



KARSON ELECTRONIC LTD.

Manufacturer and Supplier of Iron Powder Cores

KARSON Material 45-200 Characteristic

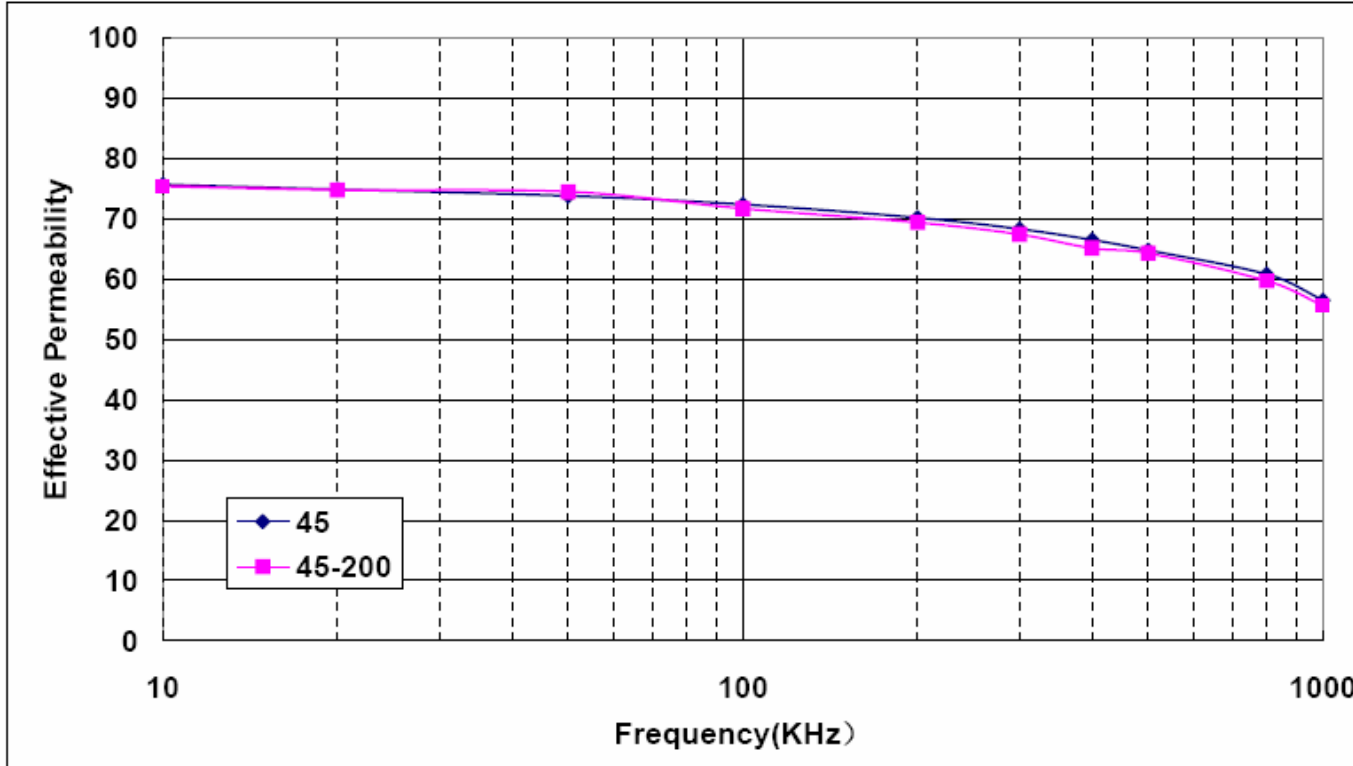
- **Effective Permeability VS Frequency**
- **Initial Permeability VS DC Magnetizing Force**
- **Initial Permeability VS Peak AC Flux Density**
- **Core Loss**
- **Initial Permeability VS Temperature**
- **Thermal Aging**
- **Use Temperature and Curie Temperature**



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◆ Effective Permeability VS Frequency



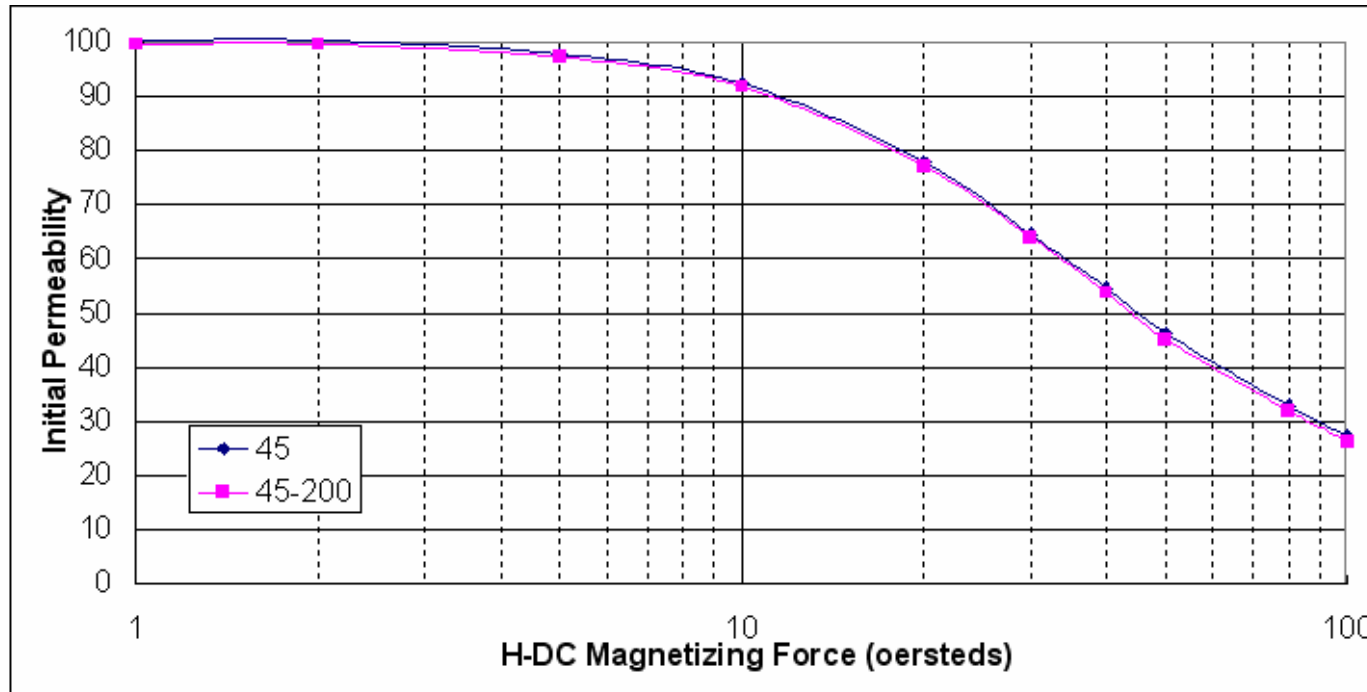
| F(KHz) | | Mix No | | | | | | | | | |
|--------|------------|--------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| | | 10 | 20 | 50 | 100 | 200 | 300 | 400 | 500 | 800 | 1000 |
| ui | 45 | 75.7 | 74.9 | 73.8 | 72.4 | 70.2 | 68.3 | 66.5 | 64.8 | 60.8 | 56.5 |
| | 45-200 | 75.4 | 74.8 | 74.5 | 71.7 | 69.4 | 67.4 | 65.1 | 64.3 | 59.7 | 55.6 |
| | Difference | -0.4% | -0.1% | 0.9% | -1.0% | -1.1% | -1.3% | -2.1% | -0.8% | -1.8% | -1.6% |



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◆ Initial Permeability VS DC Magnetizing Force



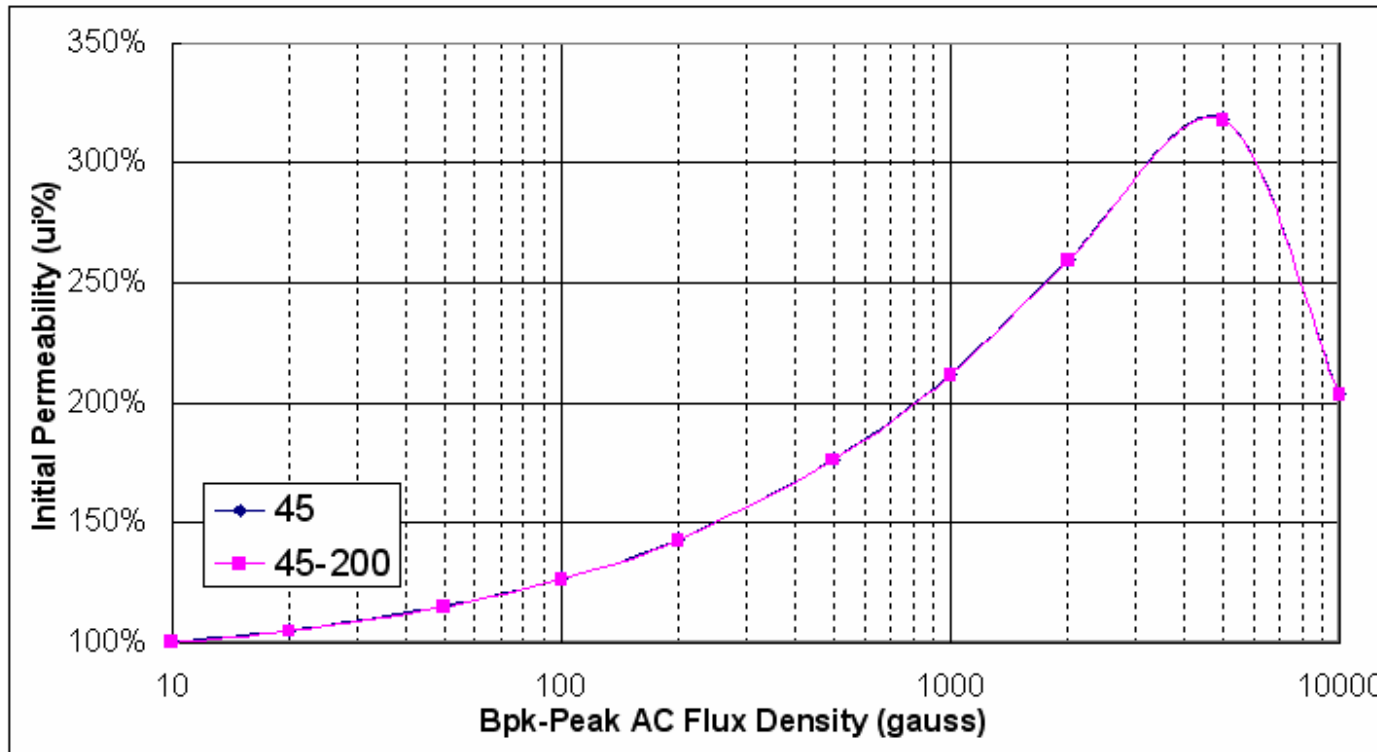
| H-DC Mix No | | H-DC Magnetizing Force (oersteds) | | | | | | | | | |
|----------------|------------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 1 | 2 | 5 | 10 | 20 | 30 | 40 | 50 | 80 | 100 |
| ui | 45 | 100.3 | 100.3 | 97.8 | 92.3 | 77.8 | 64.5 | 54.6 | 46.3 | 32.9 | 27.3 |
| | 45-200 | 99.6 | 99.6 | 97.2 | 91.8 | 77.1 | 64.0 | 53.8 | 45.2 | 32.0 | 26.4 |
| | Difference | -0.7% | -0.7% | -0.6% | -0.5% | -0.9% | -0.8% | -1.5% | -2.4% | -2.7% | -3.3% |



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◆ Initial Permeability VS Peak AC Flux Density



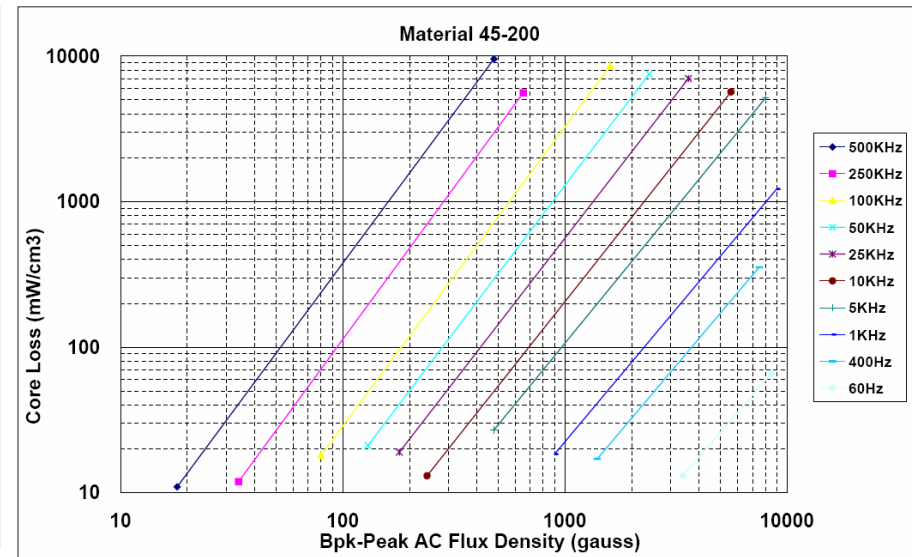
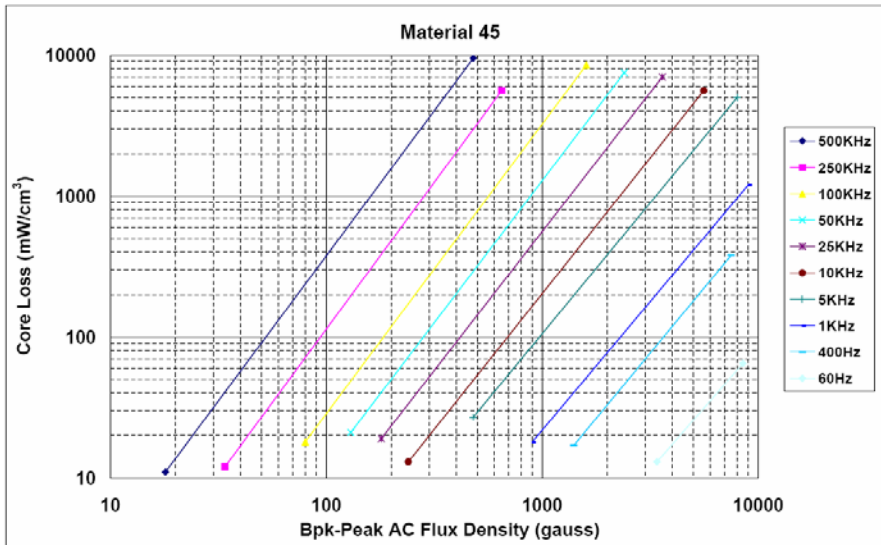
| H-DC Mix No | | 10 | 20 | 50 | 100 | 200 | 500 | 1000 | 2000 | 5000 | 10000 |
|----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 45 | 100.5% | 105.2% | 115.5% | 126.9% | 143.1% | 176.5% | 212.1% | 259.5% | 318.4% |
| ui | 45-200 | 100.1% | 104.9% | 115.1% | 126.5% | 142.8% | 176.1% | 211.6% | 259.1% | 318.0% | 203.2% |
| | Difference | -0.4% | -0.3% | -0.3% | -0.3% | -0.2% | -0.2% | -0.2% | -0.2% | -0.1% | -0.3% |



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◆ Core Loss

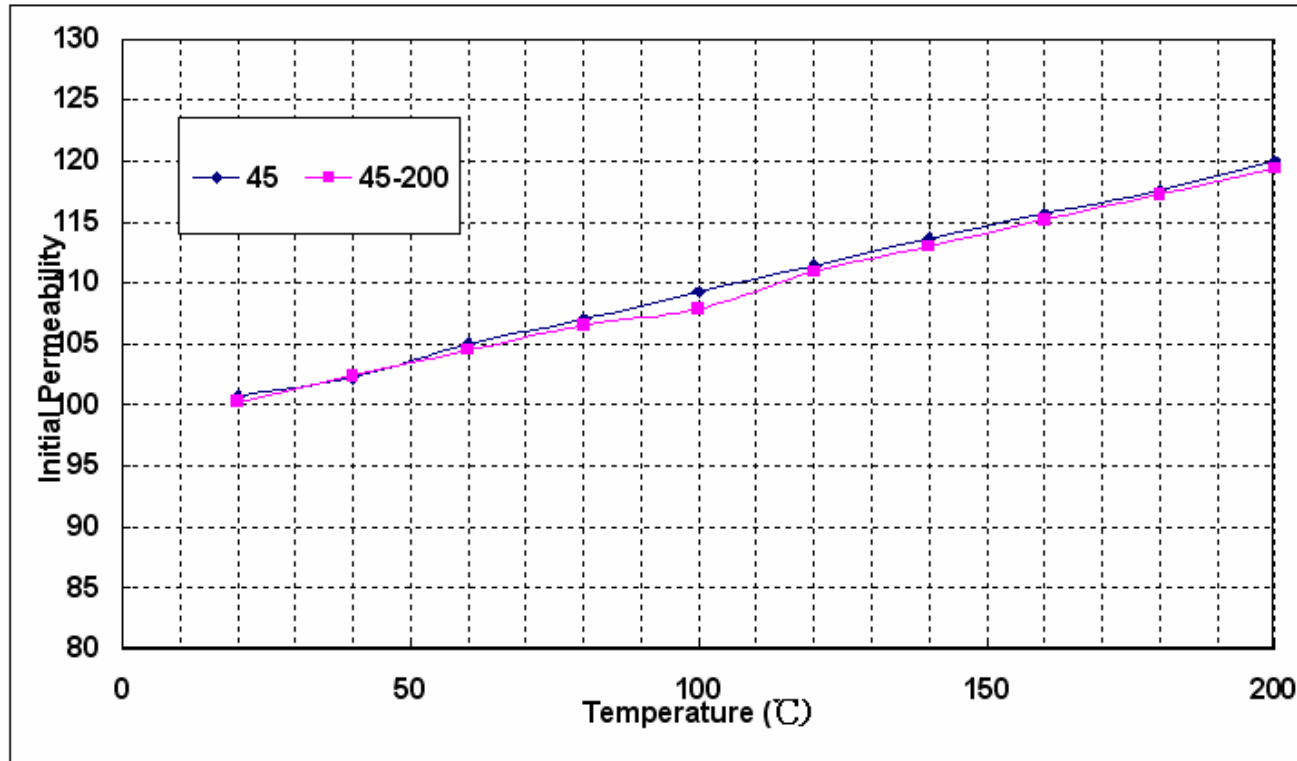




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◆ Initial Permeability VS Temperature



| Temp(°C) Mix No | | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 |
|--------------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | 45 | 100.73 | 102.25 | 105.00 | 107.01 | 109.28 | 111.42 | 113.63 | 115.69 | 117.56 |
| ui | 45-200 | 100.26 | 102.39 | 104.52 | 106.52 | 107.88 | 110.90 | 112.98 | 115.15 | 117.25 | 119.41 |
| | Difference | -0.5% | 0.1% | -0.5% | -0.5% | -1.3% | -0.5% | -0.6% | -0.5% | -0.3% | -0.5% |



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◆ Thermal Aging

Operation Temperature vs. Time

