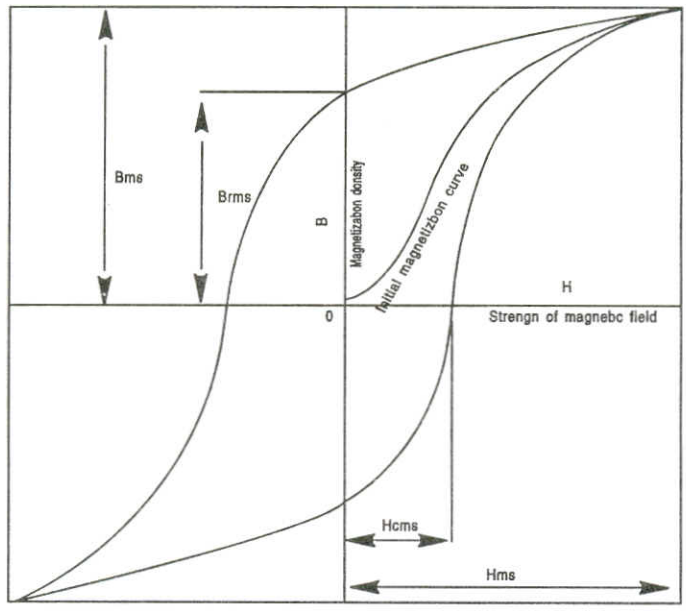
# PROPERTIES OF TAK MATERIALS

## Ni–Zn Ferrite Series (For High Frequercyuse)

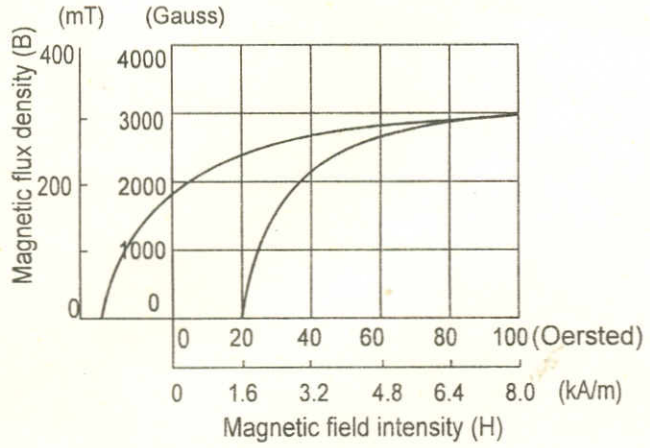
| CHRACTERISTICS | UNIT | V4F1 | V2F1 | M5E1 | M11A | M9D1 | M9A | M8B1 | M8C1 | M61 | MG2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $\mu$ iac | --- | 8 | 30 | 15 | 20 | 50 | 50 | 60 | 60 | 100 | 300 |
| APPLICABLE FREQUENCY | MHz | 10–250 | 3–70 | 10–120 | 3–80 | 1–50 | 0.5–30 | 0.5–15 | 0.5–15 | 0.5–10 | 0.1–2 |
| Bm | Gauss | 2100 | 3100 | 3000 | 2700 | 3700 | 3400 | 3200 | 3000 | 3500 | 2400 |
| Br | Gauss | 1300 | 1700 | 1600 | 1800 | 2300 | 1900 | 1800 | 750 | 2100 | 1300 |
| Hc | Oersted | 38 | 8 | 15 | 10 | 4 | 5.5 | 6 | 4 | 2.5 | 0.8 |
| Tc | °C | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 250 | 150 |
| $\alpha\mu r$ | $-6$ $\times 10/^{\circ}C$ | 10 | 70 | 110 | 80 | 80 | 60 | 15 | 10 | 38 | 9 |
| Tan $\delta/\mu$ iac | $-6$ $\times 10$ | 600(10) 4000(250) | 80(3.0) 400(70) | 500(10) 800(120) | 100(3.0) 500(80) | 200(21) 600(500) | 100(0.5) 300(30) | 130(0.5) 350(15) | 100(0.5) 1500(15) | 100(0.5) 1509(10) | 20(0.1) 100(2.0) |
| $\rho$ | $\Omega$cm | $10^6$ | $10^6$ | $10^6$ | $10^6$ | $10^6$ | $10^6$ | $10^6$ | $10^6$ | $10^6$ | $10^6$ |



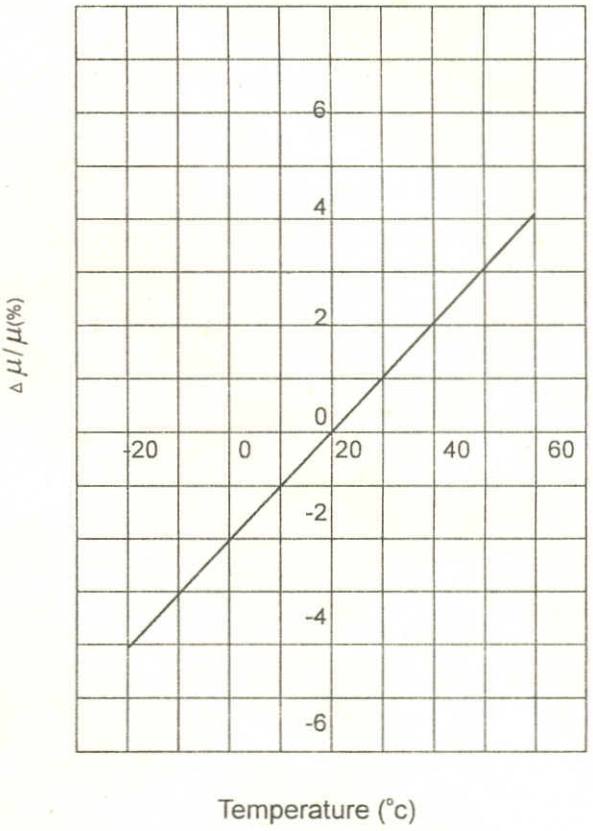

TAK Ferrite

SHi Long,IndustrialArea Yuan Shan Town
Lian Ping He Yuan Guang Dong P.R.CHINA
TEL:(86–762)–4329901 FAX:(86–762)4329002

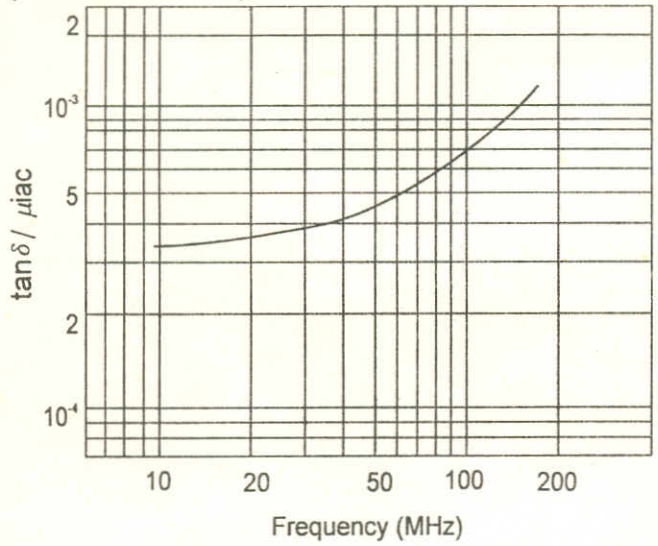
# MATERIAL **M5E1** CHARACTERISTICS




△ μ / μ Vs. temperature curve (M-series materials)




tan δ / μ iac Vs. frequency response characteristics (M-series materials)

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# Test Report



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 :
M5E1 MATERIAL FERRITE CORE

| | | |
|---|---|---|
| SGS Job No. | : | 11133899 - SZ |
| SGS Internal Reference No. | : | 10.7 |
| Date of Sample Received | : | 02 Jul 2008 |
| Testing Period | : | 02 Jul 2008 - 07 Jul 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.

Huang Fang, Sunny
Sr. Engineer

Test Results:

ID for specimen 1 : CAN08-035127.007

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 | 16941 | 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 |

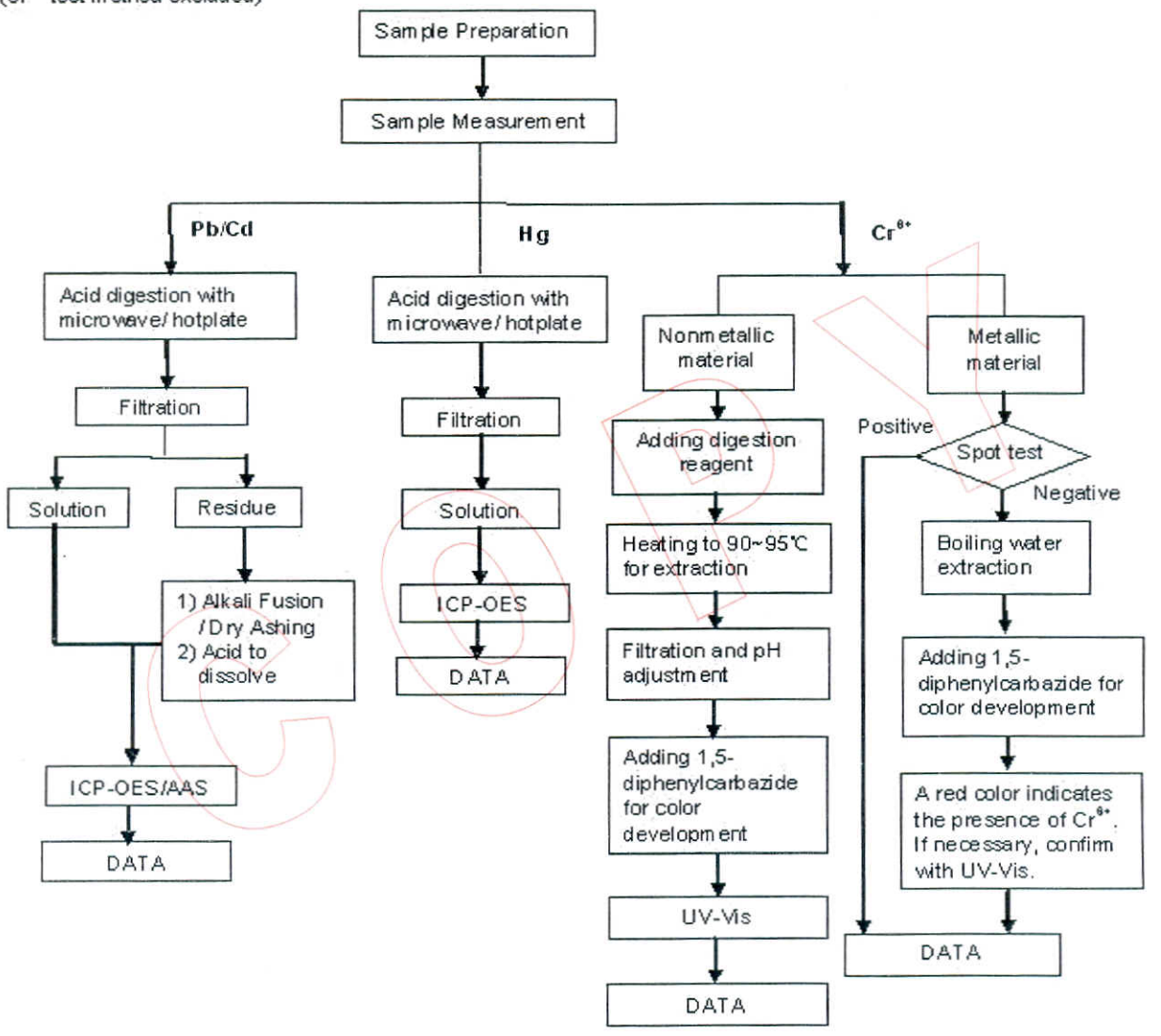
Note:

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

**ATTACHMENTS**

## Testing Flow Chart

1) Name of the person who made measurement: Bowen Chen
2) Name of the person in charge of measurement: Adams Yu
3) These samples were dissolved totally by pre-conditioning method according to below flow chart. ($Cr^{6+}$ test method excluded)



Sample photo:


CAN08-035127.007

SGS authenticate the photo on original report only

*** End of Report ***