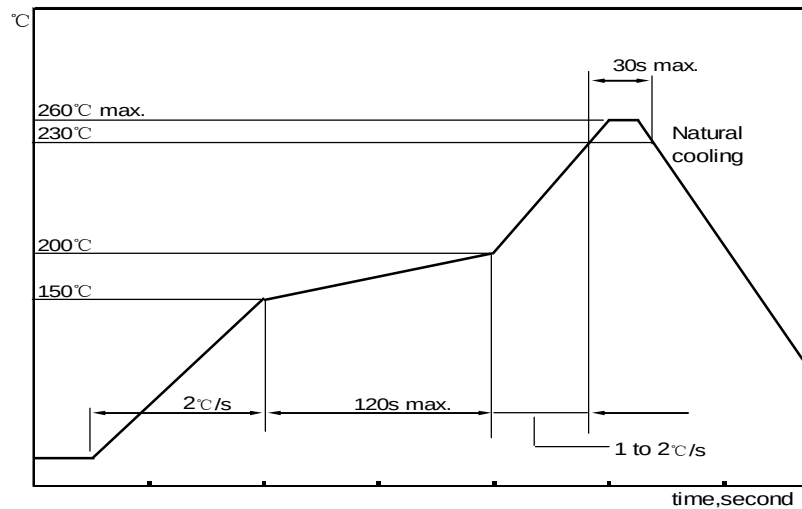
Dimension:mm(inch),Unless otherwise specified , all tolerance are $\pm 0.25(0.01)$



Schematic:



1. Recommended Lead Free IR Reflow Soldering Curve



Item	Solder technique simulation	Temperature (°C)	Time(s)	Temperature ramp/immersion and emersion rate
1	Solder iron	350 ± 10 (solder iron temp)	4~5	
2	Vapor phase reflow	215 ± 5 (vapor temp)	60 ± 5	
3	IR/convection reflow	255 ± 5 (component temp)	30 ± 5	$1^\circ\text{C/s} \sim 4^\circ\text{C/s}$ time above 183°C 90s~120s

* The curve includes recommended value only, please adjust your equipment to make sure the solder process. Details please refers to the standard J-STD-020.

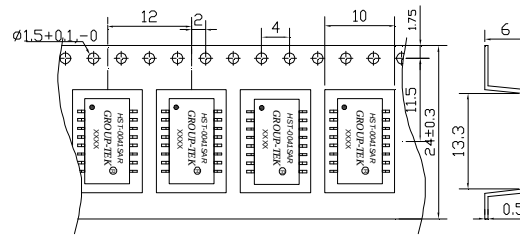
2. Reliability Test Criteria.

- 2.1 Operating temperature range: 0°C to 70°C
- 2.2 Terminal strength: Pull test withstand 9.8N $60 \pm 0.5\text{s}$ no looseness or movement.
- 2.3 Solderability: Dipped in $245^\circ\text{C} \pm 5^\circ\text{C}$ molten solder for 3 ± 0.5 seconds, 95% min shall be smooth any and bright
- 2.4 Resistance to soldering heat : Convection reflow condition setting: peak temperature at $260^\circ\text{C} \pm 0.5^\circ\text{C}$ above 217°C for 90-180 seconds, ramp-up rate $2 \sim 3^\circ\text{C/s}$. Ramp-down rate 6°C/s Max.
No mechanical problem found. No electrical failure found per our specification.
- 2.5 Vibration: 1.5mm amplitude total excursion 10-55-10 Hz traversed in 1minute, x,y,z, axis for 2 hours. Shall not be any abnormality.
- 2.6 Random drop (Packing condition): Height 60cm, 3 times on the wood floorboard ,shall not be any abnormality.
- 2.7 Dry heat: $100 \pm 2^\circ\text{C}$ 96 hours.
- 2.8 Cold: $-20 \pm 2^\circ\text{C}$ 96 hours.
- 2.9 Damp Heat: $60 \pm 2^\circ\text{C}$, $93 \pm 3\%$ RH 96 hours.
- 2.10 Change of temperature: exposed 5 cycle; each consisting of 30 minutes at $-20 \pm 2^\circ\text{C}$, 2-3 minutes at $20 \pm 2^\circ\text{C}$, 30 minutes at $85 \pm 2^\circ\text{C}$, 2-3 minutes at $20 \pm 2^\circ\text{C}$.

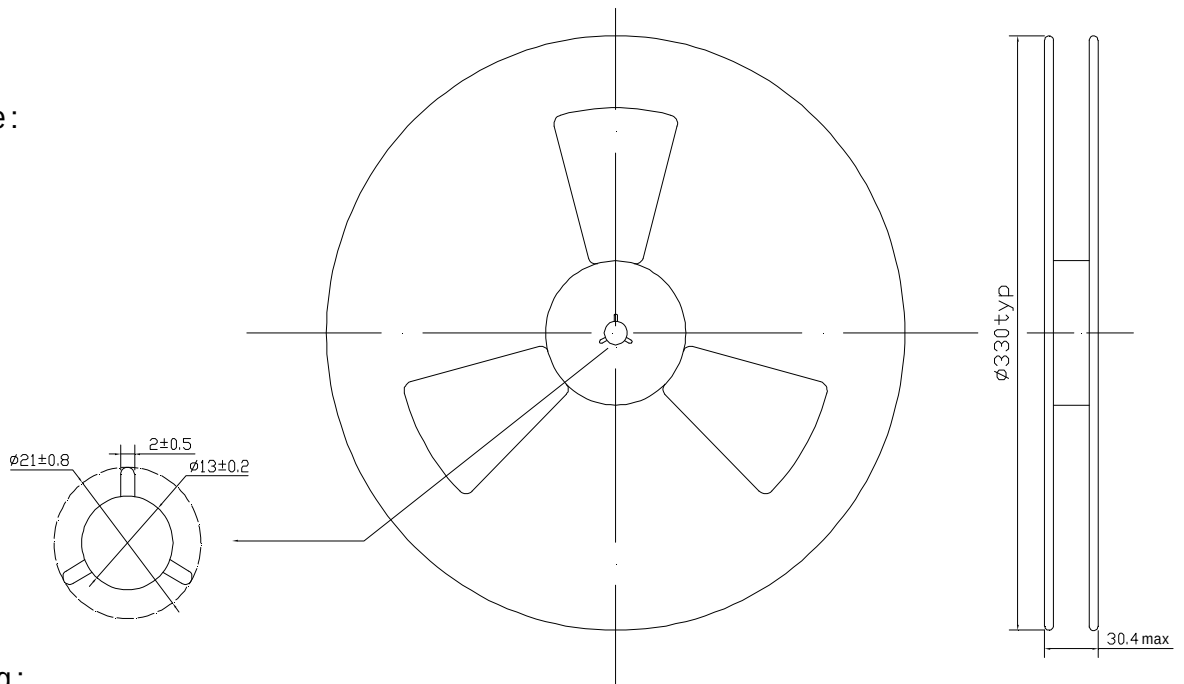
Remarks: After reliability test per item 7,8,9,10 in prior to the test as specified, the transformer / coil would be exposed to the room temperature for 1-2 hours, the component meets all requirements according to this specification.

Tape and Reel Package

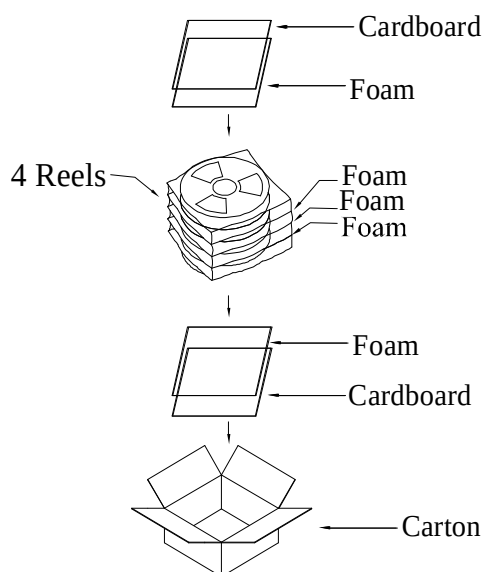
1. Tape Size:



2. Reel Size:



3. Packaging:



4. Carton Size and Packaging Quantities:

4.1 Quantity per reel: 750pcs.

4.2 Quantity per carton: 3000pcs.

4.3 Carton size: 36.8X36.8X20.5CM³.

4.4 Unit weight: 0.6g.

4.5 Carton weight: 5.3kg.

10/100 BASE MODULES

GROUP-TEK P/N:		HST-0041SAR		Date:		2011-1-4		
Description:		10/100 BASE-T MAGNETICS MODULES		Q'ty:		30PCS		
Customer:				Customer P/N:				
Parameter		Requirements		#1	#2	#3	#4	#5
Lp:	(1-3)	350μH Min @100KHz 0.1V	8mA	535	558	559	551	560
	(6-8)	350μH Min @100KHz 0.1V	8mA	565	550	551	561	580
Turn Ratio:	(1-3)/(16-14)	1CT:1CT@100KHz 0.1V		OK	OK	OK	OK	OK
	(6-8)/(11-9)	1CT:1CT@100KHz 0.1V		OK	OK	OK	OK	OK
Insertion Loss:	(1MHz; 1-3)	-1.1dB Max		-0.75	-0.62	-0.53	-0.78	-0.55
	(100MHz, 1-3)	-1.1dB Max		-0.76	-0.57	-0.56	-0.52	-0.56
	(1MHz; 6-8)	-1.1dB Max		-0.51	-0.60	-0.51	-0.62	-0.58
	(100MHz, 6-8)	-1.1dB Max		-0.52	-0.51	-0.69	-0.49	-0.44
Return Loss:	(1~30MHz,1-3)	-18dB Min		-20.5	-22.8	-25	-23.7	-21.7
	(60MHz,1-3)	-14dB Min		-15.5	-17.7	-20.0	-18.9	-16.5
	(80MHz,1-3)	-12dB Min		-13.6	-15.7	-18.0	-17.1	-14.5
	(1~30MHz,6-8)	-18dB Min		-21.5	-22.1	-20.2	-21.2	-23.5
	(60MHz,6-8)	-14dB Min		-16.7	-16.9	-15.0	-16.0	-18.4
	(80MHz,6-8)	-12dB Min		-15.0	-14.8	-12.9	-14.0	-16.4
DCMR :	(30MHz,1-3)	-42dB Min		-49	-48.4	-48.8	-47.3	-47.9
	(50MHz,1-3)	-37dB Min		-48.3	-47.5	-47.1	-46.9	-46.4
	(100MHz,1-3)	-33dB Min		-54.4	-69.5	-52.4	-53.3	-55.8
	(30MHz,6-8)	-42dB Min		-47.8	-46.8	-47.5	-48.3	-44.7
	(50MHz,6-8)	-37dB Min		-46.6	-44.1	-46.9	-46.8	-45.3
	(100MHz,6-8)	-33dB Min		-43.5	-42.6	-48.7	-44.7	-46.7
Crosstalk:	(30MHz,1-3,6-8)	-45dB Min		-55.6	-59.5	-55.1	-59.2	-56.2
	(60MHz,1-3,6-8)	-40dB Min		-51.4	-56.5	-50.6	-54.4	-52.4
	(100MHz,1-3,6-8)	-35dB Min		-51.5	-63.7	-49.3	-54.5	-52.3
Hi-pot(pri-sec)		1500VAC		OK	OK	OK	OK	OK
Test Condition: Temperature:25℃ Humidity:60%RH				LCR meter:ZH1601 Hi-pot test equipment:GPI-5005T Network analyzer:AV3620A				