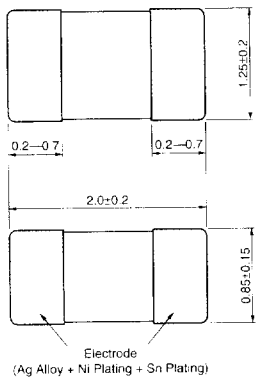
NTC for Temperature Compensation

0805(2012) Size

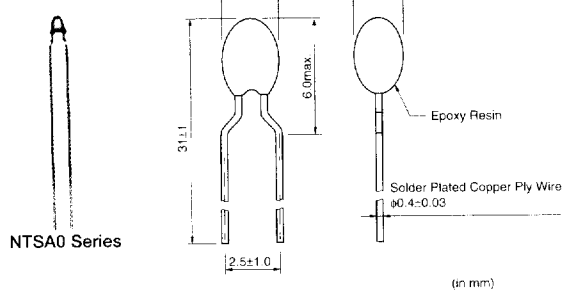


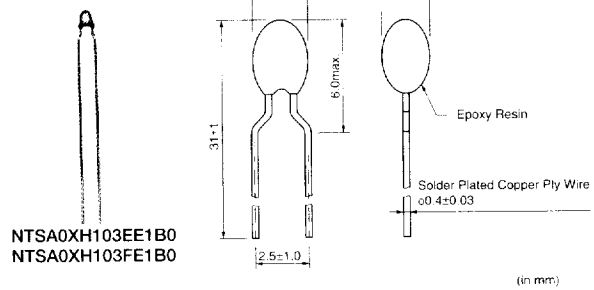
Part Number	Resistance (25°C)	B-Constant (25-50°C) (K)	Max. Operating Current(25°C) (mA)	Rated Electric Power(25°C) (mW)	Typical Dissipation Constant(25°C) (mW/°C)	Operating Temperature Range (°C)
NCP21XM221□03RA	220ohm	3500 ±3%	3.00	200	2	-40 to 125
NCP21XQ471□03RA	470ohm	3650 ±3%	2.00	200	2	-40 to 125
NCP21XQ102□03RA	1.0k ohm	3650 ±3%	1.40	200	2	-40 to 125
NCP21XW222□03RA	2.2k ohm	3950 ±3%	0.90	200	2	-40 to 125
NCP21XM472□03RA	4.7k ohm	3500 ±3%	0.65	200	2	-40 to 125
NCP21XV103□03RA	10k ohm	3900 ±3%	0.44	200	2	-40 to 125
NCP21XW153□03RA	15k ohm	3950 ±3%	0.36	200	2	-40 to 125
NCP21XW223□03RA	22k ohm	3950 ±3%	0.30	200	2.0	-40 to 125
NCP21WB333□03RA	33k ohm	4050 ±3%	0.24	200	2.0	-40 to 125
NCP21WB473□03RA	47k ohm	4050 ±3%	0.20	200	2.0	-40 to 125
NCP21WF104□03RA	100k ohm	4250 ±3%	0.14	200	2.0	-40 to 125

Both flow and reflow soldering methods can be employed.
A blank column is filled with resistance tolerance codes. (J:±5%, K:±10%)

NTC for Temperature Sensor

Resin Coated Radial Lead Type





Part Number	Resistance (25°C) (k ohm)	B-Constant (25-50°C) (K)	Max. Operating Current(25°C) (mA)	Rated Electric Power(25°C) (mW)	Typical Dissipation Constant(25°C) (mW/°C)	Thermal Time Constant(s)	Operating Temperature Range (°C)
NTSA0XM202□E1B0	2.0	3500 ±1%	1.05	21	2.1	less than7	-40 to 125
NTSA0XR502□E1B0	5.0	3700 ±1%	0.68	21	2.1	less than7	-40 to 125
NTSA0XH103□E1B0	10	3380 ±1%	0.38	15	1.5	less than7	-40 to 125
NTSA0XV103□E1B0	10	3900 ±1%	0.46	21	2.1	less than7	-40 to 125
NTSA0WB203□E1B0	20	4050 ±1%	0.31	21	2.1	less than7	-40 to 125
NTSA0WC303□E1B0	30	4100 ±1%	0.26	21	2.1	less than7	-40 to 125
NTSA0WD503□E1B0	50	4150 ±1%	0.20	21	2.1	less than7	-40 to 125

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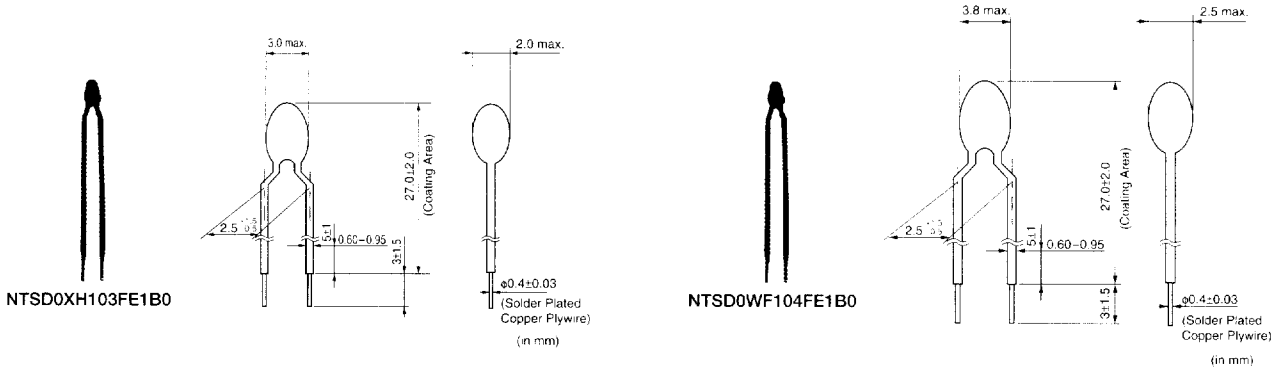
Part Number	Resistance (25°C) (k ohm)	B-Constant (25-50°C) (K)	Max. Operating Current(25°C) (mA)	Rated Electric Power(25°C) (mW)	Typical Dissipation Constant(25°C) (mW/°C)	Thermal Time Constant(s)	Operating Temperature Range (°C)
NTSA0WF104□E1B0	100	4250 ±1%	0.14	21	2.1	less than 7	-40 to 125

A blank column is filled with resistance tolerance codes. (F:±1%, E:±3%)
Taping type of part numbers with "A0" is available.
The order quantity should be an integral multiple of the "Minimum Quantity" shown in the beginning of this catalog.

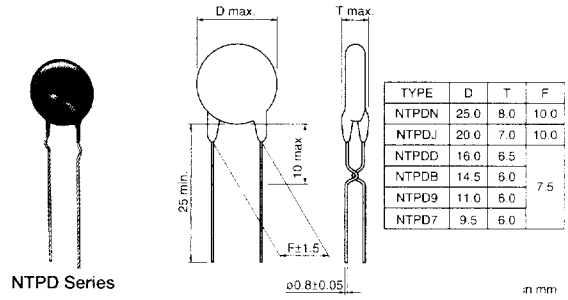
● Lead-Coating Type



Part Number	Resistance (25°C) (k ohm)	B-Constant (25-50°C) (K)	Max. Operating Current(25°C) (mA)	Rated Electric Power(25°C) (mW)	Typical Dissipation Constant(25°C) (mW/°C)	Thermal Time Constant(s)	Operating Temperature Range (°C)
NTSD0XH103FE1B0	10 ±1%	3380 ±1%	0.38	15	1.5	less than 7	-40 to 125
NTSD0WF104FE1B0	100 ±1%	4250 ±1%	0.14	21	2.1	less than 7	-40 to 125

The order quantity should be an integral multiple of the "Minimum Quantity" shown in the shown in the beginning of this catalog.

NTC for Inrush Current Suppression



TYPE	D	T	F
NTPDN	25.0	8.0	10.0
NTPDJ	20.0	7.0	10.0
NTPDD	16.0	6.5	7.5
NTPDB	14.5	6.0	
NTPD9	11.0	6.0	
NTPD7	9.5	6.0	

Part Number	Resistance (25C.) (ohm)	Permissible Max. Current(25C.) (A)	Permissible Max. Current(55C.) (A)	Thermal Time Constant(s)	Thermal Dissipation Constant (mW/°C)	Permissible Electrolytic Capacitor (μF)
NTPDN3R0LDFB0	3.0 ±15%	5.1	4.5	135	23.3	5000 at 100V
NTPDN4R0LDFB0	4.0 ±15%	4.4	3.9	130	22.3	5000 at 100V
NTPDN6R0LDFB0	6.0 ±15%	3.6	3.2	130	23.8	5000 at 100V
NTPDJ4R0LDFB0	4.0 ±15%	3.7	3.3	125	16.7	2000 at 100V
NTPDJ6R0LDFB0	6.0 ±15%	3.3	2.9	125	18.4	2000 at 100V
NTPDJ8R0LDFB0	8.0 ±15%	2.8	2.5	130	18.2	2000 at 100V
NTPDJ100LDFB0	10.0 ±15%	2.5	2.2	130	18.2	2000 at 100V
NTPDD8R0LD7B0	8.0 ±15%	2.7	2.4	65	16.4	2000 at 100V
NTPDD120LD7B0	12.0 ±15%	2.2	1.9	85	17.1	2000 at 100V
NTPDD160LD7B0	16.0 ±15%	2.0	1.7	100	14.5	2000 at 100V

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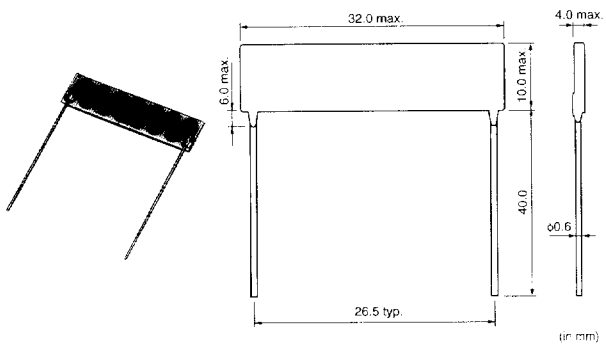
Part Number	Resistance (25C.) (ohm)	Permissible Max. Current(25C.) (A)	Permissible Max. Current(55C.) (A)	Thermal Time Constant(s)	Thermal Dissipation Constant (mW/°C)	Permissible Electrolytic Capacitor (μF)
NTPDB5R0LD7B0	5.0 ±15%	2.8	2.5	80	12.6	1000 at 100V
NTPDB8R0LD7B0	8.0 ±15%	2.4	2.1	80	12.9	1000 at 100V
NTPDB100LD7B0	10.0 ±15%	2.2	1.8	80	13.0	1000 at 100V
NTPD9100LD7B0	10.0 ±15%	1.9	1.6	50	10.8	400 at 100V
NTPD9160LD7B0	16.0 ±15%	1.4	1.2	65	10.0	400 at 100V
NTPD74R0LD7B0	4.0 ±15%	2.3	2.0	40	9.0	400 at 100V
NTPD78R0LD7B0	8.0 ±15%	1.7	1.5	40	10.2	400 at 100V
NTPD7160LD7B0	16.0 ±15%	1.4	1.2	40	9.0	400 at 100V
NTPD7220LD7B0	22.0 ±15%	1.1	1.0	40	9.0	400 at 100V

The part numbers with "7B0" are also available on tape.
The order quantity should be an integral multiple of the "Minimum Quantity" shown in the beginning of this catalog.

High Voltage Resistors

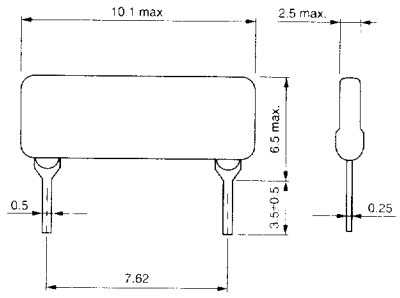
● MHR*PA Series



Part Number	Resistance Range (M ohm)	Rated Voltage(Single Use)	Rated Voltage(Molded Use) (kV)	Rated Power (W)	Lead Pitch (mm)
MHR0622PA***#	5M to 1000	-	18	1.0	19.0
MHR0830PA***#	5M to 1500	-	23	1.3	26.5
MHR1033PA***#	20M to 1500	-	25	1.5	30.0
MHR0844PA***#	20M to 2000	-	30	1.7	40.5
MHR0950PA***#	20M to 2000	-	35	2.0	47.0

For resistance value and ratio of B circuit, please contact us.

● MHR*SA Series

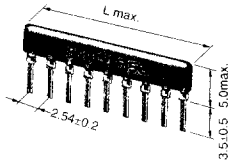


(in mm)

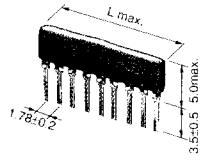
Part Number	Resistance Range (M ohm)	Rated Voltage(Single Use) (kV)	Rated Voltage(Molded Use) (kV)	Rated Power (W)	Lead Pitch (mm)
MHR0409SA*#**	1M to 500	3	6	0.6	7.62
MHR0412SA*#**	1M to 600	4	8	0.8	10.16
MHR0414SA*#**	1M to 800	5	10	1.0	12.70
MHR0417SA*#**	1M to 1000	6	12	1.1	15.24
MHR0419SA*#**	1M to 1000	7	13	1.2	17.78
MHR0422SA*#**	1M to 1000	8	14	1.3	20.32
MHR0609SA*#**	1M to 600	3	7	0.8	7.62
MHR0612SA*#**	1M to 800	4	10	1.0	10.16
MHR0614SA*#**	1M to 1000	5	12	1.2	12.70
MHR0617SA*#**	1M to 1000	6	14	1.3	15.24
MHR0619SA*#**	1M to 1000	7	15	1.4	17.78
MHR0622SA*#**	1M to 1000	8	16	1.5	20.32

For resistance value and ratio of B circuit, please contact us.

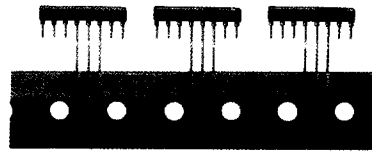
R Networks



Standard Profile RGLD Series



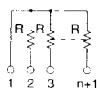
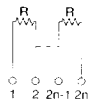
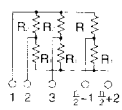
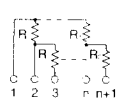
Shrink Profile RGLE Series



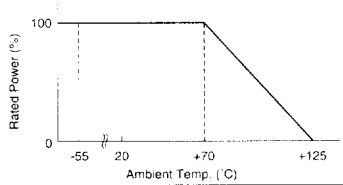
RGLD Series Taping Type (4-9 pin)

in mm

● Standard Circuits

Type		X Type	Y Type	Z Type	M Type
Circuit (n: Number of resistors)					
Number of Resistor	**RGLD**	3 to 12	3 to 7	8 to 18	6 to 12
	RGLE	3 to 15	3 to 8	—	6 to 12

● Rating

	RGLD Series	RGLE Series
Rated Power (W)	1/8	1/10
Package Power (W)	Rated Power × Number of Resistors × K (K: coefficient)	
Resistance Range (Ω)	10 to 1M (X, Y, M Type)	
Resistance Value	E-12 Value (X, Y, M Type)	
Resistance Tolerance (%)	J ; ±5, G ; ±2 (22Ωmin)	
T.C.R (ppm/°C)	±200	
Max Operating Voltage (V)	100	
Operating Temperature (°C)	-55 to +125	
Derating Curve		E-12 Values 10, 12, 15, 18, 22, 27, 33, 39, 47, 56, 68, 82

Standard Resistance Value
For Z Type(Ω)
R1/R2=180/390,220/330,
330/390,330/470

● L Dimensions

Series \ Number of Pins	4	5	6	7	8	9	10	11	12	13	14	15	16
RGLE (pitch 1.78)	7.7	9.5	11.2	12.9	14.6	16.4	18.2	20.0	21.8	23.5	25.3	27.1	28.9
RGLD (pitch 2.54)	10.1	12.6	15.1	17.6	20.2	22.7	25.3	27.8	30.5	33.0	35.5	-	-

in mm

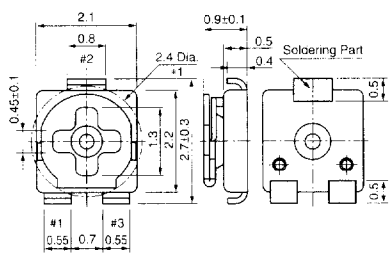
Custom-made circuits are also available. Please contact us.

Minimum Quantity (order in sets only) : 1,000 pcs.(Bulk/Taping)

Trimmer Potentiometers

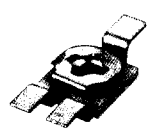
Chip Open Type 2mm Size

PVZ2A Series

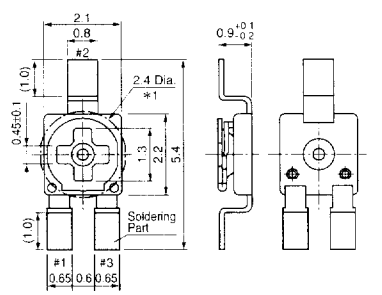


*1 Driver Plate Rotation Area :
Please do not place any components
more than 0.7mm in height within this area.

in mm
(Tolerance : ±0.2)



PVZ2K Series



*1. Driver Plate Rotation Area :
Please do not place any components
more than 0.7mm in height within this area.

in mm
(Tolerance : ±0.2)

Part Number	Power Rating (W)	Soldering Method	Number of Turns (Effective Rotation Angle)	Total Resistance Value	TCR (ppm/°C)
PVZ2A	0.1(50°C)	Reflow	1(240°±10°)	500ohm to 1M ohm ±30%	±500
PVZ2K	0.1(50°C)	Reflow	1(240°±10°)	500ohm to 1M ohm ±30%	±500