

PTC Thermistor for over-current protection MZ31 Series

Features:

This MZ31 series is for over-current protection, widely used for home appliance, power supply (transformer), Power-saving lamp/electronic ballast, medical equipment, another electronic instrument, equipments.

Electrical characteristics

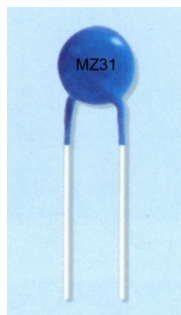
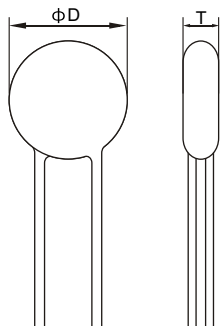
For general circuit use

Part No..	Curie Point (°C)	Resistance (Ω)	Max Volt (V)	Max Abnormal Current(A)	Non-Operating Current(mA)	Dimensions ΦDxT max (mm)
MZ31P8150N150	80	15±30%	150	1.5	60	10X6
MZ31P8220N200	80	22±30%	200	1.5	45	10X6
MZ31P8330N265	80	33±30%	265	1.25	40	10X6
MZ31P8470N265	80	47±30%	265	1.25	30	10X6
MZ31P8501Y300	80	500-1000	300	0.75	15	8X6
MZ31P8102Y500	80	1000-2000	500	0.75	15	8X6
MZ31X2180M265	120	18±20%	265	1.8	180	16X6
MZ31X2270M265	120	27±20%	265	1.5	150	14X6
MZ31X2390M265	120	39±20%	265	1.2	100	14X6
MZ31X2560M265	120	56±20%	265	0.8	80	12X6
MZ31X2820M265	120	82±20%	265	0.5	60	12X6
MZ31X2121M265	120	120±20%	265	0.3	35	12X6

For electronic energy-saving lamp use

Part No..	Curie Point(°C)	Resistance (Ω)	Tolerance (%)	Rated Volt (V)	Max Volt (V)	Dimensions ΦDxT max (mm)	Application
MZ31-1	75	100-2000	±20, ±30	220	500-700	6X5	Energy saving lamp
MZ31-2	60	100-2000	±20, ±30	220	500-700	6X5	Energy saving lamp
MZ31-3	45	100-2000	±20, ±30	220	500-700	6X5	Energy saving lamp
MZ31A	70-110	100-400	±20, ±30	220	500-700	8X5	Balast use
MZ31B	70-110	100-400	±20, ±30	220	500-700	13X7X12	Balast use
MZ22	90-110	15-50	±20	220	270-350	10-15X5	Over-current protection

Figure and Dimensions(mm)



Ordering Code

MZ31 P8 150 M 150

_____ Max Voltage(V)
 _____ Tolerance(M:±20%,N:±30%)
 _____ Resistance(150:15Ω)
 _____ Curie Point code
 (P8=80°C,X2=120°C)
 _____ Series No..

MZ31

PTC Thermistor for over-current protection MZ22 Series

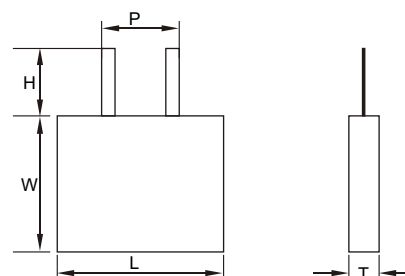
For PABx and telecommunication use

Part No.	Hold current (mA at +50°C)	Resistance (+/-20%)	Operating Characteristic			Max Volt (V)	Curie Point(°C)	Dimension(mm) A: DISC TYPE DXT B: CASE TYPE LXWXTXHP
			0.75A	1A	3A			
MZ22X1101M220A	70	100	<0.8S	<0.5S	<0.1S	220	110	10X6
MZ22X1101M220B	70	100	<0.8S	<0.5S	<0.1S	220	110	13X12X7X5X6
MZ22P9500M220A	90	50	<0.8S	<0.5S	<0.2S	220	90	10X6
MZ22P9500M220B	90	50	<0.8S	<0.5S	<0.2S	220	90	13X12X7X5X6
MZ22P8300M220A	60-130	≤50	<5S	<1.5S	<0.2S	220	80	10X6
MZ22P8300M220B	60-130	≤50	<5S	<1.5S	<0.2S	220	80	13X12X7X5X6

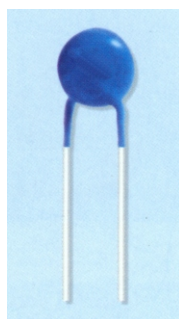
Figure and Dimensions(mm)

DISC(Φ)	Dmax	D*	F**	Tmax
8	10.0	0.5	4.2	5.0
10	12.0	0.6	4.2	5.0
12	14.0	0.6	7.0	6.0
15	17.0	0.6	7.0	6.0
20	22.0	0.8	7.0	6.0

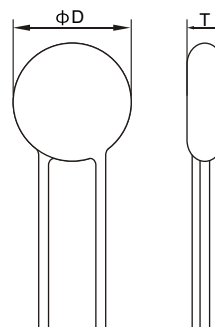
*±0.05mm ** ±1.0mm



MZ22-B



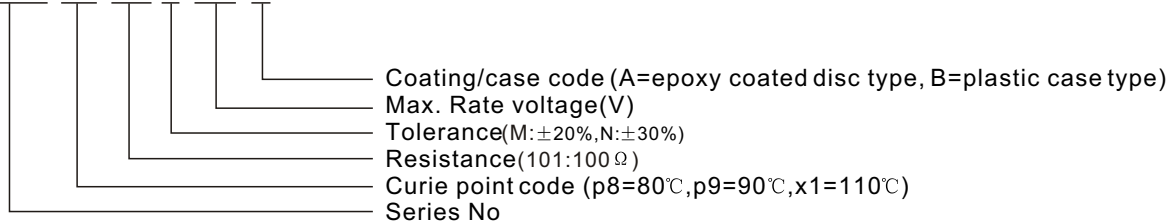
MZ22-A



MZ22-A

Ordering Code

MZ22 X1 101 M 220 A



PTC Thermistor for over-heat protection MZ61 Series

Features

This MZ61 Series is for over-heat protection, it has accurate switching temperature. When environmental temperature reaches switching point, the resistance rises sharply as the circuit switches off. It is widely used for temperature control, alarm and over-heat protection.

Electrical characteristics

Part No.	Curie Point(°C)	Switching Temp(°C)	Resistance (reference)				Respond time(sec)	Dissipation coefficient (mW/°C)	Measure power(w)
			Ts-20(°C)	Ts-5(°C)	Ts+5(°C)	Ts+20(°C)			
MZ61P4T06	40	60	<550 Ω	<1200 Ω	>2800 Ω	>8500 Ω	<5	>10	<0.1
MZ61P5T07	50	70							
MZ61P6T08	60	80							
MZ61P7T09	70	90							
MZ61P8T10	80	100							
MZ61P9T11	90	110	<250 Ω	<550 Ω	>1300 Ω	>4000 Ω	<5	>10	<0.1
MZ61X0T12	100	120							
MZ61X1T13	110	130							
MZ61X2T14	120	140							

Ordering Code

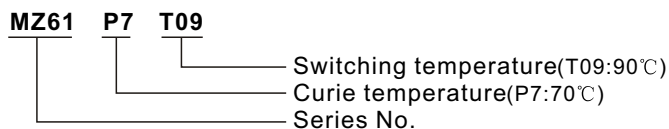
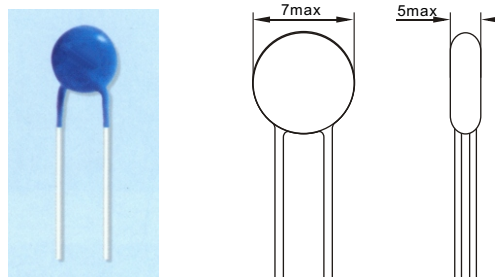


Figure and Dimensions(mm)



MZ61

PTC Thermistor for temperature compensation MZ11 Series



Electrical characteristics

Part No.	Resistance (Ω)	Tolerance (%)	Temperature Coefficient (%/°C)	Measure Power(mW)	Time Constant (Sec)	Dissipated Coefficient (mW/°C)
MZ11-1	56-560	±10%, ±20%	1-4(T1--T4)	0.1	≤50	≥10
MZ11-2	560-5600	±10%, ±20%	2-6(T2--T6)	0.1	≤50	≥10
MZ11-3	5600-100000	±10%, ±20%	3-8(T3--T8)	0.1	≤50	≥10

Ordering Code

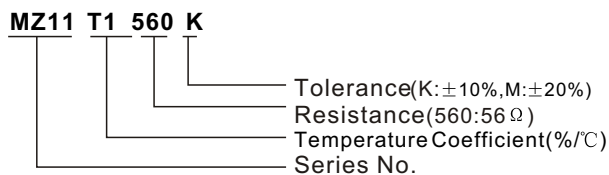
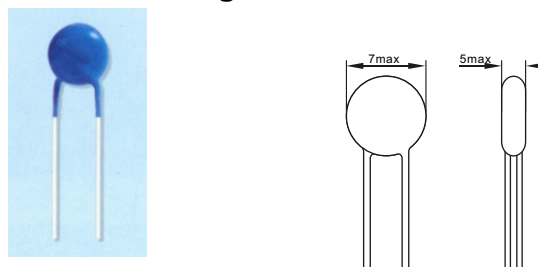


Figure and Dimensions(mm)



MZ11

PTC Degausser for TV or Monitor MZ71/72/73 Series

Features

This MZ71/72/73 Series is for CRT degaussing circuit, matching degaussing coil use. MZ71 is disc typewith radial lead, MZ72 is two lead terminals, MZ73 is three lead terminals. it can stand high ripple current shock and have long electric life.

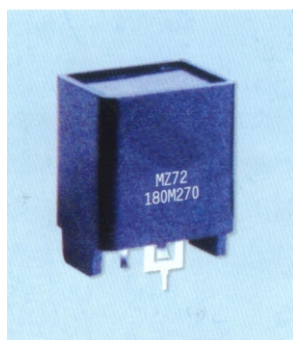
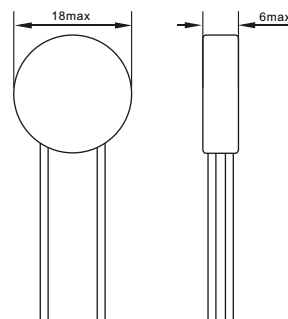
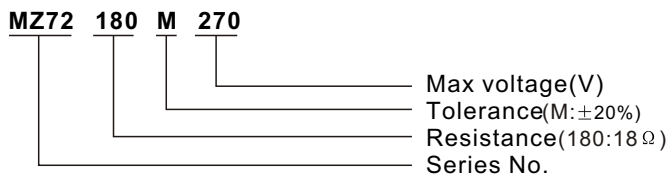
Electrical characteristics

Part No.	Resistance (Ω)	Rated Volt. (V)	Max Volt. (V)	Current characteristic		
				lop-p(A)	lop-p(mA)	I60rms(mA)
MZ71180M270	18 \pm 20%	220	270	\geq 15	\leq 550	\leq 8
MZ71300M270	30 \pm 20%	220	270	\geq 12	\leq 500	\leq 8
MZ72120M270	12 \pm 20%	220	270	\geq 25	\leq 450	\leq 8
MZ72180M270	18 \pm 20%	220	270	\geq 15	\leq 450	\leq 8
MZ72200M270	20 \pm 20%	220	270	\geq 15	\leq 450	\leq 8
MZ73120M270	12 \pm 20%	220	270	\geq 25	\leq 450	\leq 3.5
MZ73140M270	14 \pm 20%	220	270	\geq 20	\leq 450	\leq 3.5
MZ73180M270	18 \pm 20%	220	270	\geq 15	\leq 450	\leq 3
MZ73200M270	20 \pm 20%	220	270	\geq 15	\leq 450	\leq 3
MZ73270M270	27 \pm 20%	220	270	\geq 15	\leq 450	\leq 2.5

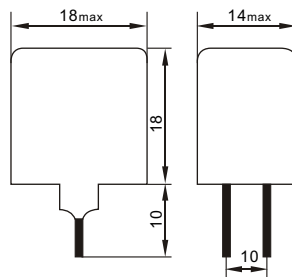
NOTE: Resistance is the one at 25°C, Vmax is the maximum voltage that the degausser can be used. Iop is the inrush current at the beginning. I60rms is steady current after 60 seconds.

Figure and Dimensions(mm)

Ordering code

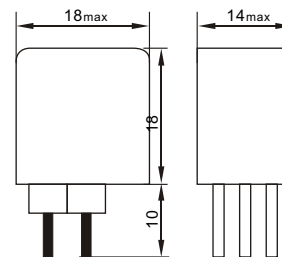


MZ72



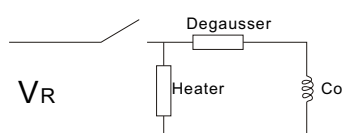
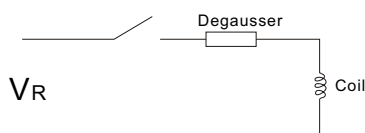
MZ72

MZ71



MZ73

Degaussing circuit



Heating elements new MZ81 Series

Features

This MZ81 Series can be used as heating element in home appliance such as air heater, hair roller, mosquito killer etc. ,and some other electric equipment: massaging machine, agricultural heater etc.

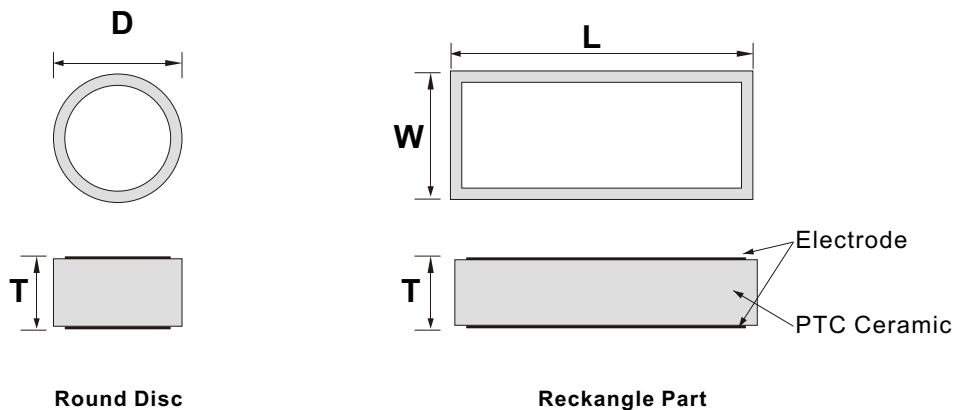
Electrical characteristics

Figure	Diameter(mm)	Length(mm)	Width(mm)	Thickness(mm)	Rate Voltage(V)	Surface temperature(°C)
Round disc	5-25			1.0-1.5	12-50	50-300
Round disc	5-25			1.4-2.0	100-140	50-300
Round disc	5-25			1.8-2.5	220-240	50-280
Round disc	10-25			2.3-3.0	220-240	250-320
Rectangle part		5-40	3-20	1.0-1.5	12-50	50-300
Rectangle part		5-40	3-20	1.4-2.0	100-140	50-300
Rectangle part		5-40	3-20	1.8-2.5	220-240	50-280
Rectangle part		10-40	6-20	2.3-3.0	220-240	250-320

Note:

- 1.PTC heater can control temperature itself, no temperature control is needed.
- 2.When PTC heater is used in heating liquid, the PTC will not be damaged if liquid is dried. The same when used in heating air.
- 3.Four types of electrodes for choose:
 - Chemical plating nickel+silver
 - Jetting melted aluminum
 - Printing aluminum paste+silver
 - Printing aluminum paste

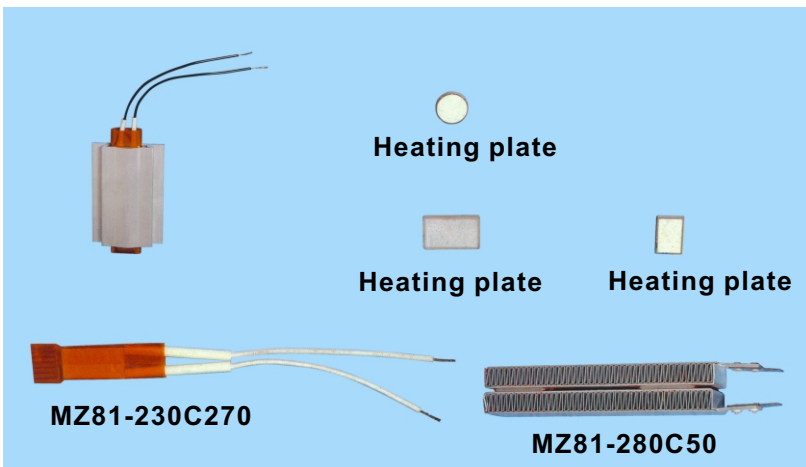
Figure and Dimensions(mm)



Heating elements MZ81 Series

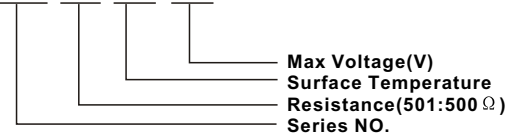


Part No.	Resistance (Ω) at 25°C	Surface Temperature (°C)	Max Volt. (V)	ϕ (mm)	L (mm)	W (mm)	T (mm)	Main Purposes
MZ81-50C270V ₁	500-1500	50	270	8			3	Agricultural heater
MZ81-75C50V ₁	8-20	75	50	13			1.4	Physical therapy machine
MZ81-75C270V ₁	500-1500	75	270	13			2.2	Physical therapy machine
MZ81-85C140V ₁	300-800	85	140		16	11	2.5	Massaging Machine
MZ81-90C140V ₁	150-400	90	140		16	11	2.5	Massaging Machine
MZ81-100C270V ₁	600-1500	100	270		16	11	2.5	Massaging Machine
MZ81-110C50V ₁	10-25	110	50	9.8			2.5	Motor car
MZ81-110C270V ₁	500-1500	110	270		23.5	10	2.2	Shoes dryer
MZ81-130C270V ₁	500-1500	130	270	8			2.2	Mosquito destroyer
MZ81-130C270V ₂	800-2000	230	270	13			2.5	Mosquito destroyer
MZ81-250C270V ₁	800-2000	250	270	13			2.5	Mosquito destroyer
MZ81-130C270V ₂	500-1500	130	270	20			2.2	Heating Plate
MZ81-150C50V ₁	20-50	150	30	13			1.3	Heating Plate
MZ81-155C270V ₂	500-1500	155	270	10.8			2.2	Heating Plate
MZ81-175C140V ₁	150-500	175	140	10.8			2.2	Heating Plate
MZ81-180C270V ₁	500-1500	180	270	10.8			2.2	Heating Plate
MZ81-250C140V ₁	300-1000	250	140		23.5	10	2.2	Heating Plate
MZ81-255C270V ₁	800-2000	255	270		23.5	10	2.2	Heating Plate
MZ81-150C140V ₁	200-800	150	140	10.8			2.2	Heater for degausser
MZ81-155C270V ₁	200-800	155	270	10.8			2.2	Heater for degausser
MZ81-185C270V ₁	200-800	185	270	10.8			2.2	Heater for degausser
MZ81-155C50V ₁	50-90	155	50	13			1.3	Delay switch
MZ81-160C50V ₁	8-20	160	50	17			1.4	Automobile
MZ81-180C50V ₁	1-5	180	50	20			1.4	Automobile
MZ81-160C270V ₁	500-1500	160	270	20			2.2	Humidifier
MZ81-230C270V ₁	800-2000	230	270		19	12	2.2	Hair roller
MZ81-250C270V ₂	2000-5000	250	270	20			2.5	Water Heater
MZ81-255C270V ₁	500-3000	255	270		36	6	2.3	Hot glue gun
MZ81-290C270V ₁	500-3000	290	270		36	6	2.5	Hot glue gun
MZ81-280C50V ₁	8-20	280	50		24	15	1.4	Air heater
MZ81-280C140V ₁	300-800	280	140		24	15	2.5	Air heater
MZ81-280C270V ₁	800-3500	280	270		24	15	2.5	Air heater



Ordering Code:

MZ81- 501 50C 270



PTC Thermistor for Motor starter MZ91 Series

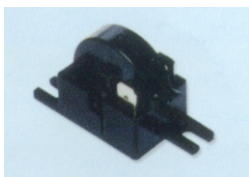
Features

This series are used in the starting circuit of refrigerators, and other single-phase motor. Customers' designs are welcome.

Electrical characteristics

Part No.	Resistance (Ω)	Curie Point($^{\circ}\text{C}$)	Max Volt (Vrms)	Max starting current(arms)	Operation time(S)	Dissipated power(W)	Resume time(S)
MZ91-A	15 \pm 30%	120 \pm 10	260	8	\leq 0.6	\leq 3.5	\leq 90
	22 \pm 30%		280	8			
	33 \pm 30%		280	7			
	47 \pm 30%		300	6			
	68 \pm 30%		300	5			
	100 \pm 30%		380	5			
MZ91-B	15 \pm 30%	135 \pm 10	240	8	\leq 0.7	\leq 4	\leq 80
	22 \pm 30%		280	7			
	33 \pm 30%		300	6			
	47 \pm 30%		320	5			
	68 \pm 30%		350	4			
	100 \pm 30%		400	4			

Figure and Dimensions(mm)

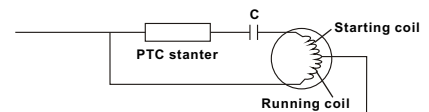


MZ91-A



MZ91-B

Starting Circuit with PTC



Ordering Code:

MZ91 150 X2 261 A

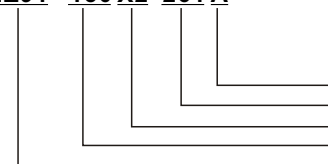


Figure
Max voltage(V)
Curie Point($X_2=120^{\circ}\text{C}$)
Resistance(150:15 Ω)
Series No.