深圳市华升微电子有限公司
TEL：0755-33272179/33270812　FAX:0755-61174076

PRODUCT FOR APPROVAL

WE ARE PLEASED IN SUBMITTING YOU HERE WITH OUR SPECIFICATION DRAWING TOGETHER WITH SAMPLES FOR YOUR APPROVAL. PLEASE RETURN TO US ONE COPY WITH YOUR AUTHORIZED SIGNATURES AS APPROVED.

CUSTOMER :

DESCRIPTION : 100/1000 BASE-T TRANSFORMER

PART NUMBER :

REVISION : A0

CUSTOMER P/N :

ISSUE DATE : 12-Aug-20

PRODUCT PHOTOS :

SINGLE WEIGHT : 1.2g

YIELDLY : Guang Dong Province, China

COMPANY APPROVAL		
PREPARED BY	**CHECKED BY**	**APPROVED BY**

CUSTOMER APPROVAL
APPROVED SIGNATURES

深圳市华升微电子有限公司
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Record of Revision		
Rev.	Description of Changes	Date
A0	Initial Release	2020/8/12

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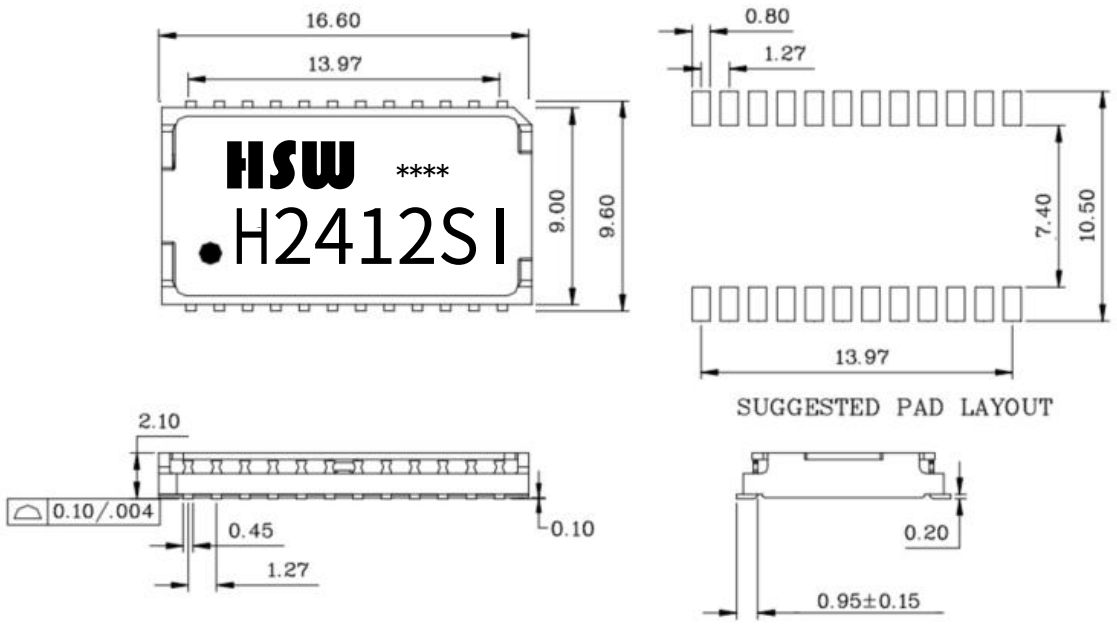
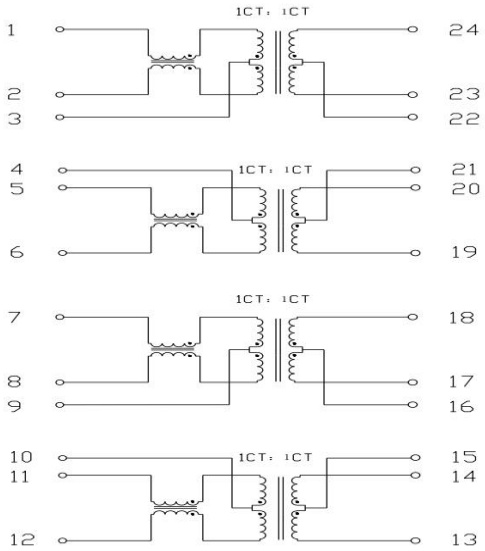
1.Mechanical Drawing:



	MILLIMETERS		INCHES	
DIM	Center	Tolerances	Center	Tolerances
A	16.60	± 0.254	0.706	± 0.010
B	9.00	± 0.254	0.354	± 0.010
C	2.10	± 0.254	0.083	± 0.010
D	13.97	± 0.127	0.550	± 0.005
E	0.13	± 0.125	0.005	± 0.005
F	1.27	± 0.127	0.050	± 0.005
G	0.45	± 0.127	0.018	± 0.005
H	9.60	± 0.250	0.378	± 0.010
I	0-8°	0-8°	0-8°	0-8°

2. Schematic:



3. Electrical Specification @25℃

Inductance OCL:	350uH Min @ 100KHz 0.1V	
Leakage Inductance:	0.50uH Max @ 100KHz 0.1V	
Interwinding Capacitance:	25pF Typ @ 100KHz 0.1V	
DC Resistance:	1.2Ω Max	
Turn Ratio:	1CT:1CT±5%	
Polarity:	2-23,5-20,8-17,11-14 In-Phase	
Insertion Loss:	0.5-100 MHz	-1.1dB Max
Return Loss:	0.5-40MHz	-18dB Min
	40.1-100MHz	-12+20*log(f/80)dB Min
Cross Talk:	0.5-40MHz	-35dB Min
	40.1-100MHz	-33+20*log(f/50)dB Min
CMRR:	0.5-100MHz	-30dB Min
Isolation HI-POT:	1500VAC,1mA,1s	
Operating Temperature:	-40℃ to 85℃	
Product Type:	**Green Product**	

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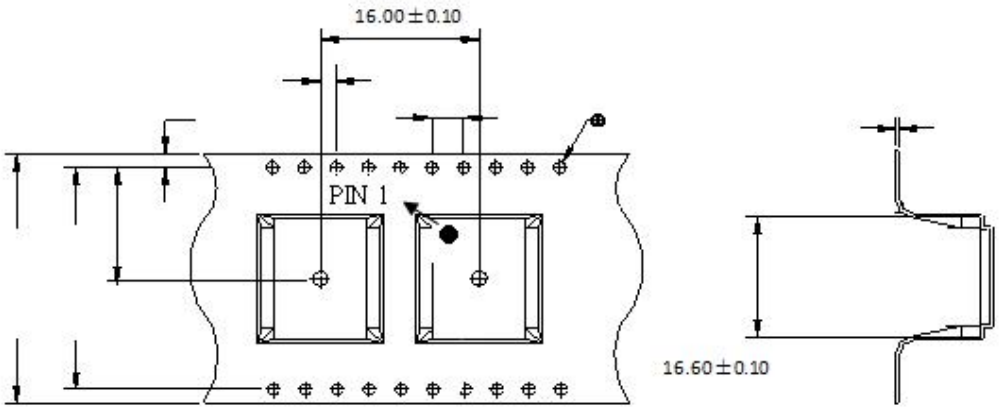
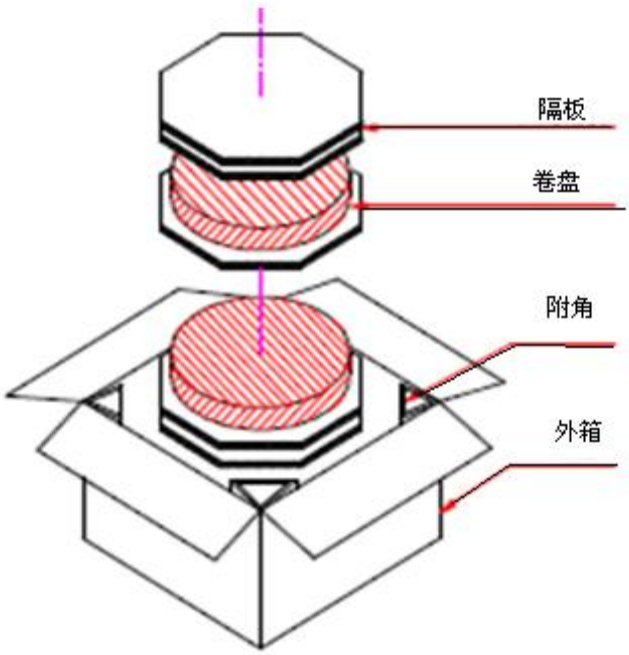
SPEC	1	2	3	4	5
L:(AT 100KHz 0.1V 8mA)					
350uH Min					
24-23	639	574	771	736	676
20-19	857	674	710	728	704
18-17	788	597	779	750	667
14-13	729	661	780	601	760
LK:(AT 100KHz 0.1V)					
0.5uH Max					
1-2(24-23short)	0.36	0.36	0.39	0.36	0.33
5-6(20-19 short)	0.41	0.41	0.42	0.39	0.31
7-8(18-17 short)	0.35	0.35	0.40	0.36	0.36
11-12(14-13 short)	0.34	0.34	0.41	0.39	0.35
CWW:(AT 100KHz 0.1V)					
25pF Typ					
1-2 to 24-23	27.0	22.0	22.0	22.0	18.0
5-6 to 20-19	23.0	20.0	18.0	25.0	18.0
7-8 to 18-17	30.0	19.0	21.0	21.0	21.0
11-12 to 14-13	25.0	19.0	19.0	19.0	24.0
DCR:(AT 25℃)					
1.2Ω Max					
1-2	0.50	0.49	0.50	0.51	0.48
5-6	0.52	0.50	0.47	0.50	0.46
7-8	0.48	0.49	0.47	0.52	0.47
11-12	0.49	0.50	0.48	0.50	0.46
TURNS RATIO:					
1-2 ： 24-23=1CT:1CT±5%	OK	OK	OK	OK	OK
5-6 ： 20-19 =1CT:1CT±5%	OK	OK	OK	OK	OK
7-8 ： 18-17=1CT:1CT±5%	OK	OK	OK	OK	OK
11-12 ： 14-13=1CT:1CT±5%	OK	OK	OK	OK	OK
HI-POT:					
AT:1500VAC 1mA 1S					
1-2 to 24-23	OK	OK	OK	OK	OK
5-6 to 20-19	OK	OK	OK	OK	OK
7-8 to 18-17	OK	OK	OK	OK	OK
11-12 to 14-13	OK	OK	OK	OK	OK

4. Package Infomation:

1. Packaging Method is as below:





2. Package Q'ty:

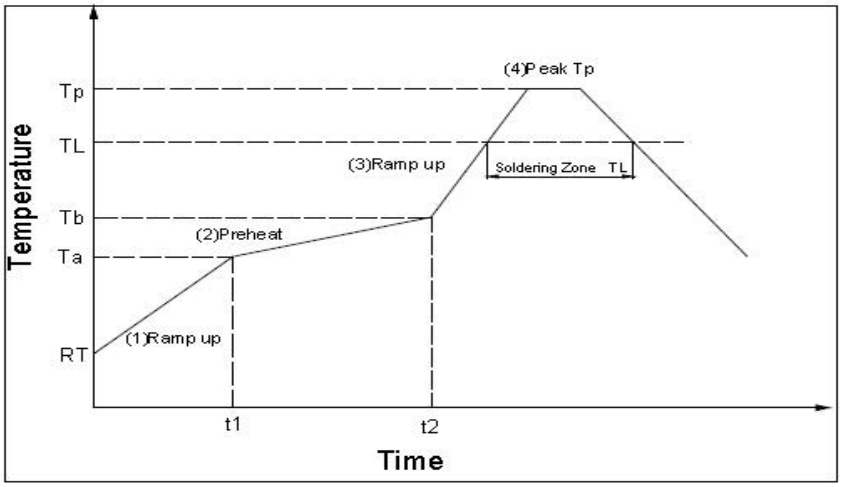
1100 units/reel
8 reel/carton
8800 units/carton

3.MSL LEVEL: 3

3.Unit weight: 0.71±10% Grams *拉力資料 0.1N~1.3N , 符合EIA-481*

5. Recommended Reflow Soldering Curve:

IR reflow graph



IR reflow profile

Form-1（Reference JEDEC J-STD-020C Table 5-2））

IR reflow profile		Sn-Pb	Pb-free
step#	Profile Feature	Condition/Duration	Condition/Duration
step1	Ramp-up rate	1.5-3℃/sec.	1.5-3℃/sec.
step2	Preheat : 100~150℃(Ta-Tb)	t1-t2 : 60~120 sec.	t1-t2 : 60~180 sec.
step3	Ramp-up rate(T_L to T_P)	1.5-3℃/sec.	1.5-3℃/sec.
	Temperature maintained above 183℃(T_L)	T_L:60-150sec.	T_L:80-150sec.
step4	Peak temperature(T_P)	230+5/-10℃	260+0/-5℃
	Time within 5℃ of actual peak temperature	30±10 sec.	30±10 sec.
step5	Ramp-down rate	6℃/sec.Max	6℃/sec.Max
Note1	Subject the samples to 3 cycles of the above defind reflow conditions		Subject the samples to 3 cycles of the above defind reflow conditions
Note2	Time 25℃ to peak temperature : 6 minutes max.		Time 25℃ to peak temperature : 8 minutes max.
Note3			The time between reflows shall be 5 minutes minimum and 60minutes maximum

SnPb Eutectic Process- "Package Peak Reflow Temperature"

Form-2 (Reference JEDEC J-STD-020C Table 4-1)

产品厚度	产品体积<350mm3	产品体积≥350mm3
<2.5mm	240 +0/-5℃	225 +0/-5℃
≥2.5mm	225 +0/-5℃	225 +0/-5℃

Pb-free Process - "Package Peak Reflow Temperature"

Form-3 (Referencre JEDEC J-STD-020C Table 4-2)

产品厚度	产品体积<350mm^3	产品体积 350mm^3-2000mm^3	产品体积>2000mm^3
<1.6mm	260 +0/-5℃	260 +0/-5℃	260 +0/-5℃
1.6mm-2.5mm	260 +0/-5℃	250 +0/-5℃	245 +0/-5℃
>2.5mm	250 +0/-5℃	245 +0/-5℃	245 +0/-5℃

5. Reliability:

Reliability			
No.	**Test Item**	**Refer To Standard**	**Test Condition**
1	Resistance To Soldering Heat--Convection Reflow	IPC/JEDEC J-STD-020D	1).Peak Temperature: Refer to Specification According to Package Body Thickness And Volume 2).Preheat Temperature and Soak Time: 150~200℃,60~120 Seconds 3).Average Ramp-up Rate: 3℃/Second Max 4).Above 217℃: 60~150 Seconds 5).Peak Temperature-5℃: Over 30 S
2	Thermal Shock	IEC68-2-14 Method A	1.Low Temperature:-40℃ 2.High Temperature:125 3.Dwell Time:30 Minutes 4.Transition Time: Less Than 5Minutes 5.Number of Cycles: 10
3	High Temperature	IEC68-2-2 Method A	125℃,96Hours
4	Low Temperature	IEC68-2-1 Method A	-40℃,96Hours
5	Temperature Humidity Cycle	IEC68-2-38	Temp Humidity soak time 25~65°C 93+/-3%RH 1.5 hr 65℃ 93+/-3%RH 4 hr 65~25°C 80~96%RH 2.5 hr 25~65°C 93+/-3%RH 1.5hr 65℃ 93+/-3%RH 4hr 65~25°C 80~96%RH 2
6	Vibration	IEC68-2-6	1.Sine Wave 2.Amplitude:0.75mm 3.Frequence:5~500~5Hz 4.Direction: X,Y,Z 5.Number of Sweep Cycles Per Direction:10 6.Duration: 2 Hours Each Direction
7	Mechanical Shock	MIL-STD-202	1).Half-Sine Wave 2).Peak Acceleration:50G 3).Duration:11mS 4).Direction: X,Y,Z,-X,-Y,-Z 5).Number of Shock Per Direction:3
8	Free Drop	ISO4180	1) Height: Refer to Specification According to Production weight 2).1Corner,3Edges,6Faces .Total Are 10 Times
9	Solderability	JESD22-B102D	1).Precondition:150±5°C,16±0.5Hours 2).Flux Type:ROL1 3).Immersion Flux Time: 5~10 Seconds 4).Solder Temperature:245±5°C 5).Solder Immersion Time:5±0.5 Seconds 6).Solder Immersion/Emersion Speed:25.4±6.4mm/Second
10	Accelerated Moisture Resistance--- Unbiased Autoclave	JESD22-A102-C	1.Temperature:121°C 2. Humidity: 100% 3. Vapor Pressure: 29.7 Psia or 205KPa 4.Duration:96 hours

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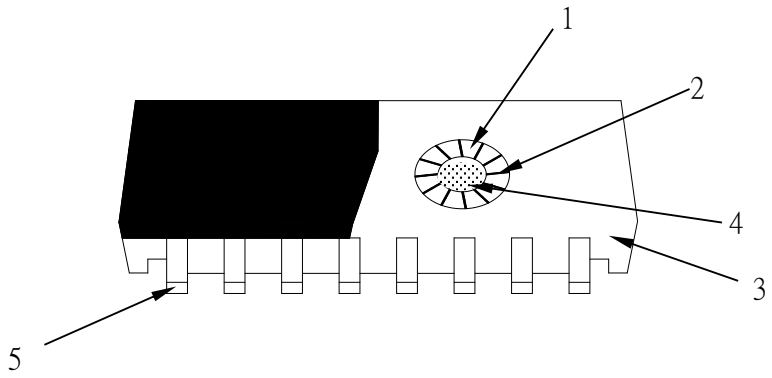
6.Material List: 材料清单

No. 序号	Item 项目	Base Material 基材	Plate 电镀	Rating 等级	Manufacturer 制造商	UL 安规证书	Remarks 备注
1	Transformer Core磁芯	Mn-Zn锰锌 Ni-Zn镍锌	----	----	YST(研鑫)	N/A	
2	Wire铜线	QPN/180聚胺脂	----	180℃	SUNTEK （松田）	E234867	QPN-H ∅0.09
3	Case膠殼	phenolic moulding powder（電木粉）	----	130℃	WAH HONG （华宏新技）	E150608	
4	Varnish 绝缘油	绝缘油E962	----	180℃	Chang Xian （长先）	E335405	
5	Solder 焊料	SnCu锡铜	----	----	Lichuang （力创）	N/A	
6	Flux 助焊剂	Water solubility 水溶性松香	----	----	Hong Tai Zhou （鸿泰洲）	N/A	



UL Info.

WIRE UL

ONLINE CERTIFICATIONS DIRECTORY

OBMW2.E234867
Magnet Wire - Component

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Magnet Wire - Component

See General Information for Magnet Wire - Component

ZHUHAI SUNTEK WIRE CO LTD E234867
62 HANQING RD PINGSHA TOWN
JINWAN DISTRICT
ZHUHAI, GUANGDONG 519055 CHINA

Mfg Dsg	Mark Dsg	Coat Type		ANSI Type	Temp Class
		BC	OC		
xUEW 180*,	(1)	Polyurethane	—	MW82	180
xUEW 155*,				MW79#	155
xUEW 130*				MW75#	130
xUEW/NY or QAN/180*,	(1)	Polyurethane	Polyamide	MW83	180
xUEW/NY or QAN/155*,				MW80#	155
xUEW/NY or QAN/130*				MW28#	130
xSEIW or QZY-x/180*	(1)	Polyesterimide	—	MW77#	180
xSEIW or xPEW/155*	(1)	Polyesterimide	—	MW26#	155
xPEW/130*	(1)	Polyesterimide	—	-#	130

* May be suffixed by LZ, EL or LZL.

LZ - Signifies magnet wires twisted together; EL - signifies base coated magnet wire laid parallel with top coat applied overall; LZL - signifies base coated magnet wire twisted together and covered with top coat overall.

This magnet wire may perform better than rating reflects and hence may not be suitable for an insulation system thermal aging program.

x May be prefixed by 0, 1, 2, 3 to indicate coating thickness.

- None ANSI Type.

Marking: Company name and material designation or marked designation on package or reel.
Last Updated on 2008-07-02

Questions? Notice of Disclaimer Page Top

Case UL

data

Component - Plastics E150608

Guide Information

WAH HONG INDUSTRIAL CORP

11ST FL-6 235 CHUNG CHENG 4TH RD, KAOHSIUNG 801 TW

WH-9100(G1)(G2)

Diallyl Phthalate (DAP), molding compound, furnished as pellets

Color	Min. Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
ALL	0.37	V-0	2	0	130	130	130
	0.8	V-0	2	0	130	130	130
	3.0	V-0	0	0	130	130	130

Comparative Tracking Index (CTI): 0
Inclined Plane Tracking (IPT) kV: -
Dielectric Strength (kV/mm): 30
Volume Resistivity (10^x ohm-cm): 14
High-Voltage Arc Tracking Rate (HVTR): 0
High Volt, Low Current Arc Resis (D495): 4
Dimensional Stability (%): -

(G1) - The GWIT rating observed from representative Thickness & Color including: Thickness at 0.8mm are 960C (NC); 960C (BK) .

(G2) - The GWFI rating observed from representative Thickness & Color including: Thickness at 0.8mm are 960C (NC); 960C (BK) .

Report Date: 1998-08-18
Last Revised: 2019-05-15

IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.37	V-0 (ALL)
			0.8	V-0 (ALL)
			3.0	V-0 (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	°C	0.8	960
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	°C	0.8	960
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	CTI600
		Material Group		I
IEC Ball Pressure	IEC 60695-10-2	°C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	°C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m^2	-	-
ISO Izod Impact	ISO 180	kJ/m^2	-	-
ISO Charpy Impact	ISO 179-2	kJ/m^2	-	-

Varnish UL

ONLINE CERTIFICATIONS DIRECTORY

OBOR2.E335405
Varnishes - Component

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Varnishes - Component

See General Information for Varnishes - Component

ZHUHAI CHANGXIAN NEW MATERIALS TECHNOLOGY CO LTD E335405
Langwan Rd, Fine Chemical Area
Gaolan Port Economic Zone
Zhuhai, Guangdong 519000 CHINA

		Thermal Class (°C)		
Varnish Designation	ANSI Type	Twisted Pair	Helical Coil	Curved Electrode
E962	MW 28-C	130	-	-

Marking: Company name and model designation.
Last Updated on 2014-05-26

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