



Surge Arrester / Chip Series

The Surge Arrester Chip Series are used in communication network for current surge protection during signal receiving. No signal interference will occur due to max. insulation resistance and low capacitance (0.5 pf).

Main Test Criterion: IEC / ITUT K.20 & K.21

Specification range of 3216 Series

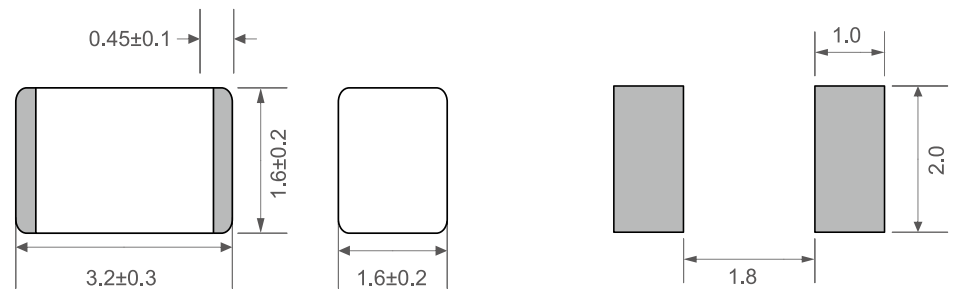


DC Breakdown Voltage: 150V ~ 600V

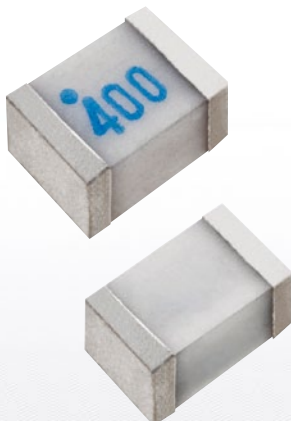
Dimensions

Unit: mm

Recommended Pad Size



Specification range of 4532 Series

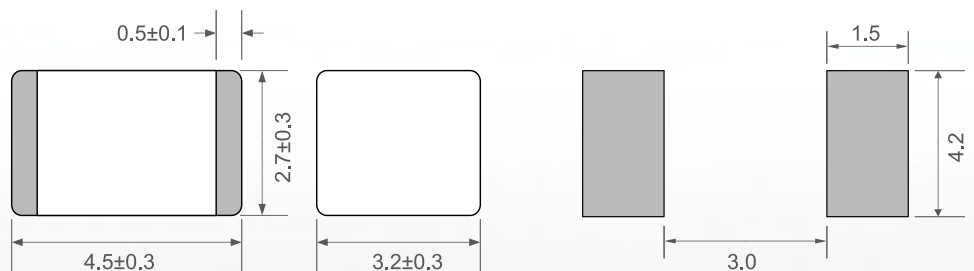


DC Breakdown Voltage: 75V ~ 600V

Dimensions

Unit: mm

Recommended Pad Size





Surge Arrester / SMD Series

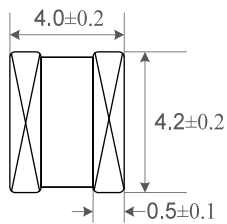
The SMD Series are commonly used in ADSL / xDSL / CATV / Satellite equipment and telecommunications.

Specification range of 2SM Series

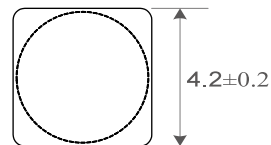


DC Breakdown Voltage: 75V ~ 2000V

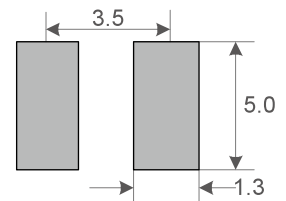
Dimensions



Round Type



Recommended Pad Size

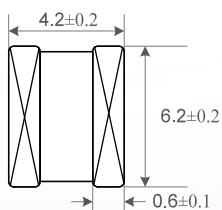


Specification range of 2S Series

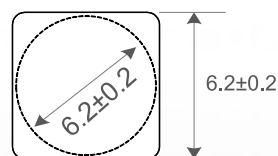


DC Breakdown Voltage: 75V ~ 3000V

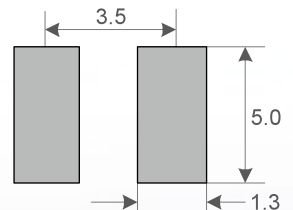
Dimensions



Round Type



Recommended Pad Size



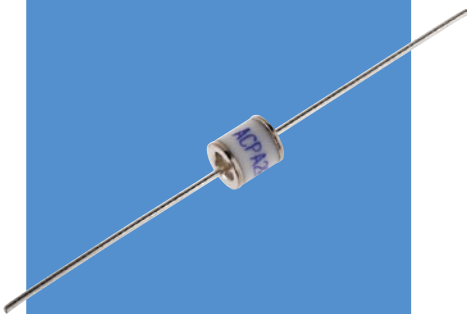


Surge Arrester / Two-terminal Series

The Two-terminal Series are commonly used in ADSL / xDSL / CATV / Satellite equipment and telecommunications.

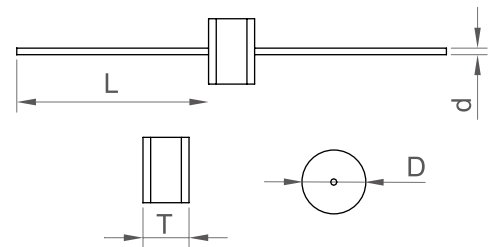
Another Application in Power Supply L-G Hi-pot Test.

Specification range of 2RM Series

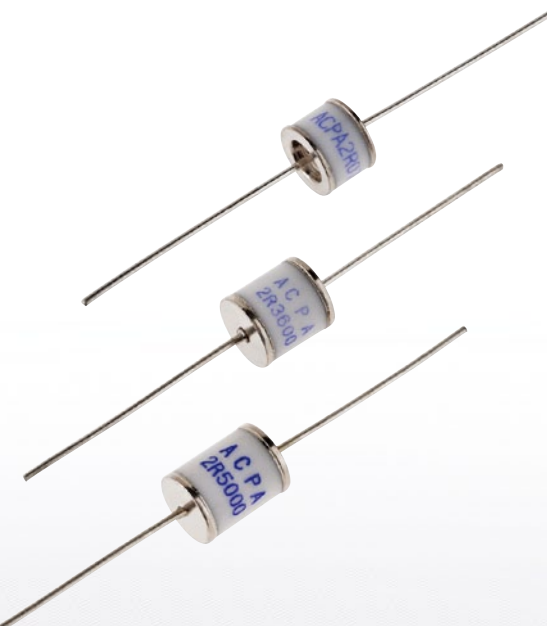


DC Breakdown Voltage: 70V ~ 3600V

Dimensions		Unit: mm
Item	Dimensions	
D	5.5 + 0.3 / -0.5	
T	6.0 + 0.3 / -0.5	
d	0.8 ± 0.05	
L	20min.	



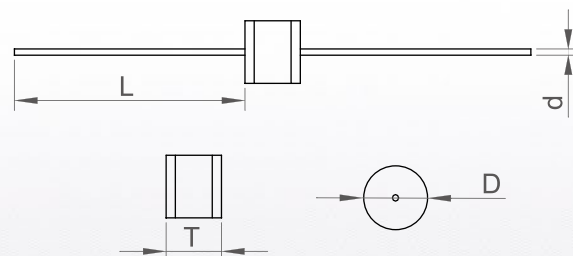
Specification range of 2R & 2N Series



DC Breakdown Voltage: 70V ~ 6000V

Dimensions		Unit: mm
Item	Dimensions	
D	8.0 + 0.3 / -0.5	
T	6.0 + 0.3 / -0.5	
d	0.8 ± 0.05	
L	20min.	

Dimensions		Unit: mm
Item	Dimensions	
D	8.0 + 0.3 / -0.5	
T	8.0 & 10.0 + 0.6 / -0.1	
d	0.8 ± 0.05	
L	20min.	





Surge Arrester / Three-terminal lead & SMD Series

The Three-terminal lead & SMD Series are commonly used in ADSL / xDSL / CATV / Satellite equipment and Telecommunications.

Another application in Co-side & Cp side of Telecommunication System.

Specification range of 3RM Series



DC Breakdown Voltage:
90V ~ 600V

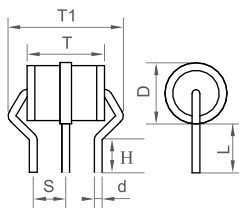
Item	3RM Dimensions		3R Dimensions	
	Spec.	Tolerance	Spec.	Tolerance
D	6.0	+0.2 / -0.5	8.0	+0.2 / -0.8
T	8.5	±0.5	10.0	±0.5
T1	11.5	+0.8 / -0.5	13.4	+0.8 / -0.5
L	7.5	±0.5	7.5	±0.5
S	3.8	±0.3	4.4	±0.4
d	0.8	±0.05	1.0	±0.05
H	4.5	Min.	4.5	Min.
R1	6.3	±0.3	8.1	±0.3
R2	7.6	±0.4	9.8	±0.4

Specification range of 3R Series

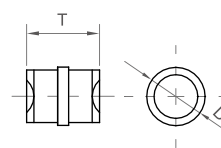


DC Breakdown Voltage:
75V ~ 600V

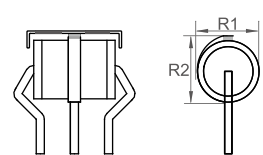
C1 TYPE



B TYPE



CF1 TYPE

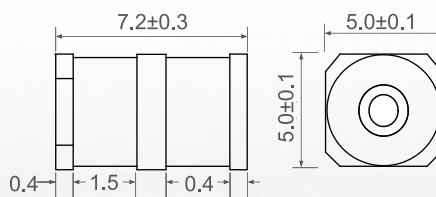


Specification range of 3SM Series

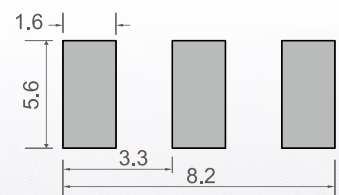


DC Breakdown Voltage: 75V ~ 1100V

Dimensions Unit: mm



Recommended Pad Size





Surge Arrester / Power Protection Series

Parts in the Power Protection Series are commonly used for the protection of SPD in the high power system and power distribution system.

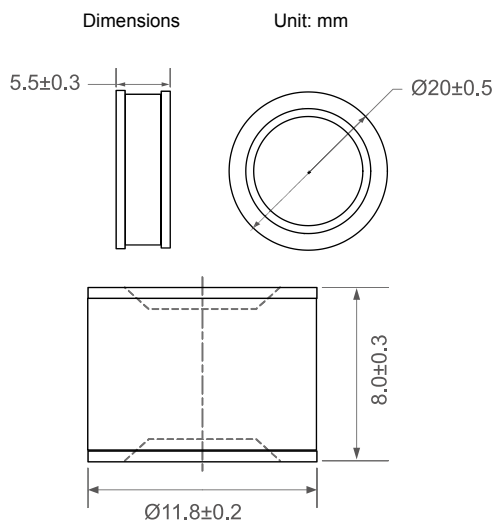
Specification range of 20D Series

Specification range of AE D8 Series



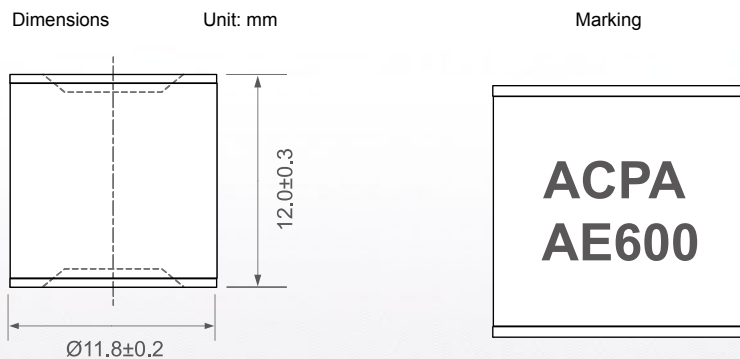
DC Breakdown Voltage: 75V ~ 600V

DC Breakdown Voltage: 230V ~ 800V



Specification range of AE D12 Series

DC Breakdown Voltage: 230V ~ 800V





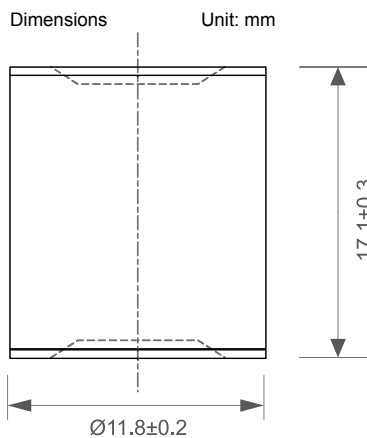
Surge Arrester / Power Protection Series

Parts in the Power Protection Series are commonly used for the protection of SPD in the high power system and power distribution system.

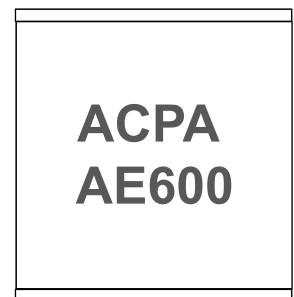
Specification range of AE D17 Series



DC Breakdown Voltage: 230V ~ 2200V



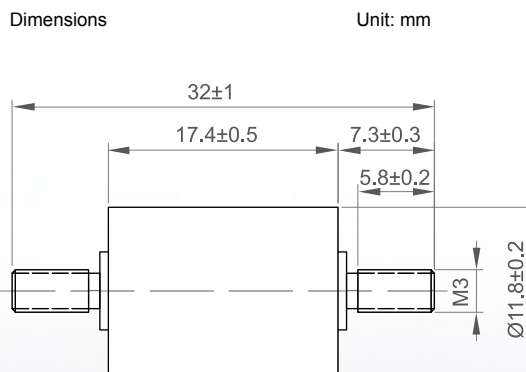
Marking



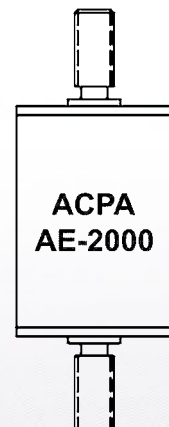
Specification range of AE D17 Series



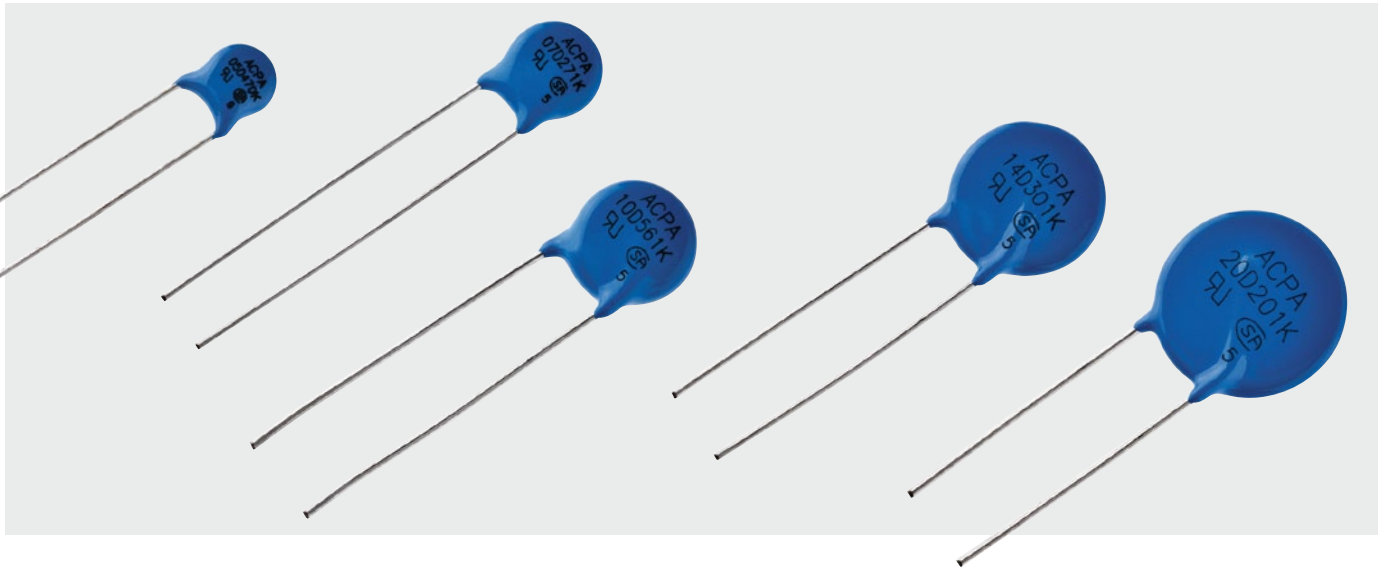
DC Breakdown Voltage: 230V ~ 2200V



Marking



ZnO Varistor Series



The Varistor, commonly known as MOV, is an electronic element having non-Ohmic property. Its resistance varies with external voltage, so that its I-V curve possesses a non-linear relationship. Varistors are widely used in the electronic circuits for the protection of components resulted from the damages caused by transient voltage surge in the power supply system. When runs into transient voltage surge, the resistance of the Varistor will be abruptly reduced, so that the current will be shunt away to avoid damaging the downstream delicate devices.

The Protection Principle of Surge Arresters: During the standby stage, the resistance of the Varistors is extremely high (reaching several mega-ohms), relative to the device to be protected downstream in the circuit.

When runs into transient surge (over Varistor V_B), the resistance of the Varistor will be abruptly reduced (several ohms), so that the circuit will be shorted to the ground to avoid damaging the downstream more delicate devices.

Scope of Applications

Protection of power source / interface devices / power strip / power windows on the automobile and Power Adapter

Specification range of **05D Series**
Varistor Voltage (1mA): 18V~560V

Specification range of **07D Series**
Varistor Voltage (1mA): 18V ~ 820V

Specification range of **10D Series**
Varistor Voltage (1mA): 18V ~ 1100V

Specification range of **14D Series**
Varistor Voltage (1mA): 18V ~ 1800V

Specification range of **20D Series**
Varistor Voltage (1mA): 18V ~ 1800V



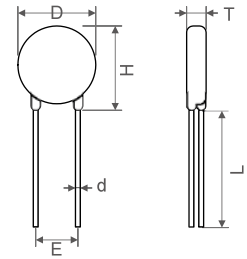
ZnO Varistor Series

L TYPE: Table 1

Unit: mm

SERIES	Dmax.	Hmax.	E (±0.8)	d (±0.1)	Lmin.
05D	7.0	9	5.0	0.6	20
07D	9.0	11	5.0	0.6	
10D	12.5	15.5	7.5	0.8	
14D	16.5	20.0*	7.5	0.8	
20D	23.0	26.0**	7.5	0.8	

* Above 14D561K ,Hmax. = 22.0 mm, ** Above 20D561K ,Hmax. = 28.0 mm

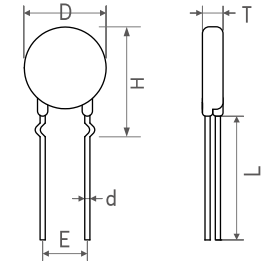


L TYPE: Table 2

Unit: mm

SERIES	Dmax.	Hmax.	E (±0.8)	d (±0.1)	Lmin.
05D	7.0	13	5.0	0.6	20
07D	9.0	13.5	5.0	0.6	
10D	12.5	17.5	7.5	0.8	
14D	16.5	21.0*	7.5	0.8	
20D	23.0	28.0**	7.5	0.8	

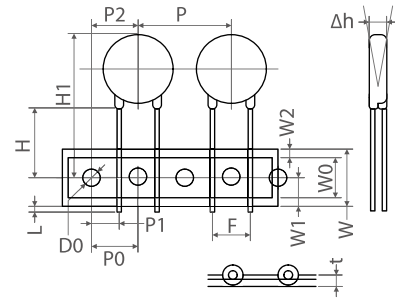
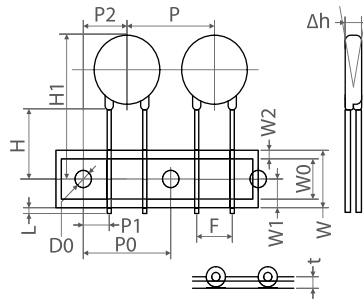
* Above 14D561K ,Hmax. = 23.0 mm, ** Above 20D561K ,Hmax. = 30.0 mm



Taping I

05D, 07D Series

10D, 14D, 20D Series



Part No.	PARAMETER	MODEL SIZE					
		05D	07D	10D	14D	20D (E7.5)	20D (E10)
P	Pitch of Component	12.7±1.0	12.7±1.0	25.4±1.0	25.4±1.0	25.4±1.0	25.4±1.0
P0	Feed Hole Pitch	12.7±0.2	12.7±0.2	12.7±0.2	12.7±0.2	12.7±0.2	12.7±0.2
P1	Feed Hole Center to Pitch	3.85±0.7	3.85±0.7	8.95±0.7	8.95±0.7	8.95±0.7	7.77±0.7
P2	Hold Center to Component Center	6.35±0.7	6.35±0.7	12.7±0.7	12.7±0.7	12.7±0.7	12.7±0.7
F	Lead to Lead Distance	5.0±0.8	5.0±0.8	7.5±0.8	7.5±0.8	7.5±0.8	10.0±0.8
Δh	Component Alignment	2.0max.	2.0max.	2.0max.	4.0max.	4.0max.	4.0max.
W	Tape Width	18.0±0.5	18.0±0.5	18.0±0.5	18.0±0.5	18.0±0.5	18.0±0.5
W0	Hole Down Tape Width	12.0±0.8	12.0±0.8	12.0±0.8	12.0±0.8	12.0±0.8	12.0±0.8
W1	Hole Position	9.0±0.5	9.0±0.5	9.0±0.5	9.0±0.5	9.0±0.5	9.0±0.5
W2	Hole Down Tape Position	3.0max.	3.0max.	3.0max.	3.0max.	3.0max.	3.0max.
H	Height from Tape Center to Component Base	19.0±1.0	19.0±1.0	19.0±1.0	19.0±1.0	19.0±1.0	19.0±1.0
H1	Component Height	30.0max.	32.0max.	36.0max.	40.0max.	47.0max.	47.0max.
D0	Feed Hole Diameter	4.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2
t	Total Tape Thickness	0.6±0.3	0.6±0.3	0.6±0.3	0.6±0.3	0.6±0.3	0.6±0.3
L	Length of Clipped Height	1.0max.	1.0max.	1.0max.	1.0max.	1.0max.	1.0max.