承　認　書

SPECIFCATION FOR APPROVAL

客户名稱 CUSTOMER	
品名規格 DESCRIPTION	SMB 403025
客户料號 CUS. P/N	
提出日期 DATE	2025.5.12

出　圖 RDAWING		
發 行 MADE	復 核 CHECKED	確 認 APPROVED
李光赫	方煜镏	梁琼
销售部：张 丽		

承　　認 CUSTOMER APPROVE

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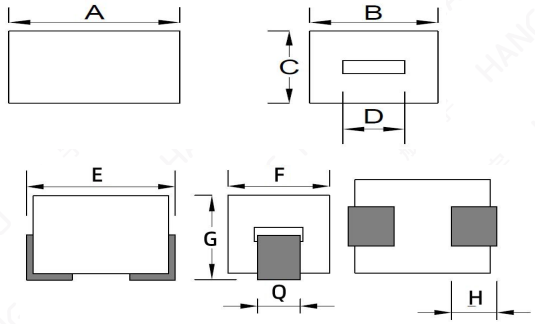
規　格 ITEM	SMB 403025	編　號 SERIAL NO.	

1.1. 形狀尺寸(單位/毫米):
SHAPE & DIMENSION(unit/mm):



A	4 ± 0.30 mm
B	3.0 ± 0.20 mm
C	2.5 ± 0.20 mm
D	1.5 ± 0.15 mm
E	4.3 ~ 5.1 mm
F	3.1 ± 0.15 mm
G	2.70 ~ 3.1 mm
H	1.2 ± 0.20 mm
Q	1.35 ± 0.15 mm

Part Numbering

A: Series
B: Dimension
C: Material　　Ferrite Core
D: Impedance　　470=47Ω
E: Packaging　　T=Taping and Reel

Specification

TAI-TECH Part Number	ELECTRICAL REQUIREMENTS 1			ELECTRICAL REQUIREMENTS 2			DCR (mΩ) Max.	Rated Current	
	Impedance (Ω)	Tolerance	Test Frequency (MHz)	Impedance (Ω)	Tolerance (%)	Test Frequency (MHz)		△T=40℃ TYP.	Test Frequency (MHz)
TD403025RH-470K	25	min	25	38	±25	100	0.80	15.0 A	1

Note:
COIL SPEC：FLAT.TCW(1.25W X 0.20T)m/m

阻 抗 – 頻 率 曲 綫
IMPEDANCE V.S FREQUENCY (Z–Y)

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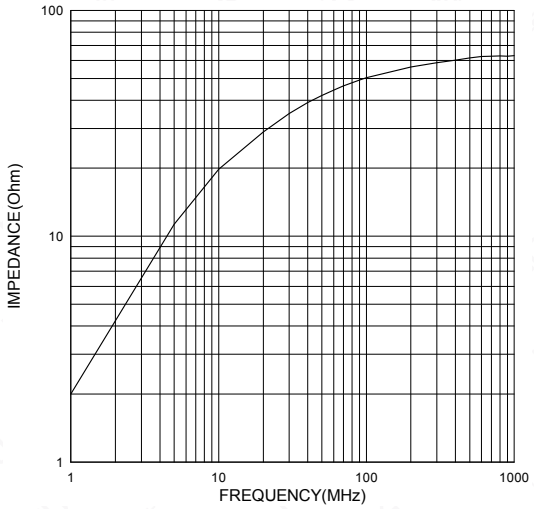
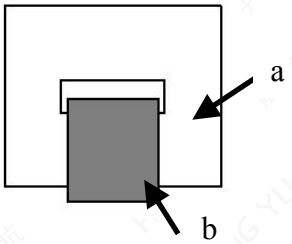
Typical Impedance v.s. Frequency Curve



5. Material List

No.	Description	Specification
a.	Core	Ferrite Core
b.	Wire	Electroplated nickel-tin flat copper wire

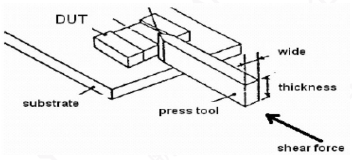


説明Note:
本承認書在客户收到7天之内，須簽章返回，逾期視爲默認。
The Specification Approval is required to be sent back to the supplier with customer's chop or signature on it within 4 days after receiving it, or we will take it as approved by customer automatically.

測 試 TESTED	復 核 CHECKED	確 認 APPROVED

Reliability and Test Condition

Item	Performance	Test Condition
Operating temperature	-40~+125℃ (Including self - temperature rise)	
Storage temperature	-40~+125℃ (on board)	
Electrical Performance Test		
Inductance	Refer to standard electrical characteristics list.	HP4284A,CH11025,CH3302,CH1320,CH1320S LCR Meter.
DCR		CH16502,Agilent33420A Micro-Ohm Meter.
Heat Rated Current (Irms)	Approximately △T≦40℃	Heat Rated Current (Irms) will cause the coil temperature rise △T(℃) without core loss. 1.Applied the allowed DC current(keep 1 min.). 2.Temperature measured by digital surface thermometer
Reliability Test		
Life Test	Appearance：No damage. Inductance：within±10% of initial value Q：Shall not exceed the specification value. RDC：within ±15% of initial value and shall not exceed the specification value	Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles) Temperature： 125±2℃(Inductor) Applied current：rated current Duration：1000±12hrs Measured at room temperature after placing for 24±2 hrs
Load Humidity		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles Humidity：85±2% R.H, Temperature：85℃±2℃ Duration：1000hrs Min. with 100% rated current Measured at room temperature after placing for 24±2 hrs
Moisture Resistance		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles 1. Baked at50℃ for 25hrs, measured at room temperature after placing for 4 hrs. 2. Raise temperature to 65±2℃ 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25℃ in 2.5hrs. 3. Raise temperature to 65±2℃ 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25℃ in 2.5hrs,keep at 25℃ for 2 hrs then keep at -10℃ for 3 hrs 4. Keep at 25℃ 80-100%RH for 15min and vibrate at the frequency of 10 to 55 Hz to 10 Hz, measure at room temperature after placing for 1~2 hrs.
Thermal shock		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles Condition for 1 cycle Step1：-40±2℃ 30±5min Step2：25±2℃ ≦0.5min Step3：125±2℃ 30±5min Number of cycles： 500 Measured at room temperature after placing for 24±2 hrs
Vibration		Oscillation Frequency: 10～2K～10Hz for 20 minutes Equipment： Vibration checker Total Amplitude:1.52mm±10% Testing Time : 12 hours(20 minutes, 12 cycles each of 3 orientations)。

<table>
<tr><th>Item</th><th>Performance</th><th>Test Condition</th></tr>
<tr><td>Shock</td><td rowspan="2">Appearance：No damage.
Inductance：within±10% of initial value
Q：Shall not exceed the specification value.
RDC：within ±15% of initial value and shall not exceed the specification value</td><td>
<table>
<tr><th>Type</th><th>Peak value (g’s)</th><th>Normal duration (D) (ms)</th><th>Wave form</th><th>Velocity change (Vi)ft/sec</th></tr>
<tr><td>SMD</td><td>50</td><td>11</td><td>Half-sine</td><td>11.3</td></tr>
<tr><td>Lead</td><td>50</td><td>11</td><td>Half-sine</td><td>11.3</td></tr>
</table>
shocks in each direction along 3 perpendicular axes.
</td></tr>
<tr><td>Bending</td><td>Shall be mounted on a FR4 substrate of the following dimensions: >=0805:40x100x1.2mm <0805:40x100x0.8mm
Bending depth:
>=0805inch(2012mm):1.2mm
<0805 inch(2012mm):0.8mm
duration of 10 sec.</td></tr>
<tr><td>Soderability</td><td>More than 95% of the terminal electrode should be covered with solder。</td><td>Preheat: 150℃,60sec.。
Solder: Sn96.5% Ag3% Cu0.5%
Temperature: 245±5℃。
Flux for lead free: Rosin. 9.5%。
Dip time: 4±1sec。
Depth: completely cover the termination</td></tr>
<tr><td>Resistance to Soldering Heat</td><td rowspan="2">Appearance：No damage.
Inductance：within±10% of initial value
Q：Shall not exceed the specification value.
RDC：within ±15% of initial value and shall not exceed the specification value</td><td>Number of heat cycles: 1
<table>
<tr><td>Temperature (°C)</td><td>Time(s)</td><td>Temperature ramp/immersion and emersion rate</td></tr>
<tr><td>260 ±5(solder temp)</td><td>10 ±1</td><td>25mm/s ±6 mm/s</td></tr>
</table>
</td></tr>
<tr><td>Terminal Strength</td><td>Preconditioning:Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles
With the component mounted on a PCB with the device to be tested, apply a force (>0805 inch(2012mm):1kg , <=0805 inch(2012mm):0.5kg)to the side of a device being tested.
This force shall be applied for 60 +1 seconds. Also the force shall be applied gradually as
not to apply a shock to the component being tested.


</td></tr>
</table>

Soldering and Mounting

1. Soldering

Mildly activated rosin fluxes are preferred. TAI-TECH terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

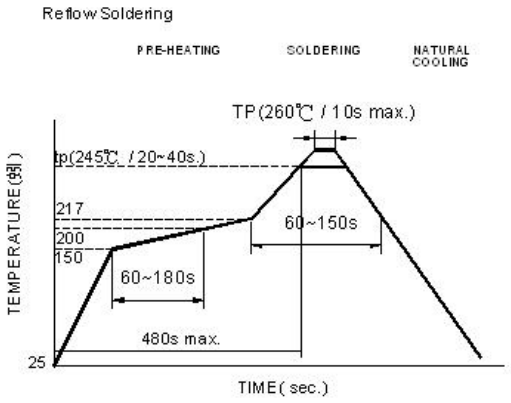
1.1 Solder re-flow:

Recommended temperature profiles for re-flow soldering in Figure 1.

1.2 Soldering Iron(Figure 2):

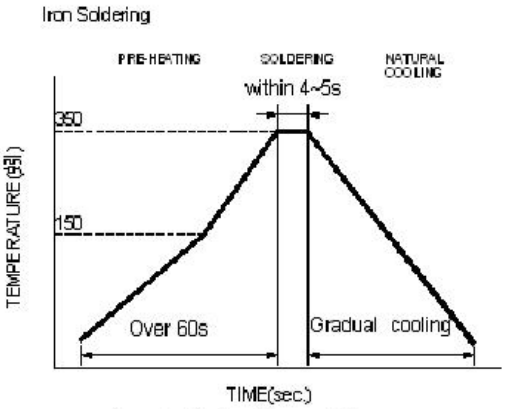
Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

- Preheat circuit and products to 150℃
- 355℃ tip temperature (max)
- Never contact the ceramic with the iron tip
- 1.0mm tip diameter (max)
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- Limit soldering time to 4~5 sec.



Reflow times: 3 times max.

Fig.1

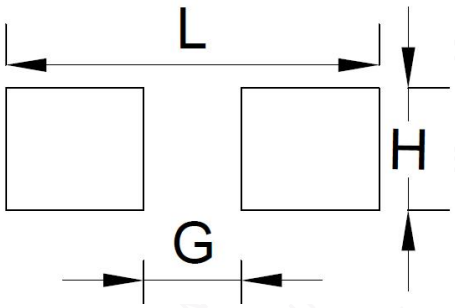


Iron Soldering times: 1 times max.

Fig.2

2. Recommended PC Board Pattern

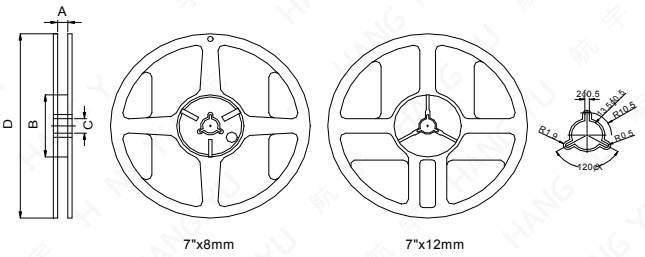
Fig.1



L(mm)	G(mm)	H(mm)
4.8	1.4	1.5

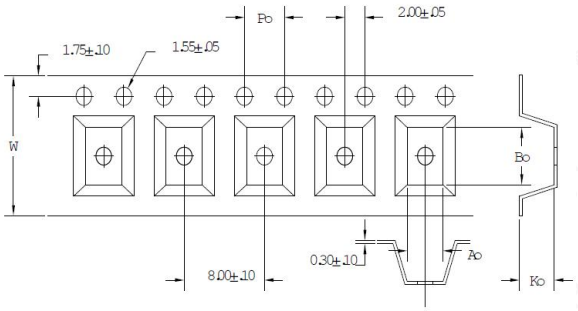
Packaging Information

1. Reel Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)
7"x12mm	13.5±0.5	60±2	13.5±0.5	178±2

2. Tape Dimension / 12mm

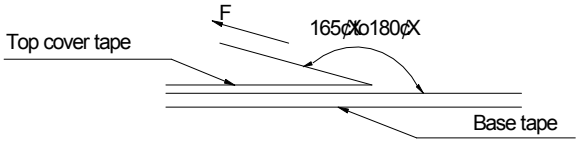


Series	Size	W(mm)	Po(mm)	Ao(mm)	Bo(mm)	Ko(mm)
BPH	403025	12.±0.30	4.0±0.10	3.60±0.10	4.9±0.10	3.5±0.10

3. Packaging Quantity

Chip size	Chip / Reel	Inner box	Middle box	Carton
TD403025	500	2000	10000	20000

4. Tearing Off Force



The force for tearing off cover tape is 15 to 80 grams in the arrow direction under the following conditions.

Room Temp. (℃)	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5~35	45~85	860~1060	300

Application Notice

・Storage Conditions(component level)
To maintain the solderability of terminal electrodes:
1. TAI-TECH products meet IPC/JEDEC J-STD-020D standard-MSL, level 1.
2. Temperature and humidity conditions: Less than 40℃ and 60% RH.
3. Recommended products should be used within 12 months form the time of delivery.
4. The packaging material should be kept where no chlorine or sulfur exists in the air.

・Transportation
1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.