

SPECIFICATION FOR APPROVAL

CUSTOMER	_____
CUST. PART NO.	_____
CUST. DOC. REV.	_____
DESCRIPTION	SMD AIR WOUND COIL (ROHS+H.F.)
SAMPLE LOT NO.	_____
PART NO.	293A-XXX-LRH
DOC. REV.	_____
DATE	_____

Once you approve this part, please sign and return this page to the following marked location.



Customer Signature: _____ Date: _____

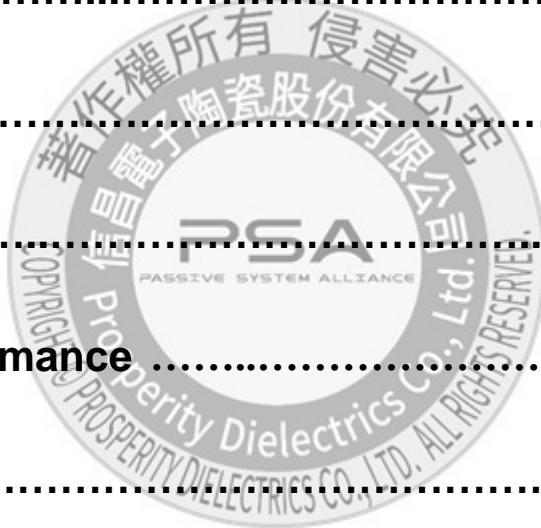
- This part currently development section. Production line can produce this series of products.
- Sales Office-Headquarter Yong Zhou Plant
- No. 566-1, Kao-Shi Rd., Yangmei, Taoyuan 32668, Taiwan
TEL: +886-3-475-3355
FAX: +886-3-485-4959
- Tao-Yuan Rd., Fenghuang Park, Lengshuitan District, Yongzhou, Hunan 425000, P.R.C.
TEL: +86-746-8610-180
FAX: +86-746-8610-181

- Sales Office-Dong Guan,China
- No.638,Mei Jing West Road Xiniupo Administrative Zone Dalang Town,Dong Guan City,GuangDong Province,China.
TEL: +86-769-8555-0979
FAX: +86-769-8555-0972

TESTED BY	CHECKED BY	APPROVED BY

TABLE OF CONTENTS

INDEX	Page
■ Engineering Change Notice – Record	2
■ Mechanical Dimension	3
■ Electrical Specification	3
■ Electrical Curve	4
■ Material List	5
■ Reflow Chart	5
■ Reliability Performance	6
■ Packing	7 ~ 8
■ Test Report	



SPECIFICATION FOR APPROVAL

CUSTOMER	CUSTOMER P/N	REV. -	SPL. LOT NO.	
PART NAME SMD AIR WOUND COIL (ROHS+H.F.)	PART NO. 293A-XXX-LRH	REV.	DATE OF ISSUE	Q'TY 0 PCS

ENGINEERING CHANGE NOTICE – RECORD

REVISION NO.	REVISION DESCRIPTION	AUTHOR	DATE	REMARK

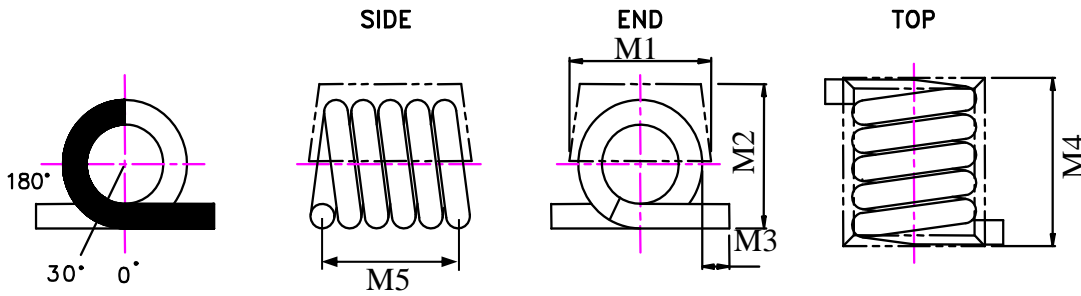


SPECIFICATION FOR APPROVAL

※This is a RoHS and REACH compliant product whose related documents are available on request.
 ※Graphic is only for dimensionally application.

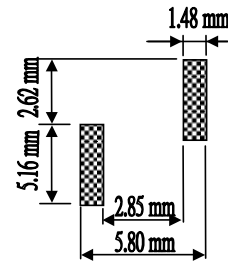
1. MECHANICAL DIMENSION

UNIT: mm



	DIM.	TOL.
M1	3.81	MAX.
M2	4.2	MAX.
M3	1.53	±0.39
M4	4.83	MAX.
M5	4.32	±0.39

TINNED LENGTH BETWEEN 30° AND 180°



Land Pattern

2. ELECTRICAL SPECIFICATION

Part number	Inductance (nH)	Inductance Tolerance	Q MIN.	Test Frequency (MHz)	DC Resistance (mΩ) MAX.	SRF (GHz) MIN.	Rated Current (A) MAX.
293A-22□-LRH	22	G,J,K	100	150	4.2	3.2	3.0
293A-27□-LRH	27	G,J,K	100	150	4.0	2.7	3.5
293A-33□-LRH	33	G,J,K	100	150	4.8	2.5	3.0
293A-39□-LRH	39	G,J,K	100	150	4.4	2.1	3.0
293A-47□-LRH	47	G,J,K	100	150	5.6	2.1	3.0
293A-56□-LRH	56	G,J,K	100	150	6.2	1.5	3.0
293A-68□-LRH	68	G,J,K	100	150	8.2	1.5	2.5
293A-82□-LRH	82	G,J,K	100	150	9.4	1.3	2.5
293A-100□-LRH	100	G,J,K	100	150	12.3	1.2	1.7
293A-120□-LRH	120	G,J,K	100	150	17.3	1.1	1.5
293A-150□-LRH	150	G,J,K	100	150	33.0	0.75	1.2

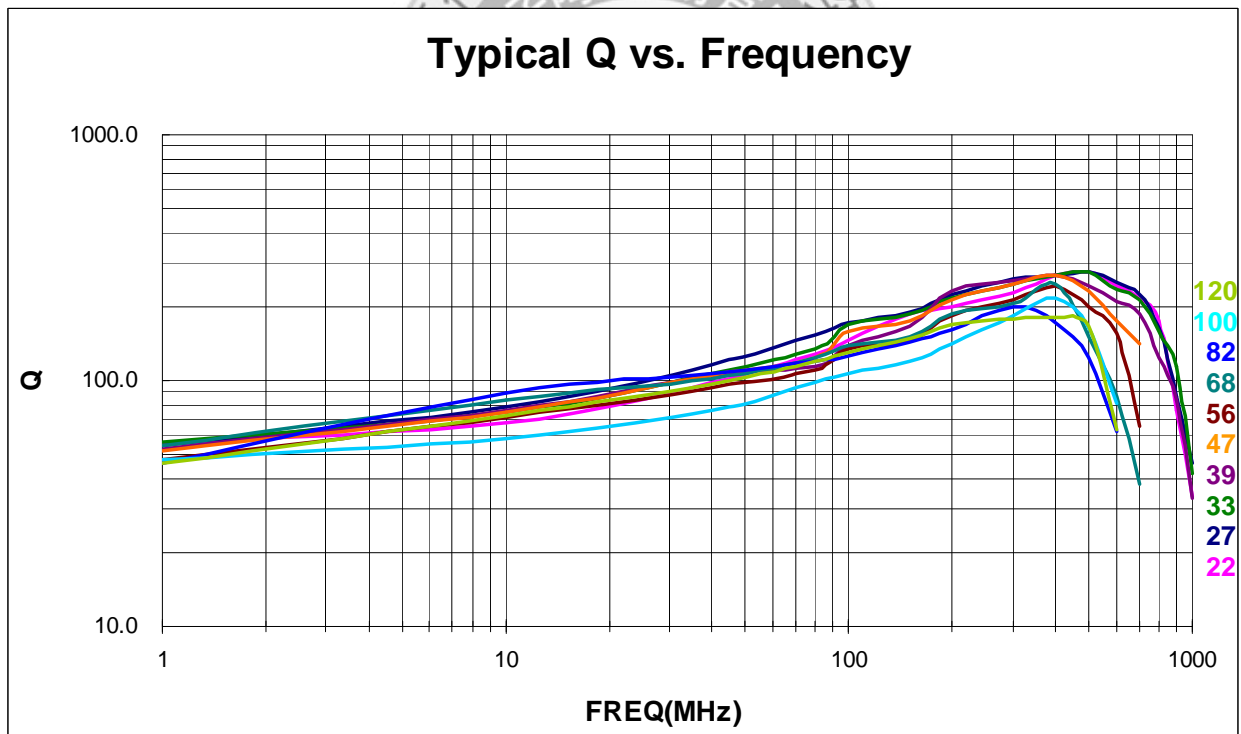
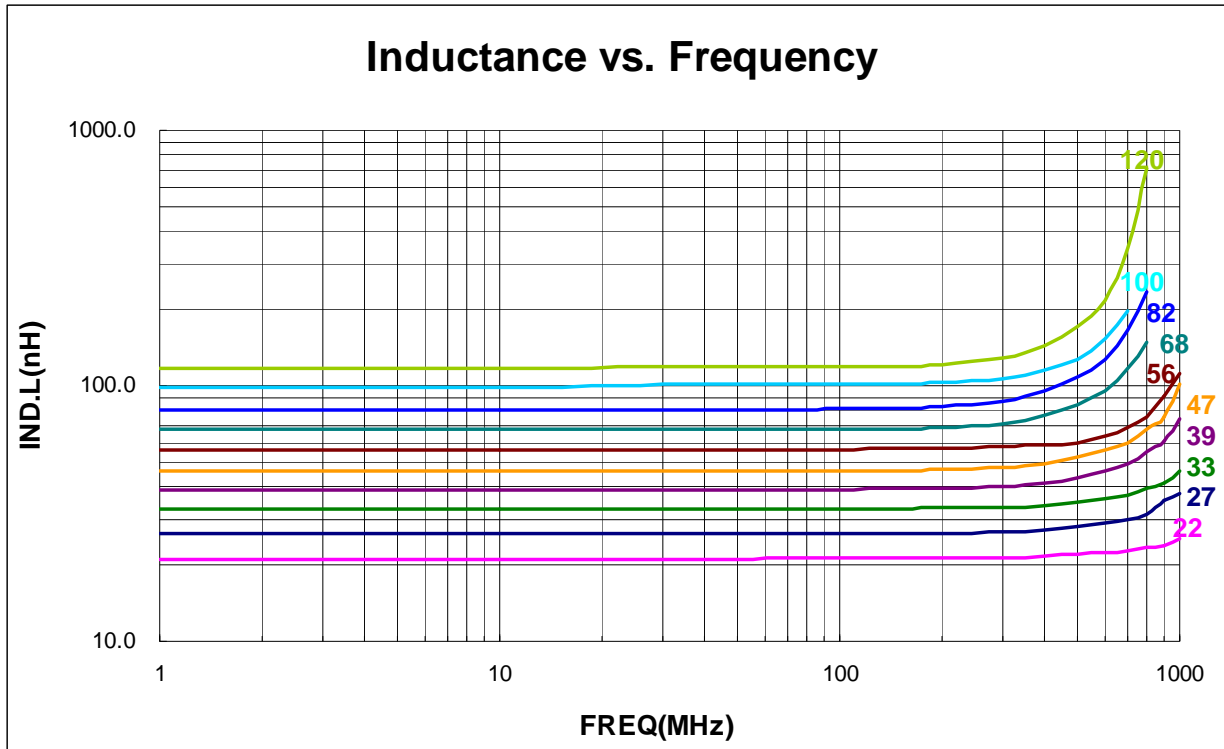
□ TOLERANCE : G=±2%, J=±5%, K=±10%

TEST INSTRUMENT: HP4291B、HP8753E、CHROMA16502

- NOTE : 1. Inductance & SRF measured on the HP4291B.
 2. Operating temperature range : -25°C to +125°C.
 3. Storage temperature range : -25°C to +85°C.
 4. For temperature rise : 15°C.
 5. SRF measured using the HP8753E.
 6. MSL : LEVEL 1

SPECIFICATION FOR APPROVAL

3. ELECTRICAL CURVE



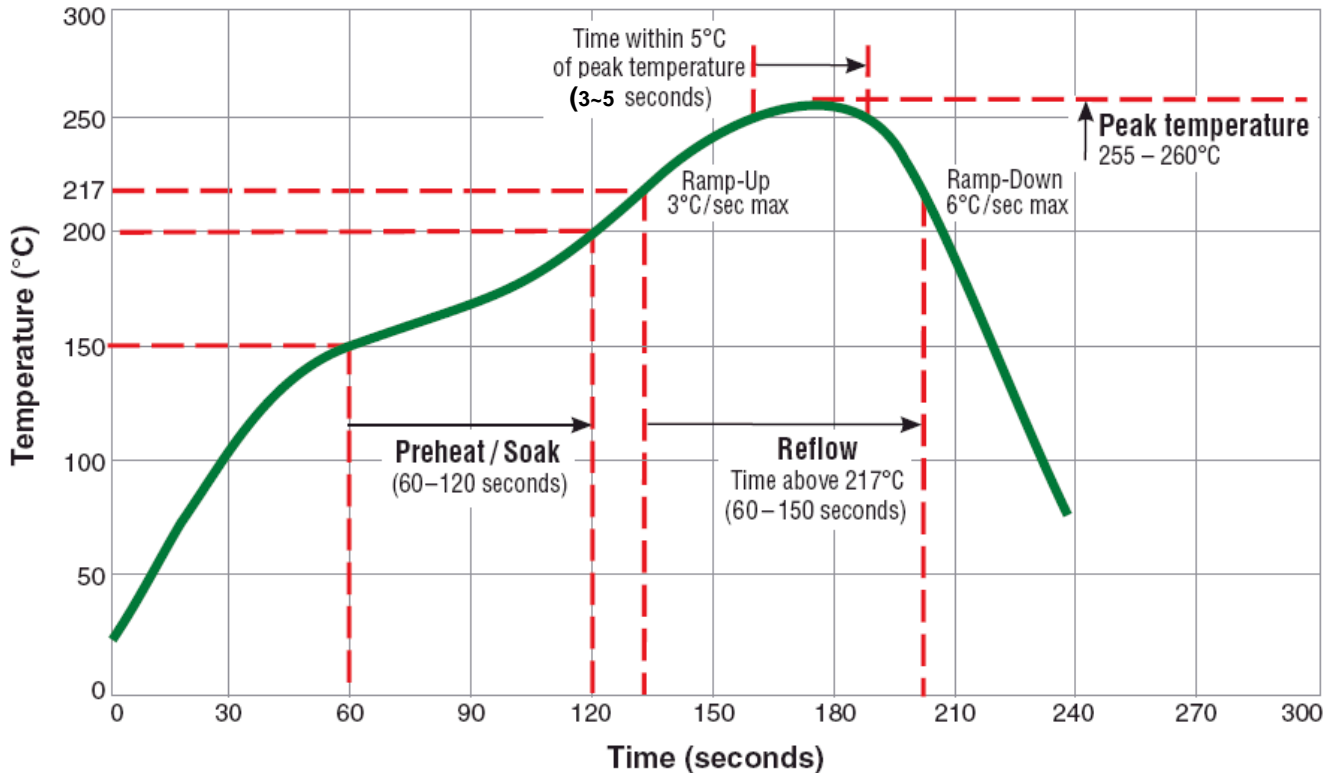
SPECIFICATION FOR APPROVAL

4. MATERIAL LIST

ITEM	MATERIAL CATEGORY	MATERIAL TYPE	SGS NO.	UL NO.
a	WIRE	SOLDERABLE ENAMELED COPPER WIRE. OR EQUIV.	CE/2019/52903	E174837
b	ADHESIVE	UV OR EQUIV.		
c	SOLDER	Pb FREE OR EQUIV.		

5. TYPICAL RoHS REFLOW PROFILE

Typical RoHS Reflow Profile



SPECIFICATION FOR APPROVAL

6. RELIABILITY PERFORMANCE

Reliability Experiment For Electrical

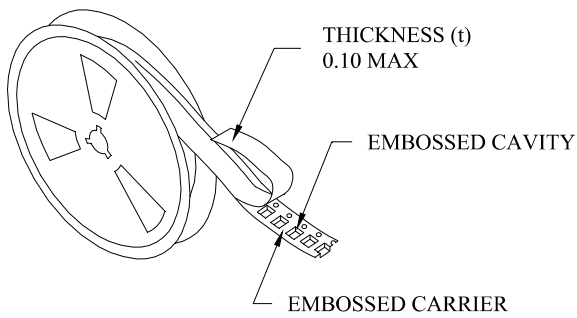
Test Item	Accept criteria	Test Condition	Standard Source
Humidity Test	1.Change from an initial value L:within±5% 2.no visible damage.	+40°C± 2°C, humidity of 90% ±5% (total 96 hours).	MIL-STD-202G Method 103B Test Condition B
High Temperature Test	1.Change from an initial value L:within±5% 2.no visible damage.	1.Temperature: +125°C±2°C. 2.Test time: 48±2hrs.	IEC 68-2 Test Condition B
Low Temperature Test	1.Change from an initial value L:within±5% 2.no visible damage.	1.Temperature: -25°C±2°C. 2.Test time: 48±2hrs.	IEC 68-2 Test Condition A
Thermal Shock	1.Change from an initial value L:within±5% 2.no visible damage.	+125°C±5°C (30 minutes) ~ -55±5°C (30 minutes), temperature switch time: 5 minutes (total 50 cycles) Wind speeds 10m/sec.	Reference MIL-STD-202G Method 107G Test Condition A-2
Life Test	1.Change from an initial value L:within±5% 2.no visible damage.	+70°C±5°C (250Hours).	Reference MIL-STD-202G Method 108A Test Condition B

Reliability Experiment For Physical

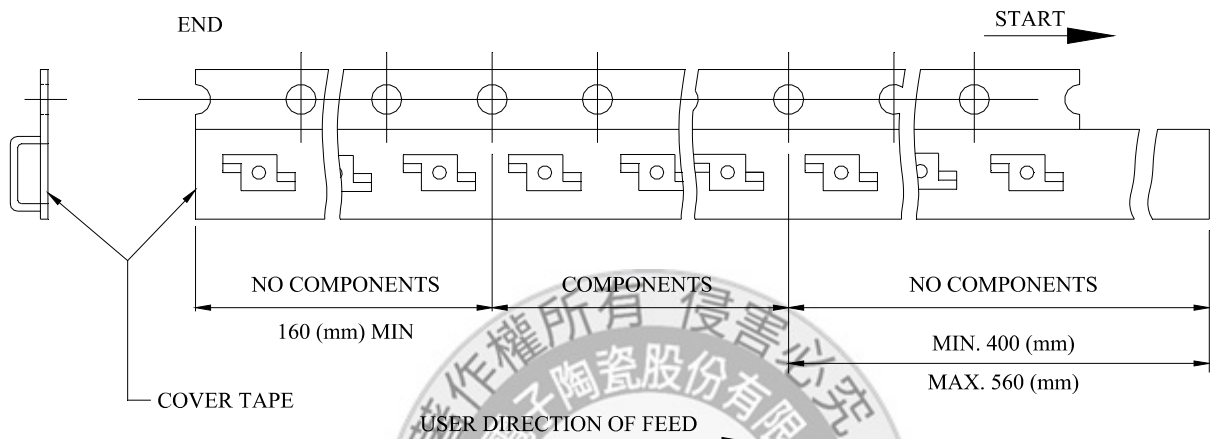
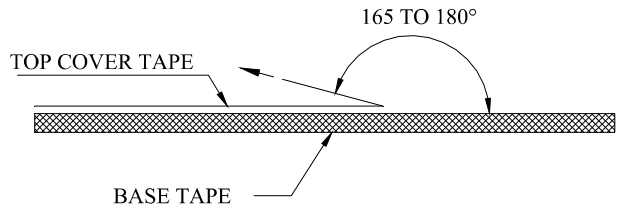
Test Item	Accept criteria	Test Condition	Standard Source
Vibration Test	1.Change from an initial value L:within±5% 2.no visible damage.	10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours).	MIL-STD-202G Method 201A
Solder Heat Resistance Test	1.no visible damage.	IR/convection reflow: Peak Temp 255°C ~260°C for 3~5 Sec. in air, Through 2 Cycle. Temperature Ramp:+1~4°C/sec.; Above 217°C, must keep 90 s - 120 s.	Reference MIL-STD-202G Method 210F Test Condition K (Reflow)
Solder Ability Test	1. Lead must have 95% above coverage.	Soak in 245°C solder pot of 3~5 Sec.	Reference J-STD-002D

SPECIFICATION FOR APPROVAL

7. PACKING



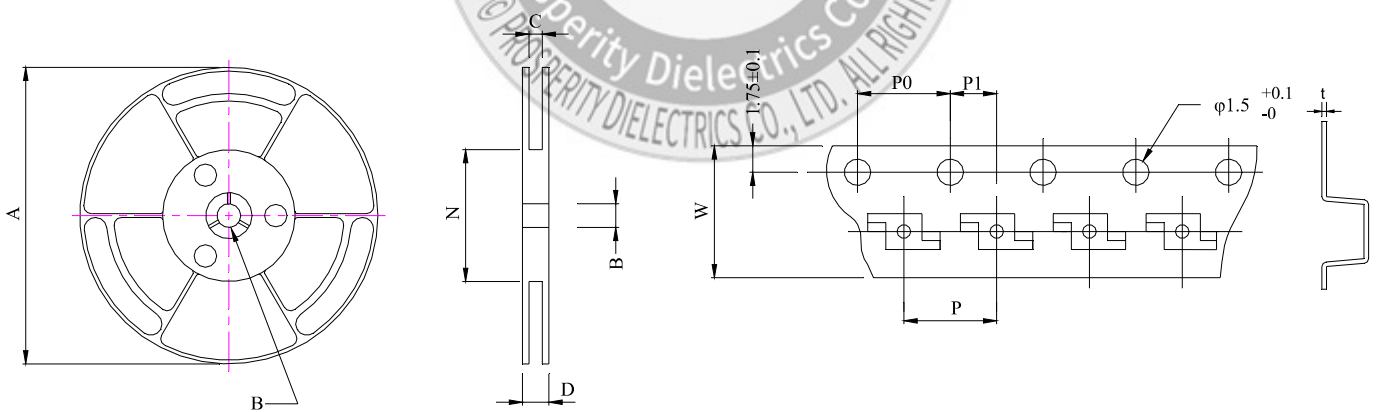
- THE FORCE FOR TEARING OFF COVER TAPE IS 10 TO 130 GRAMS IN THE ARROW DIRECTION.



■ CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC

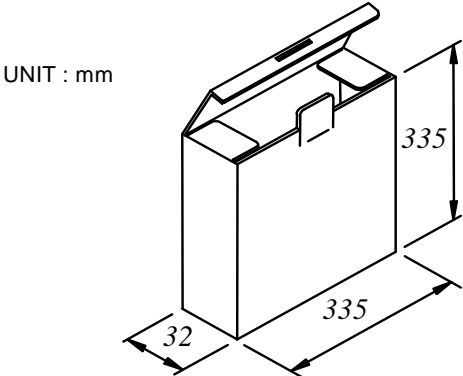
■ DIMENSIONS OF CARRIER TAPE (mm)



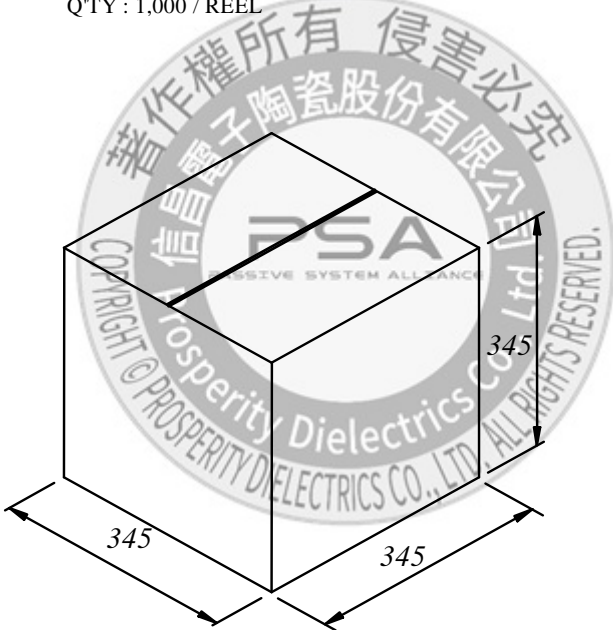
UNIT: mm

	A	B	C	D	N	W	P	P0	P1	t
DIM	340	13.0	16.5	25.5	100	16.0	12.0	4.0	2.0	0.4
TOL.	MAX	±0.5	±0.5	±0.5	REF	±0.30	±0.10	±0.10	±0.10	±0.05

SPECIFICATION FOR APPROVAL



- CONSTRUCTION:
THE CASE CONTAINS 1-16mm WIDE CARRIER TAPES.
Q'TY : 1,000 / REEL



TOTAL Q'TY : 10,000 PCS