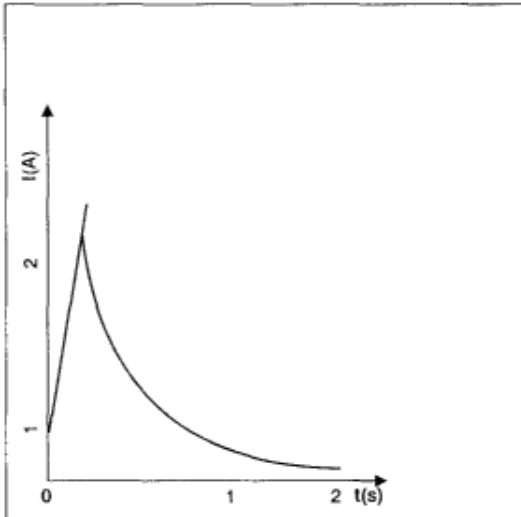


PTC THERMISTOR

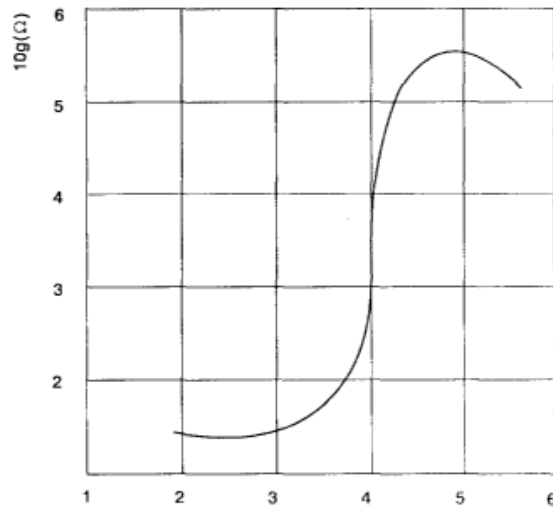
FEATURES

- * High ageing coefficient
- * Superior withstanding voltage oxidation-resistance

CHARACTERISTICS



Current-Time Curve



Resistance-Temperature Curve

HOW TO ORDER

MZ 2 1 L 201 R M
 ① ② ③ ④ ⑤ ⑥ ⑦

①
 PTC
 Thermistor

②

| Product style | |
|---------------|-------------------|
| 7 | Degaussing |
| 9 | P~ Starter |
| 2 | Current-Limited |
| 3 | Delay-Time |
| 4 | Auto-Control-heat |

③

| Sequence No. | |
|--------------|---------------------------------|
| MZ7 | The number expresses No. of pin |
| MZ2 | 1.Coating type |
| MZ9 | 2.Plastic type |
| | 3.Empty body |
| MZ3 | No mark |
| MZ4 | 1. Round |
| | 2. Queue |

④

| switch Temperature | |
|--------------------|-------|
| L | 40°C |
| K | 60°C |
| M | 80°C |
| N | 100°C |
| P | 120°C |
| R | 135°C |

⑤
 Resistance Value
 201=20x10
 8R0=8.0

⑥ OHM ⑦ Tolerance

| | |
|---|-------|
| K | ± 10% |
| M | ± 20% |
| N | ± 30% |

MZ9 TYPE Starter PTC THERMISTOR

FEATURES

- *As a non-touched switch in cold compressor and motor.
- *High reliability life etc.

APPLICATON ENVIROMENTAL CONDITIONS

- *Envionmental tepmerature: -20°C~ +85°C
- *Relative humidity: 98%(+40°C± 2°C)
- *Vibration frequency: 10~55Hz
- *Acceleration: 98m/s²

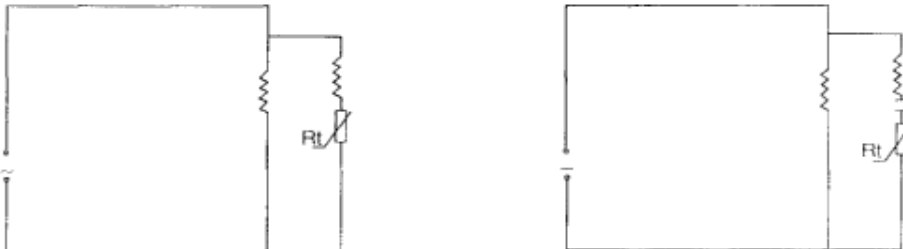
DIMENSIONS



MAIN TECHNICAL PARAMETER

| Part No | Switch Temperature(°C) | Resistance Value(O) | Resistance Tolerance | Max Voltage(v) | Max Power(W) | Max Current(A) | Time to Tip(S) | Recover Time(S) |
|--------------|------------------------|---------------------|----------------------|----------------|--------------|----------------|----------------|-----------------|
| MZ92-P220RM | 120 | 22 | ~20% | 300 | 3.5 | 7.0 | 0.35-2.0 | ≤120 |
| MZ92-P330RM | 120 | 33 | ±20% | 300 | 3.5 | 7.0 | 0.35-2.0 | ≤120 |
| MZ92-P470RM | 120 | 47 | ±20% | 300 | 3.5 | 7.0 | 0.35-2.0 | ≤120 |
| MZ92-R220RM | 135 | 22 | ±20% | 355 | 3.3 | 6.0 | 0.4-2.0 | ≤65 |
| M7.92-R330RM | 135 | 33 | ±20% | 355 | 3.3 | 6.0 | 0.4-2.0 | ≤85 |
| MZ92-N101RM | 100 | 100 | ±20% | 270 | 2.0 | 2.5 | 1.2-3.0 | ≤180 |
| MZ93-2220AM | 120 | 22 | +20% | 300 | 3.0 | 7.0 | 0.4-2.0 | ≤90 |
| MZ93-P330RM | 120 | 33 | ±20% | 355 | 3.5 | 6.0 | 0.45-1.35 | ≤65 |
| MZ93-P470RM | 120 | 47 | ±20% | 400 | 4.0 | 5.0 | 0.5-1.4 | ≤65 |
| MZ93-R220RM | 135 | 22 | ±20% | 300 | 3.0 | 7.0 | 0.4-1.2 | ≤90 |
| MZ93R330RM | 135 | 33 | ±20% | 355 | 3.5 | 6.0 | 0.45-1.35 | ≤65 |
| MZ93-R470RM | 135 | 47 | ±20% | 400 | 4.0 | 5.0 | 0.5-1.4 | ≤65 |

Application Circuit



MZ3 TYPE PTC THERMISTOR for Delay-Time

FEATURES

Delay life and energy-saving is available for electronic light and ballast.
 One of restricting current unite in digital multimeter

APPLICATION ENVIROMENTAL CONDITIONS

Environmental temperature: $-10^{\circ}\text{C}\sim+125^{\circ}\text{C}$
 Relative humidity: $93\%(+40^{\circ}\text{C}\pm 2^{\circ}\text{C})$
 Vibration frequency: $10\sim 55\text{Hz}$
 Acceleration: 98m/s^2

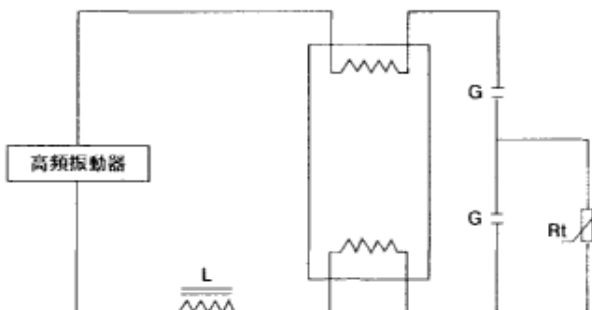


DIMENSIONS

| Part No. | D | T | L | W | d |
|------------|-----|-----|-----|-----------|-----------|
| | Max | Max | Max | ± 0.5 | ± 0.1 |
| MZ3-L100RN | 8 | 45 | 35 | 5 | 0.55 |
| MZ3-K100RN | 8 | 4.6 | 35 | 5 | 0.55 |
| MZ3-M100RN | 10 | 55 | 35 | 5 | 0.55 |
| MZ3-N100RN | 10 | 5.5 | 35 | 5 | 0.55 |
| MZ3-P100RN | 10 | 5.5 | 35 | 5 | 0.55 |

MAIN TECHNICAL PARAMETER

| Part No. | Switch Temperature($^{\circ}\text{C}$) | Resistance Value(Ω) | Rated Voltage(V) | Break down Voltage(V) |
|------------|--|------------------------------|------------------|-----------------------|
| MZ3-L100RN | 40 ± 5 | 100-2000 | 270 | 400~1000 |
| MZ3-K100RN | 60 ± 5 | 100-2500 | | |
| MZ3-M100RN | 80 ± 5 | 100-4000 | | |
| MZ3-N100RN | 100 ± 5 | 100-2000 | | |
| MZ3-P100RN | 120 ± 5 | 100-2000 | | |



MZ2 TYPE THERMISTOR for Current-Limited

Features

Compact for telecommunication and AC circuit.

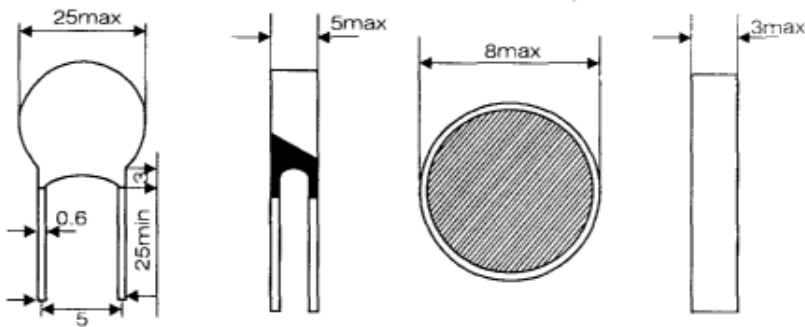
APPLICATION ENVIROMENTAL CONDITIONS

Environmental temperature: -10°C~+ 60°C

Relative humidity: 40~75%(+40°C±2°C)

Atmosphere pressure: 86~106KPa

DIMENSIONS(mm)



THE PARAMETER OF TRANSFORMER

| Part No | Non-operating Current (mA) | Tip current (mA) | Rated Resistance (Ω) | Max Voltage (V) | Max Dimensions (mm) | Matched Transformer (W) |
|-------------|----------------------------|------------------|----------------------|-----------------|---------------------|-------------------------|
| MZ21P4R7RM | 390 | 900 | 4.7±20% | 140 | Φ19.0 x 6.0 | 35 |
| MZ21P5R6RM | 240 | 780 | 5.6±20% | | Φ17.0x6.0 | 30 |
| MZ21P6R8RM | 290 | 670 | 68±20% | | Φ14.0 x 6.0 | 25 |
| MZ21P100RM | 220 | 510 | 10±20% | | Φ13.0 x 6.0 | 20 |
| MZ21P150RM | 170 | 400 | 15±20% | | Φ11.6 x 6.0 | 15 |
| MZ21 P220RM | 140 | 330 | 22±20% | | Φ9.6 x 6.0 | 10 |
| MZ21P330RM | 100 | 230 | 33±20% | | Φ7.4 x 6.0 | 5 |
| MZ21P120RM | 150 | 610 | 12±20% | | Φ19.5 x 6.0 | 35 |
| MZ21P270RM | 150 | 360 | 27±20% | 270 | Φ14.0x6.0 | 20 |
| MZ21P390RM | 100 | 240 | 39±20% | | Φ10.0 x 6.0 | 15 |
| MZ21P560RM | 80 | 190 | 56±20% | | Φ8.0 x 6.0 | 10 |
| MZ21P820RM | 60 | 150 | 82±20% | | Φ8.0 x 6.0 | 10 |
| MZ21P121RM | 35 | 85 | 120±20% | | Φ6.5 x 6.0 | 5 |
| MZ21P181RM | 29 | 70 | 180±20% | | Φ6.5x6.0 | 3 |

Operating temperature range -10°C~+60°C

It means typical capacitance of the transformer which can be used.

APPLICATION CIRCUIT

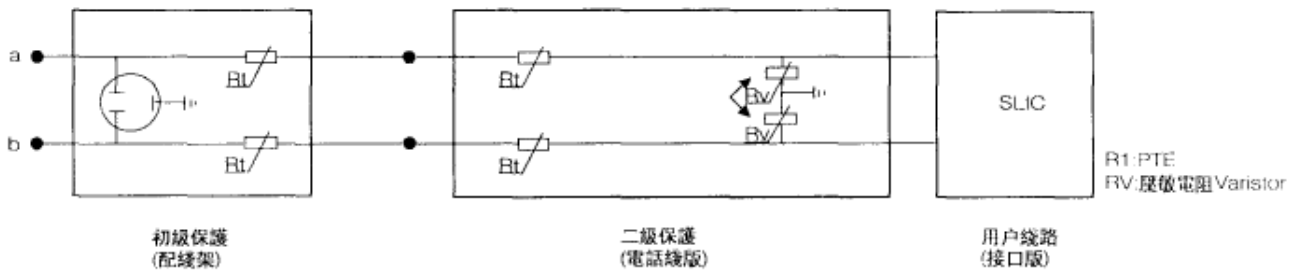


THE PARAMETER OF TELECOMMUNICATION FACILITIES

| Part No. | Nominal Resistance 25°C | Non-operating Current (mA) | Responding Time | | | | | | Breakdown Voltage (VAC) | Current(time) | | Dimensions (Max) |
|------------|-------------------------|----------------------------|------------------|------------------|------------------|-----------------------|--------------------|-----------------------|-------------------------|----------------------------|---------------|--------------------|
| | | | 3A 0.5 A | 2A 0.5 A | 1A 0.5 A | 0.75 A 0.15 A | 0.5A 0.15A | 0.35 A 0.15 A | | Power frequency Current 3A | Shock Current | |
| MZ21-8R0RM | 8 | 150 | 0.4 | 0.8 | 3 | 10 | 25 | 70 | 250 | 20 | 10 | Φ9x35 |
| MZ21-120RM | 12 | 110 | 0.3 | 0.45 | 1.5 | 5 | 15 | 20 | 250 | 20 | 10 | Φ9 x 35 |
| MZ21-180RM | 18 | 110 | 0.2 | 0.35 | 1.2 | 5 | 15 | 20 | 250 | 20 | 10 | Φ8 x 35 |
| MZ21-400RM | 40 | 50 | 0.1 | 0.2 | 0.6 | 1 | 3 | 20 | 360 | 20 | 10 | Φ7.5 x 5 |
| MZ21-500AM | 50 | 50 | 0.1 | 0.3 | 0.6 | 1 | 3 | 20 | 420 | 20 | 10 | Φ7.5x5 |
| MZ21-B20RM | 82 | 50 | 0.1 | 0.3 | 0.6 | 1 | 3 | 20 | 420 | 20 | 10 | Φ7.5 x 5 |
| MZ21101AM | 100 | 50 | 0.15 | 0.25 | 0.6 | 1 | 2 | 3 | 420 | 20 | 10 | Φ9.0x45 |
| MZ22-8R0RM | 8 | 150 | 0.4 | 0.5 | 3 | 10 | 25 | 70 | 250 | 20 | 10 | 10<9.0x5 |
| MZ22-120RM | 12 | 80 | 0.2 | 0.3 | 1.5 | 5 | 20 | 50 | 250 | 20 | 30 | 10 x 9.6 x 5 |
| MZ22-180RM | 18 | 110 | 0.2 | 0.35 | 1.2 | 5 | 15 | 20 | 250 | 20 | 30 | 10 x 0.6x5 |
| MZ22-220RM | 22 | 110 | 0.2 | 0.35 | 1.2 | 5 | 15 | 20 | 250 | 20 | 30 | 10 x 9.6x5 |
| MZ22-270RM | 27 | 90 | 0.1 | 0.2 | 0.5 | 0.8 | 2 | 4 | 420 | 20 | 30 | 10 x 9.6x5 |
| MZ22-500RM | 50 | 50 | 0.2 | 0.3 | 0.6 | 1 | 3 | 20 | 420 | 20 | 30 | 10 x 9.6x5 |
| MZ23-80RM | 8 | 150 | 0.4 | 0.8 | 3 | 10 | 25 | 70 | 250 | 20 | 30 | Φ(7-9) x (1.6-2.5) |
| MZ23-120AM | 12 | 130 | 0.3 | 0.5 | 2.5 | 7 | 20 | 50 | 250 | 20 | 30 | Φ(7-9) x (1.6-2.5) |
| MZ23-180RM | 18 | 110 | 0.2 | 0.35 | 1.2 | 5 | 15 | 20 | 250 | 20 | 30 | Φ(6-9)x(1.6-2.5) |
| MZ23-220RM | 22 | 110 | 0.2 | 0.35 | 1.2 | 5 | 15 | 20 | 250 | 20 | 30 | Φ(6-8) x (1.6-2.5) |
| MZ23-270RM | 27 | 90 | 0.1 | 0.2 | 0.5 | 0.8 | 2 | 4 | 250 | 20 | 30 | Φ(6-8) x (1.6-2.5) |

MZ21 MZ22: 10/1000μs. 1KV. 25A;
MZ23: 10/310μs. 1.5KV. 37.5A.

APPLICATION CIRCUIT



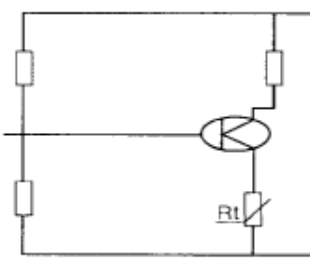
THE PARAMETER OF TRANSFORMER

| Part No. | Non-operating Current (mA) | Tip Current (mA) | Rated resistance (Ω) | Rated Temperature ($^{\circ}\text{C}$) | Mzx Dimensions (mm) | Max Vaitago (V) |
|-------------|----------------------------|------------------|-------------------------------|--|---------------------|-----------------|
| MZ21-M201RM | 10 | 20 | 200 | 80 | $\Phi 4 \times 5$ | 360 |
| MZ21-M151RM | 15 | 30 | 150 | | $\Phi 6.5 \times 5$ | 360 |
| ML21-M101RM | 40 | 80 | 100 | | $\Phi 8.5 \times 5$ | 360 |
| MZ21-M500RM | 50 | 100 | 50 | | $\Phi 8 \times 5$ | 270 |
| MZ21-M100RM | 130 | 260 | 10 | | $\Phi 8.5 \times 5$ | 270 |
| MZ21-M150RM | 150 | 300 | 15 | | $\Phi 10 \times 5$ | 270 |
| MZ21-M100RM | 180 | 360 | 10 | | $\Phi 15 \times 5$ | 270 |
| MZ21-N201RM | 15 | 30 | 200 | 100 | $\Phi 4 \times 5$ | 270 |
| MZ21-N151RM | 30 | 60 | 150 | | $\Phi 6.5 \times 5$ | 270 |
| MZ21-N101RM | 50 | 100 | 100 | | $\Phi 5.5 \times 5$ | 270 |
| MZ21-N820RM | 80 | 160 | 82 | | $\Phi 8 \times 5$ | 270 |
| MZ21-N150RM | 150 | 300 | 15 | | $\Phi 13 \times 5$ | 270 |
| MZ21-N100RM | 180 | 360 | 10 | | $\Phi 15 \times 5$ | 270 |
| MZ21-N8R0RM | 200 | 400 | 8 | | $\Phi 15 \times 5$ | 270 |
| MZ21-N5R0RM | 250 | 500 | 5 | | $\Phi 18 \times 5$ | 270 |
| MZ21-N3R0RM | 400 | 800 | 3 | | $\Phi 25 \times 5$ | 270 |

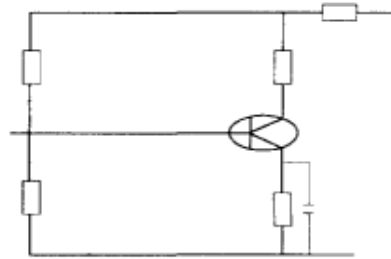
Operating temperature range $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$

Application Circuit

(1) 晶體管電路

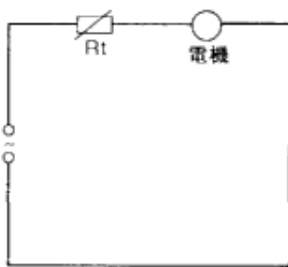


(A) 接在發射極電路

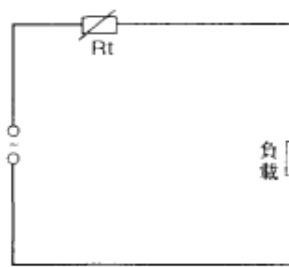


(b) 接在電源回路

(2) 電機保護



(3) 一般電器回路



MZ7 TYPE THERMISTOR for Degaussing

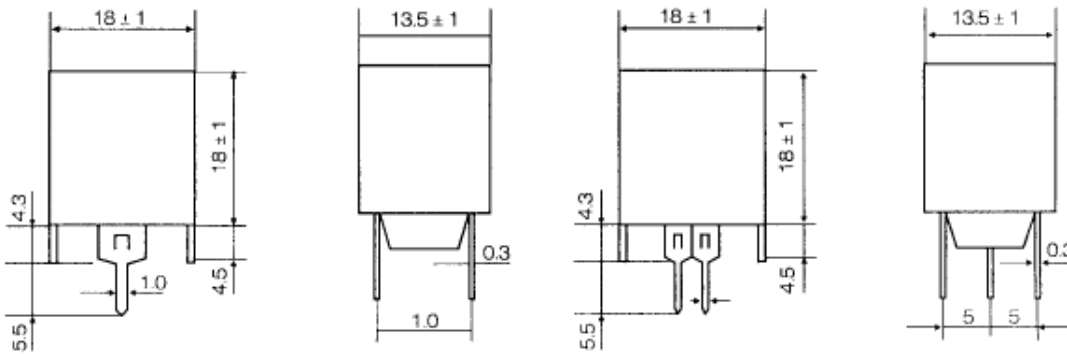
FEATURES

Superior degaussing component of colour TV set and monitor.
Current-Limited unite in AC circuit.

APPLICATION ENVIROMENTAL CONDITIONS

Environmental temperature:-10°C ~ +85°C
Relative humidity:93±2%(+40°C ±2°C)
Vibration frequency 1 0~55Hz
Acceleration:98m/s²

DIMENSIONS

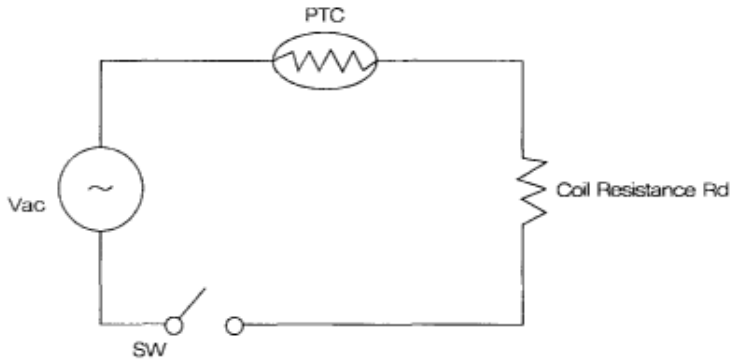


MAIN TECHNICAL Parameter

| PartNo. | Resistance Value | Working Voltage | Max Voltage | (25°C) Current Attenuation Characteristic | | |
|-----------|------------------|-----------------|-------------|---|--------------------------|---------------------------|
| | | | | I ₀ P-P(A) | I ₁ P-P(mA)3' | I ₂ rms(mA)60' |
| MZ72-7RM | 7±20% | 220 | 270 | ≥18 | ≤300 | ≤10 |
| MZ72-9RM | 9±20% | 220 | 270 | ≥18 | ≤300 | ≤10 |
| MZ72-12RM | 12±20% | 220 | 270 | ≥18 | ≤300 | ≤10 |
| MZ72-14RM | 14±20% | 220 | 270 | ≥18 | ≤300 | ≤10 |
| MZ72-18RM | 18±20% | 220 | 270 | ≥18 | ≤300 | ≤8 |
| MZ72-20RM | 20±20% | 220 | 270 | ≥18 | ≤300 | ≤8 |
| MZ73-7RM | 7±20% | 220 | 270 | ≥18 | ≤300 | ≤7 |
| MZ73-9RM | 9±20% | 220 | 270 | ≥18 | ≤300 | ≤7 |
| M773-12RM | 12±20% | 220 | 270 | ≥18 | ≤300 | ≤6 |
| MZ73-14RM | 14±20% | 220 | 270 | ≥18 | ≤300 | ≤4 |
| MZ73-18RM | 18±20% | 220 | 270 | ≥18 | ≤300 | ≤3 |
| MZ73-27RM | 27±20% | 220 | 270 | ≥18 | ≤300 | ≤3 |
| MZ73-36RM | 36±20% | 220 | 270 | ≥18 | ≤300 | ≤3 |

APPLICATION CIRCUIT

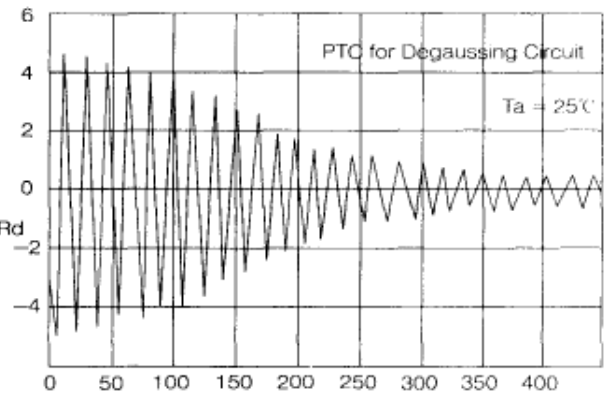
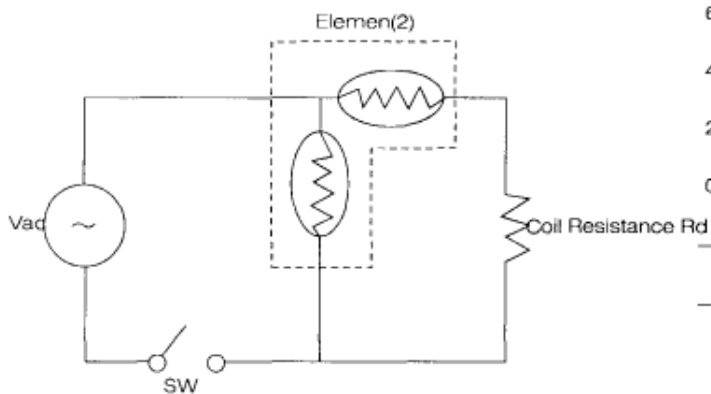
This is a basic degaussing circuit, if residual currents requested zero, this circuit usually a switch. When necessary the switch is turned off.



Current-Time Characteristic(Dynamic Characteristic)

Heating element (1) causes the resistance value of Element (2) to increase and make the stable current extremely small. Thus in many cases, the circuit is designed to be linked to the power switch so that degaussing is performed automatically when the power is turned on.

When excessive power is applied to the thermistor, a large current flows momentarily, then the self-heating feature of the thermistor causes the resistance value to increase and the current value to decrease. Thus, the thermistor controls the degaussing function ideally.



MZ4 TYPE THERMISTOR for Auto-Control-heat

FEATURES

- * Used as Auto Control Component on air conditioner, hot wind machine and Varies of heater
- * Used as Auto Control Component on small heater, rolling hair machine, driving mosquito machine.

APPLICATION ENVIROMENTAL CONDITIONS

- * Environmental temperature: $-10^{\circ}\text{C}\sim+85^{\circ}\text{C}$
- * Relative humidity: $93 \pm 2\%$ ($+40^{\circ}\text{C}\pm 2^{\circ}\text{C}$)
- * Vibration frequency: $10\sim 55\text{Hz}$
- * Acceleration: 98m/s^2

MAIN TECHNICAL PARAMETER

| Model | Specification(mm) | Properties | | | |
|----------|-------------------|--------------------|--------|-----------|------------|
| | | p(cm.Ω) | TC(°C) | a(%/°C) | Vb VAC/mm |
| MZ42-260 | Φ4x15x2.5 | $>1.0 \times 10^2$ | 260 | ≥ 16 | ≥ 250 |
| MZ41-260 | Φ21x2.5 | $>1.0 \times 10^2$ | 260 | ≥ 16 | ≥ 250 |
| MZ41-220 | Φ13x2.5 | $>4.0 \times 10$ | 220 | ≥ 16 | ≥ 250 |
| MZ41-215 | Φ13x2.5 | $>4.0 \times 10$ | 215 | ≥ 16 | ≥ 250 |
| MZ41-210 | Φ13x2.5 | $>4.0 \times 10$ | 210 | ≥ 16 | ≥ 250 |

DIMENSIONS

