

PROPERTIES OF TAK MATERIALS

MGB1	Q1D1	Q2A	Q1C1	D1B1	D8A	D1C1	D1B1	D3B1	DL5	L43	L6A
350	90	200	250	200	200	200	200	300	600	800	1200
0.1-2	0.3-15	0.1-5	0.1-4	0.3-5	0.2-5	0.3-5	0.3-5	0.1-2	0.1-1.5	0.01-0.5	0.01-0.5
3300	3100	3700	3000	2800	3300	3200	2800	3000	4000	2700	2700
1400	1400	2500	1500	1300	1700	1600	1300	1300	2400	1000	1000
0.7	4	0.6	1.25	0.9	0.6	0.9	0.9	0.7	0.3	0.2	0.2
180	300	150	150	180	250	200	180	150	180	100	100
25	25	60	140	30	40	50	30	25	30	4	4
15(0.1)	350(0.3)	20(0.1)	35(0.1)	400(0.3)	150(0.2)	600(0.3)	400(0.3)	15(0.1)	14(0.1)	10(0.01)	14(0.01)
80(2.0)	6009(15)	100(5.0)	400(4.0)	8009(5.0)	500(5.0)	1000(5.0)	800(5.0)	70(2.0)	90(1.5)	40(0.5)	45(0.5)
4.9	4.8	4.7	4.9	5.0	5.0	5.1	5.0	4.9	5.0	4.7	4.7
10 ⁷	10 ⁵	10 ⁷	10 ⁷	10 ⁷	10 ⁷	10 ⁵	10 ⁵	10 ⁷	10 ⁷	10 ⁷	10 ⁷

- μ_{iac} (AC initial permeability) : This is the permeability when a demagnetized core is measured in a weak AC magnetic field.
- $\tan \delta / \mu_{iac}$ (Relation loss factory) : This indicates the ratio of $\tan \delta$ to μ_{iac} .
- $\alpha_{\mu r}$ (Temperature factory of permeability) : This indicates the temperature dependence of permeability and is defined by following formula; $\alpha_{\mu r} =$

$$\frac{1}{T_1 - T_2} \frac{\mu_2 - \mu_1}{(\mu_1)^2}$$

- T_c (Curie temperature): This is the transition temperature when the magnetism of the ferrite core changed from ferromagnetism to paramagnets.
- B_m (Effective flux density) : This is the magnetic flux density when H_m is applied. (Refer to the figure below.)
- B_r (Effective retentively): This is the magnetic flux density that remains after the strength of the magnetic field has been reduced to zero following demagnetization from a state of saturation. (Refer to the figure below.)
- H_c (effective coercive force) : This is the strength of the magnetic field on the opposite direction that is necessary to reduce the magnetic flux density to zero following demagnetization from a state of saturation. (Refer to the figure below.)



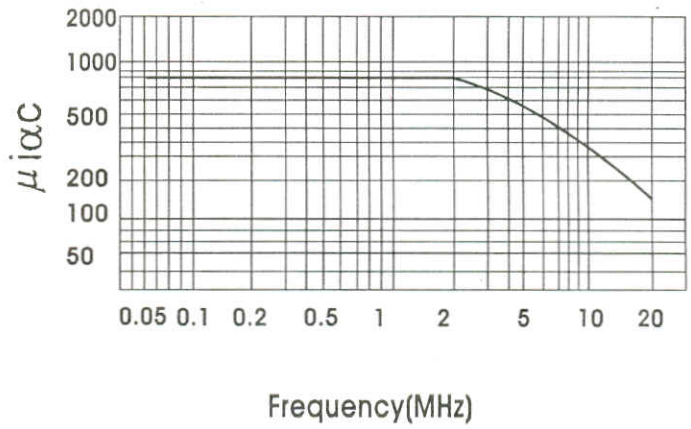
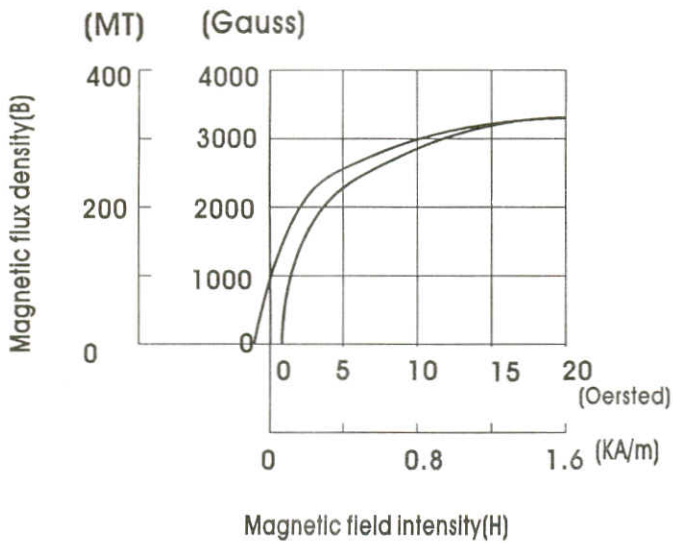
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(MATERIAL L43 CHARACTERACTERISTICS)

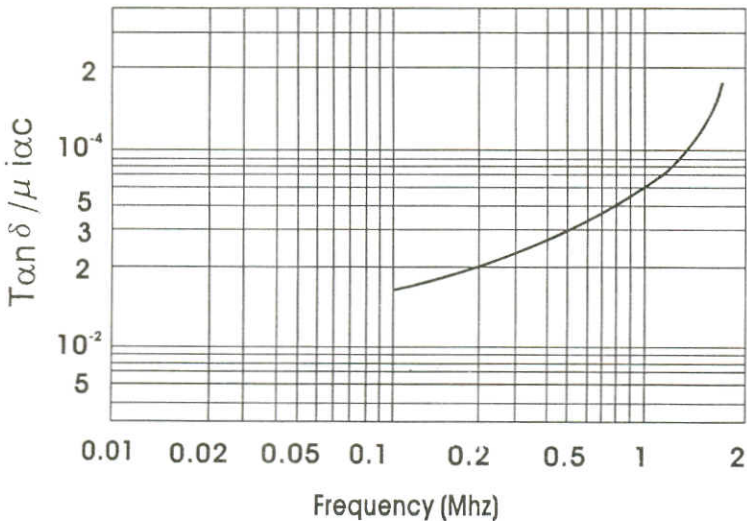


MATERIAL CHARACTERISTICS

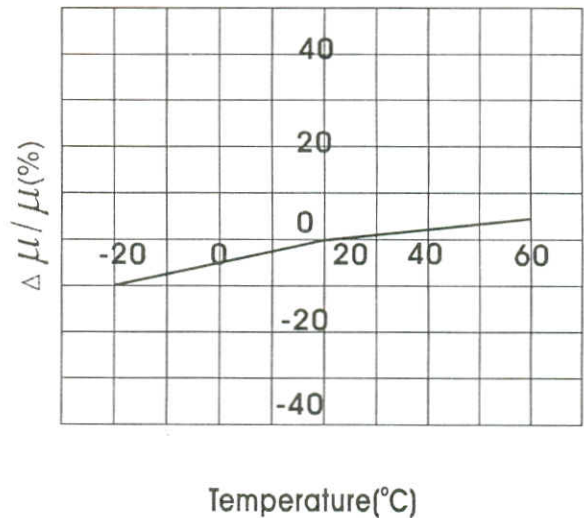
Material	μ iαC	APPLICABLE FREQUENCY MHz	Bm(G)	Br(G)	Hc(O)	$\rho(\Omega\text{cm})$	Tc°C	D(δ/cm^3)	Tan δ/μ iαC
L43	800	0.01~0.5	2700	1000	0.2	10 ⁷	100°C	4.7	10x10 ⁻⁵ (at10KHZ) 40x10 ⁻⁵ (at10KHZ)



Tan δ/μ iαC vs. frequency response characteristics (L-series materials)



$\Delta\mu / \mu$ vs. temperature curve (M-series materials)





Test Report

No. CANEC0800556109

Date: 05 Mar 2008

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TAK TECHNOLOGY CO.,LTD
NO.3RD INDUSTRIAL AREA JUZHOU SHIJIE TOWN DONGGUAN CITY GUANGDONG PROVINCE
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as :
L43 MATERIAL FERRITE CORE

SGS Job No. : 10870088 - SZ
SGS Internal Reference No. : 18.9
Date of Sample Received : 29 Feb 2008
Testing Period : 29 Feb 2008 - 04 Mar 2008

Test Requested : Selected test(s) as requested by client.

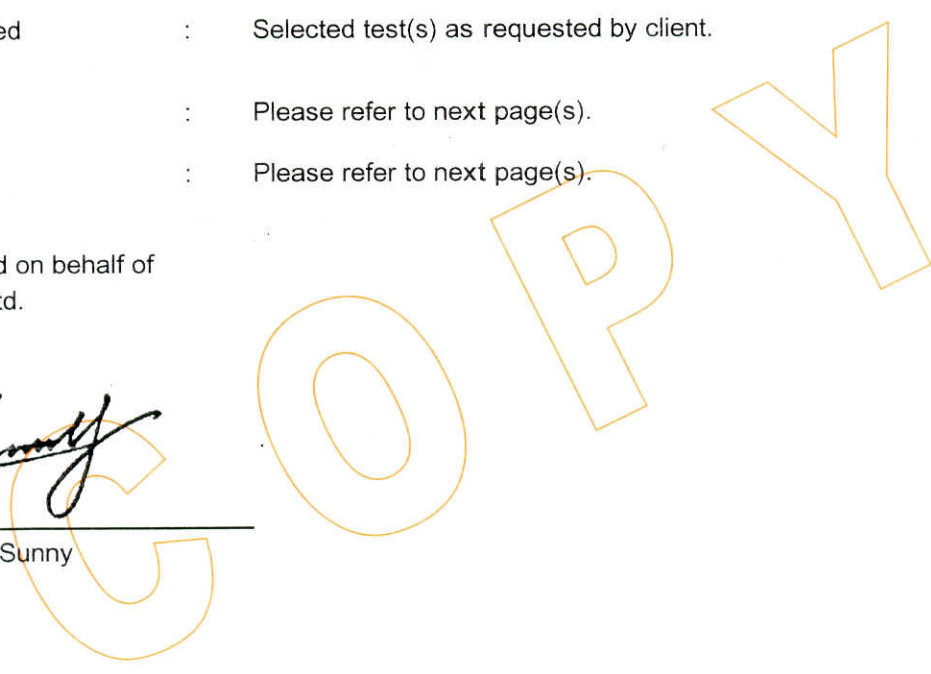
Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Signed for and on behalf of
SGS-CSTC Ltd.

[Handwritten signature]

Huang Fang, Sunny
Sr. Engineer



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GZCM 1034009



Test Report

No. CANEC0800556109

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Test Results:

ID for specimen 1 : CAN08-005561.009
 Description for specimen 1 : Dk-gray core

Heavy metal(s)

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Cadmium (Cd)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	N.D.	2
Lead (Pb)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	148	2
Mercury (Hg)	mg/kg	IEC 62321/2nd CDV (111/95/CDV), ICP-OES	N.D.	2
Hexavalent Chromium (CrVI) by alkaline extraction	mg/kg	IEC 62321/2nd CDV (111/95/CDV), UV-Vis	N.D.	2

Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit

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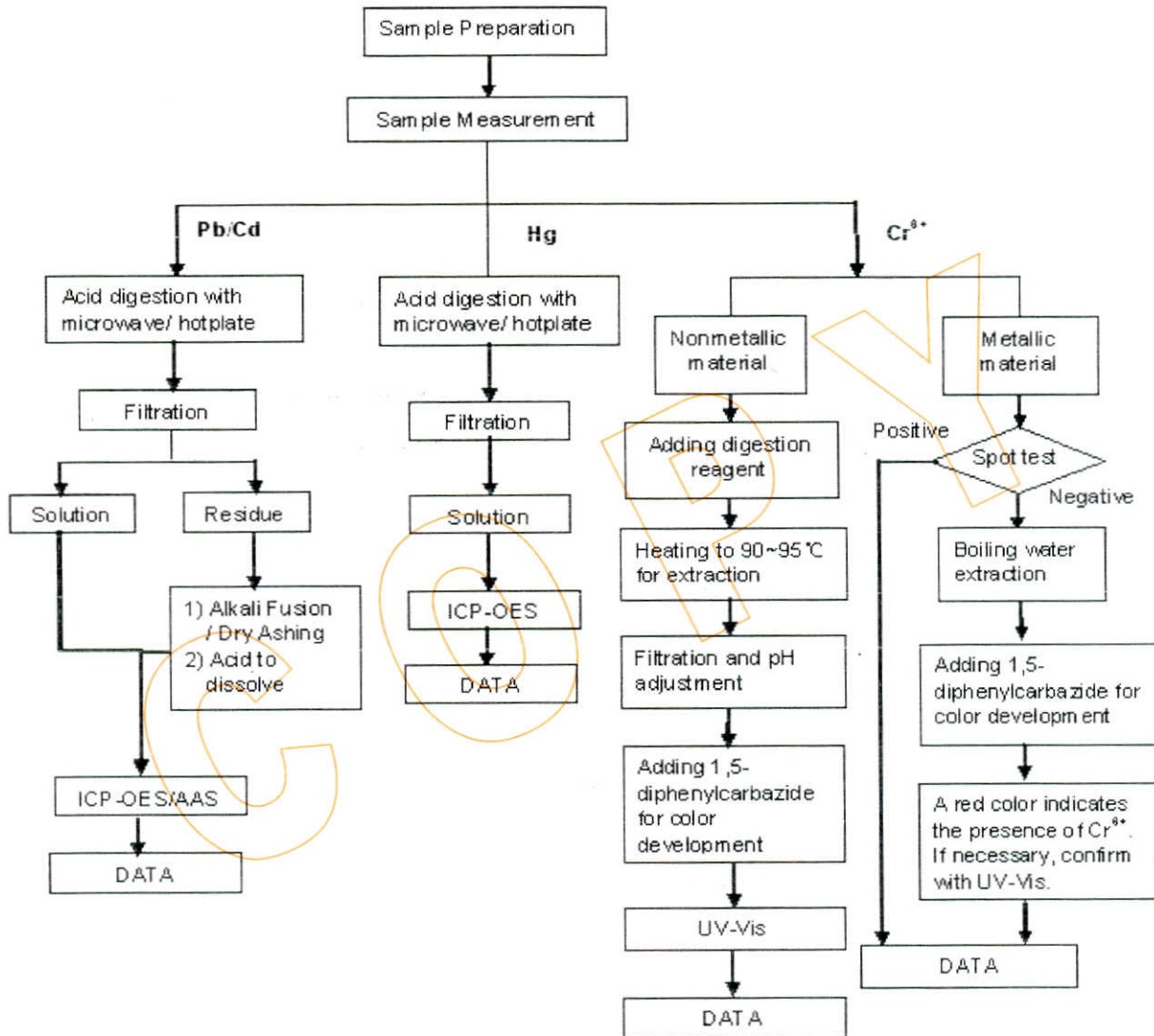
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GZCM 1004002

ATTACHMENTS

Testing Flow Chart

- 1) Name of the person who made measurement: David Shen
- 2) Name of the person in charge of measurement: Emily Feng



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Sample photo:



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