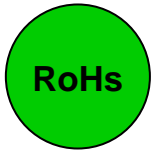


# SPECIFICATION FOR APPROVAL



CUSTOMER \_\_\_\_\_

CUSTOMER'S DWG NO. \_\_\_\_\_

REVISION NO. \_\_\_\_\_

CUSTOMER'S PART NO. \_\_\_\_\_

TECSTAR'S PART NO. \_\_\_\_\_

TL160808-120K

QUANTITY \_\_\_\_\_

PCS \_\_\_\_\_

ITEM \_\_\_\_\_

DATE \_\_\_\_\_

AUG/27/2009

	“√”	CUSTOMER'S SIGNATURE	NOTE
FULL APPROVED			
CONDITONAL APPROVED			
REJECTED			



## TECSTAR TECHNOLOGY CO., LTD.

NO. 820-1 Kou Shih Rd. Yang Mei Chen

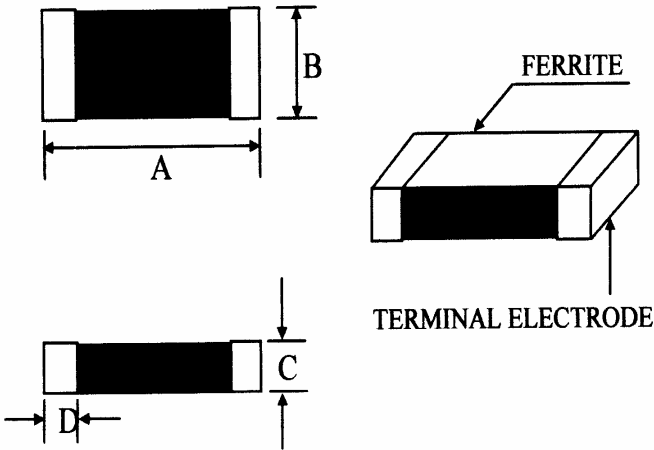
Taoyuan Hsien, Taiwan, R.O.C.

TEL : 886-3-4788701

FAX : 886-3-4788702

www tecstar.com.tw

# SPECIFICATION FOR APPROVAL

CUSTOMER:				CUSTOMER'S P/N:			
VENDOR'S P/N:				TL160808-120K			
<p>DIMENSION:(m/m)</p> 				A	1.6 ± 0.2	m/m	
				B	0.8 ± 0.2	m/m	
				C	0.8 ± 0.2	m/m	
				D	0.3 ± 0.2	m/m	
				E		m/m	
				F		m/m	
				G		m/m	
				H		m/m	
				I		m/m	
				J		m/m	
				K		m/m	
				L		m/m	
				M		m/m	
				N		m/m	
O		m/m					
<b>ELECTRICAL REQUIREMENTS</b>				<b>TEST INSTRUMENTS</b>			
L	12 ± 10%	μH	TEST FREQ.	<input checked="" type="radio"/> HP 4338A MILLIOHMMETER <input type="radio"/> HP 4195A NETWORK/SPECTRUM ANALYZER <input type="radio"/> HP 4284A BIAS CURRENT SOURCE <input type="radio"/> HP 4285A PRECISION LCR METER <input type="radio"/> HP 4286A PRECISION LCR METER <input checked="" type="radio"/> HP 4291B RF IMPEDANCE /MATERIAL ANALYZER <input type="radio"/> HP 6632A DC POWER SUPPLY			
Q	30	MIN.	TEST FREQ.				
Srf	15	MHz	TEST FREQ.				
Rdc	2.10	OHM.	TEST FREQ.				
Idc	3	mA	TEST FREQ.				
DRAWN BY				CHECKED BY		APPROVED BY	
Juli Wang				John Chuang		Lionel Lin	

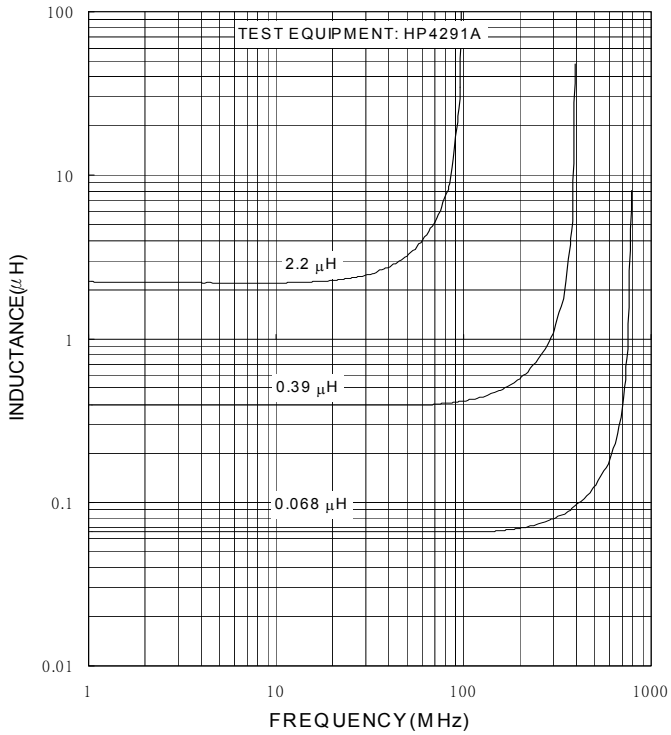
# TEST DATA

CUSTOMER:							
CUSTOMER'S P/N:						SERIES NO:	TL2532
VENDOR'S P/N:		TL160808-120K				DATE:	27-AUG-2009
MEAS	A	B	C	D	L	Q	Rdc
ITEM	(m/m)	(m/m)	(m/m)	(m/m)	( $\mu$ H)		( $\Omega$ )
SPEC	$1.6 \pm 0.2$	$0.8 \pm 0.2$	$0.8 \pm 0.2$	$0.3 \pm 0.2$	$12 \pm 10\%$	30 MIN.	2.10 MAX.
TEST FREQ.					2MHz	2MHz	
1	1.62	0.81	0.84	0.30	11.5	43.9	1.351
2	1.65	0.85	0.80	0.29	11.7	42.8	1.388
3	1.60	0.82	0.81	0.31	11.6	43.0	1.314
4	1.63	0.81	0.80	0.29	11.9	44.8	1.366
5	1.64	0.82	0.82	0.30	11.6	41.8	1.305
6	1.60	0.83	0.80	0.28	11.7	41.7	1.298
7	1.61	0.81	0.83	0.30	12.0	45.3	1.387
8	1.60	0.82	0.80	0.31	12.0	43.7	1.333
9	1.62	0.83	0.81	0.31	11.8	44.4	1.294
10	1.63	0.81	0.82	0.30	11.4	43.5	1.291
AVG.	1.62	0.82	0.81	0.30	11.7	43.5	1.333
R	0.05	0.04	0.04	0.03	0.6	3.6	0.097
DRAWN BY			CHECKED BY			APPROVED BY	
Juli Wang			John Chuang			Lionel Lin	

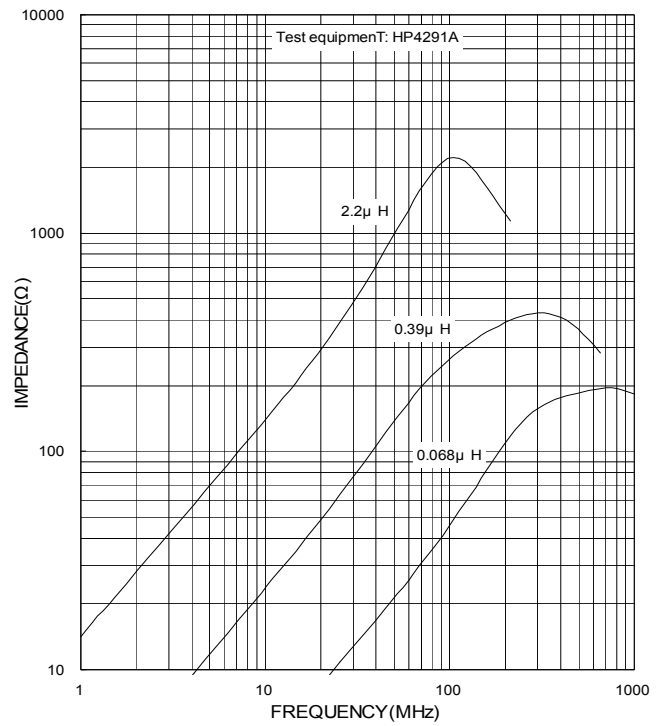
# TYPICAL ELECTRICAL CHARACTERISTICS CURVE

TL160808 Type

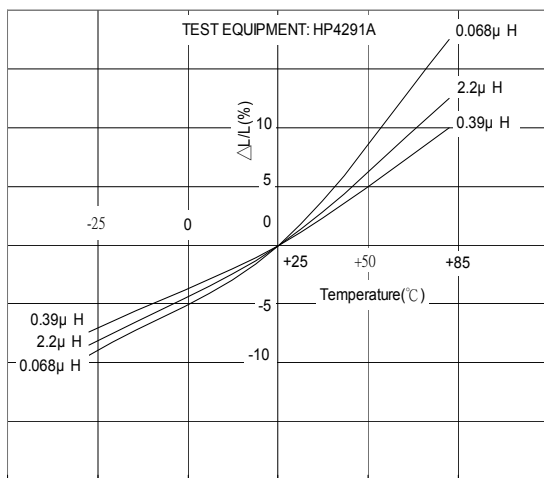
Inductance VS. Frequency



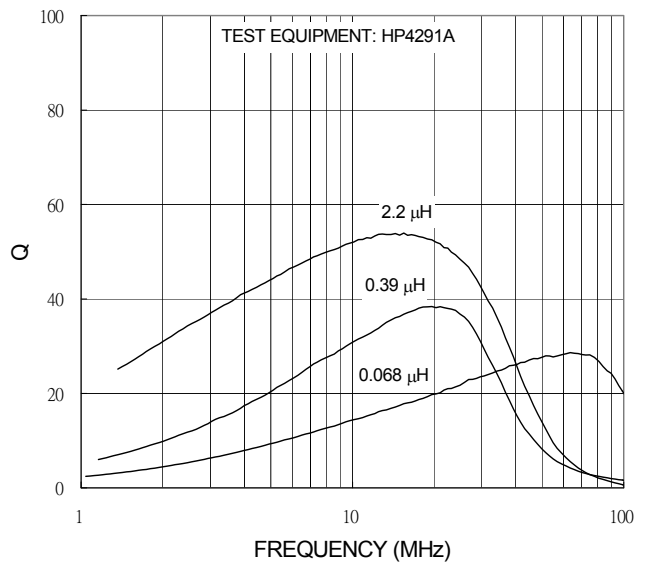
Impedance VS. Frequency



Inductance VS. Temperature

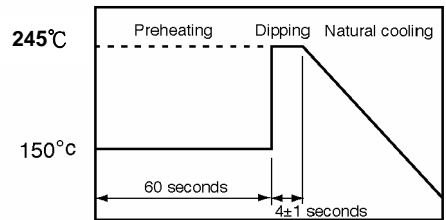
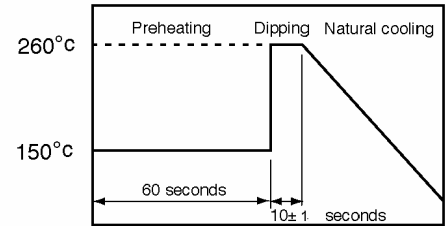


Q VS. Frequency



# RELIABILITY TEST

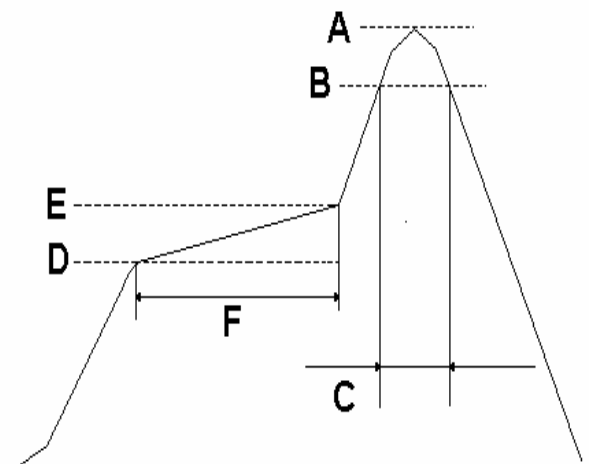
Item	Performance	Test condition
Operating temperature range	-55 °C to + 125 °C	
Storage temperature and umidity ranges	40 °C MAX., 70% RH MAX.	
Soldering heat resistance	The chip shall not be cracks. More than 75% of terminal electrode shall be covered with solder.	Preheat: 150 °C, 60 seconds Solder temperature : 260 ± 5 °C Flux: Rosin Dip time: 10 ± 1 seconds
Solderability	More than 90% of the terminal electrode shall be covered with new solder.	Preheat: 150 °C, 60 seconds Solder temperature: 245 ± 5 °C Flux: Rosin Dip time: 4 ± 1 seconds



## Recommended Soldering Conditions

(REFLOW TEMPERATURE PROFILE) Lead-Free

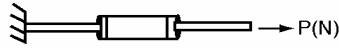
A	260 ± 5°C
B	230 ± 5°C
C	30 ± 10 sec
D	150°C
E	180°C
F	90 ± 30sec



# RELIABILITY TEST

Terminal strength

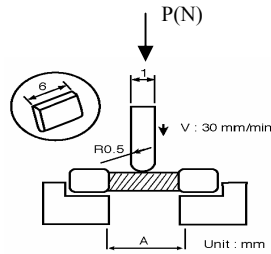
The terminal electrode and the body shall not be damaged by the forces applied on the right conditions.



Type	P (kgf)	Time (s)
T□100505	0.3	
T□160808	0.5	
T□201209	0.6	
T□201212	0.8	
T□321611	1.0	
T□322513	1.0	30 ± 5
T□451616	1.0	
T□453215	1.5	
TA3216M4	0.5	

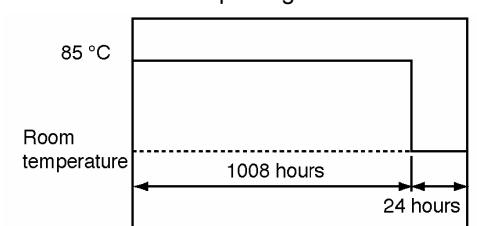
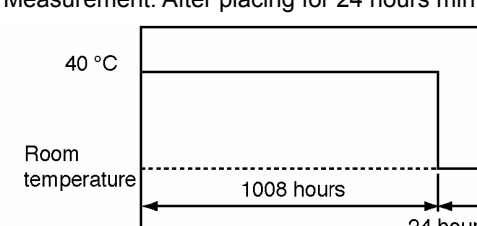
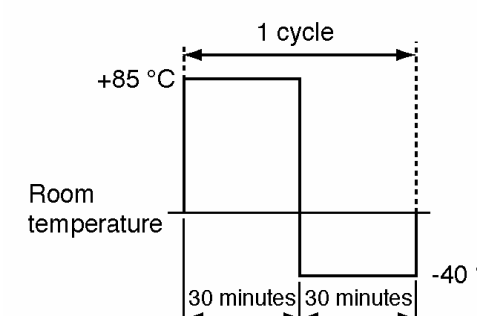
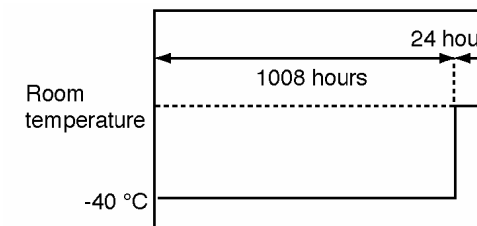
Bending strength

The body shall not be damaged by the forces applied on the right conditions.



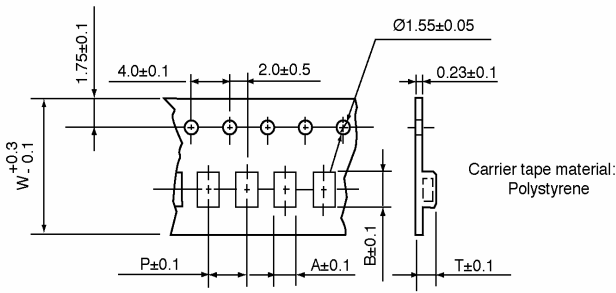
Type	A (mm)	P (kgf)
T□160808	1.0	0.5
T□201209	1.4	1.0
T□201212	1.4	1.2
T□321611	2.0	2.0
T□322513	2.0	2.5
T□451616	2.5	2.5
T□453215	2.7	2.5
TA3216M4	1.4	1.0

# RELIABILITY TEST

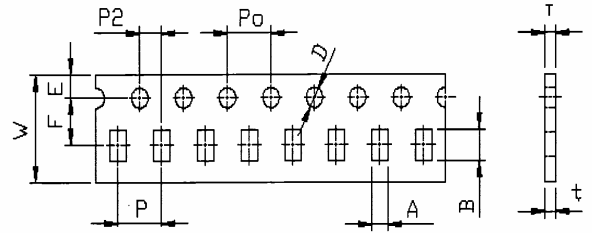
Item	Performance	Test condition
High temperature resistance	Appearance : Ferrite shall not be damaged. Inductance : Within $\pm 10\%$ of the initial value. Q: Within $\pm 30\%$ of the initial value.	Temperature: $85\pm 2^{\circ}\text{C}$ Testing time: $1008\pm 12$ hours Measurement: After placing for 24 hours min 
Humidity resistance	Appearance: Ferrite shall not be damaged. Inductance: Within $\pm 10\%$ of the initial value Q: Within $\pm 30\%$ of the initial value.	Humidity: 90 to 95% RH Temperature: $40\pm 2^{\circ}\text{C}$ Testing time: $1008\pm 12$ hours Measurement: After placing for 24 hours min 
Thermal Shock	Appearance: Cracking, chipping or any other defects harmful to the characteristics shall not be allowed. Inductance: Within $\pm 10\%$ of the initial value Q: Within $\pm 30\%$ of the initial value.	Temperature: $-40^{\circ}\text{C}$ , $+85^{\circ}\text{C}$ , kept stabilized for 30 minutes each Cycle: 100 cycles Measurement: After placing for 24 hours min 
Low temperature storage life test	Appearance: Cracking, chipping or any other defects harmful to the characteristics shall not be allowed. Inductance: Within $\pm 10\%$ of the initial value. Q: Within $\pm 30\%$ of the initial value.	Temperature: $-40\pm 2^{\circ}\text{C}$ Testing time: $1008\pm 12$ hours Measurement: After placing for 24 hours min 

## PACKAGING

● Tape dimensions and packaging quantities



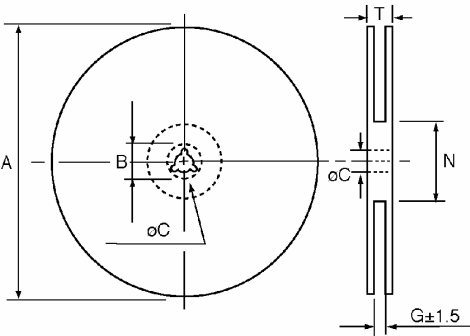
Carrier tape material: paper



material: Paper ( Dimensions in mm)						
TYPE	A	B	W	P	T	CHIPS / REEL
100505	0.62	1.12	8	2	0.60	10000
160808	1.10	1.90	8	4	0.95	4000
201209	1.50	2.30	8	4	0.95	4000
material: Polystyrene ( Dimensions in mm)						
TYPE	A	B	W	P	T	CHIPS / REEL
160808	1.01	1.80	8	4	1.02	4000
201209	1.42	2.25	8	4	1.04	4000
201212	1.50	2.35	8	4	1.45	2000
321611	1.88	3.50	8	4	1.27	3000

● Reel dimensions

Material: Paper, Plastic



Dimensions in mm

TYPE	8mm	12mm
A	178±2	178±2
B	21.0±0.8	21.0±0.8
C	13.0±0.8	13.0±0.8
G	10.0	14.0
N	75	75
T	12.5	16.5

