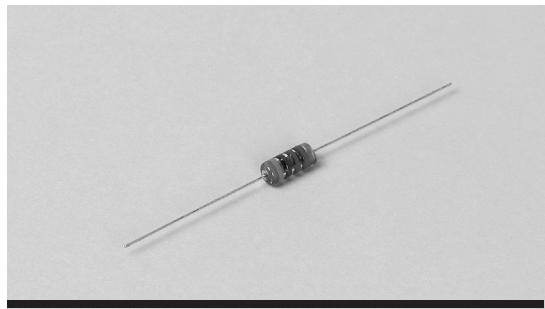
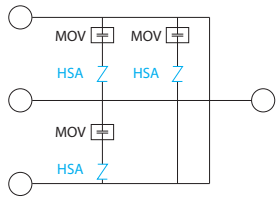




HSA is protection component to protect circuit from high voltage surge of outside HSA is used at circuit for high voltage to intercept high voltage inflow from outside to inside

- Features
- Quick response for surge voltage.
 - Stable against repeated surge voltage.

●Application



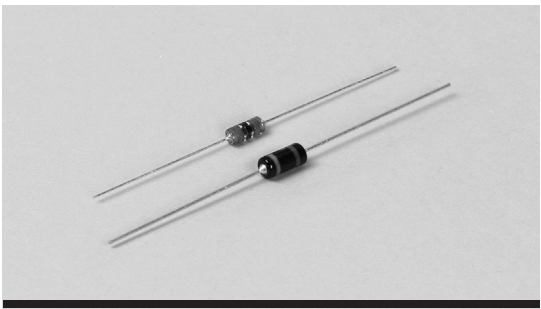
●Characteristics

Type	DC Spark-Over Voltage (V)	Insulated Resistance		Capacitance (pF)	AC Withstanding Voltage	Tolerance (%)	Operating Temp. Range (°C)	Ambient Temperature (°C)	Axial Type	Radial Type
		IR (MΩ)	Measure Voltage (V)							
272M	2160~3240	Over 100	DC 500	1Max	AC 1.2KV - 3sec	M : ±20	-40 ~ +85	20	O	O
302M	2400~3600				AC 1.5KV - 1min					
362M	2880~4320				AC 1.8KV - 3sec					
452M	3600~5400		DC 1000		AC 2KV - 1min					

●Performance

Test Items	Performance Requirements	Test Methods
Cold Resistance Test	To meet the specified value	-55±3℃, 1,000hr, measure Vs, IR, C
Heat Resistance Test	To meet the specified value	125±2℃, 1,000hr, measure Vs, IR, C
Humidity Test	To meet the specified value	85±2℃, 85%RH, 1,000hr, measure Vs, IR, C
Temperature Cycle	To meet the specified value	-55±3℃,(30min), Room temp(3min) 125±2℃,(30min), Room temp(3min) -55±3℃,(30min), 200 times, measure Vs, IR, C
Surge Life Test	ΔVs/Vs ≤ 30%	After 300 cycle operating measures a quality from 8/20μs 100A.
Surge Current Capacity	Within ±30%	Form 8/20μs 2000A not must be above in operations 5 cycle or more.

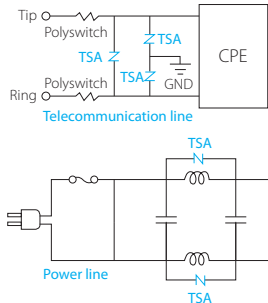
Specification given here in may be changed at any time without prior notice. Please confirm technical specifications before you order or use.



TSA is protects telecommunication system as absorbing the incoming noise of voltage and current deriving from the power and telecommunication signal line or the induced surge of lightening strikes. BC type of TSA shuts off the lighting on discharging.

- Features
- Quick response for surge voltage.
 - Stable against repeated surge voltage.

●Application



●Characteristics

Type	DC Spark-Over Voltage (V)	Insulated Resistance		Capacitance (pF)	Tolerance (%)	Operating Temp. Range (°C)	Ambient Temperature (°C)	Axial Type	Radial Type
		IR (MΩ)	Measure Voltage (V)						
201M	160~240	Over 100	DC 100	1Max	L : ±15 M : ±20 N : ±30	-40 ~ +85	20	O	O
301L	255~345								
301M	240~360								
401M	320~480								
501M	400~600								
601M	480~720								

●Performance

Test Items	Performance Requirements	Test Methods
Cold Resistance Test	To meet the specified value	-55±3℃, 1,000hr, measure Vs, IR, C
Heat Resistance Test	To meet the specified value	125±2℃, 1,000hr, measure Vs, IR, C
Humidity Test	To meet the specified value	85±2℃, 85%RH, 1,000hr, measure Vs, IR, C
Temperature Cycle	To meet the specified value	-55±3℃,(30min), Room temp(3min) 125±2℃,(30min), Room temp(3min) -55±3℃,(30min), 200 times, measure Vs, IR, C
Surge Life Test	ΔVs/Vs ≤ 30%	At 10sec intervals on the 10kV 1.5nF is charged to a 200times.
Surge Current Capacity	ΔVs/Vs ≤ 20%	10/700μs 1.5kV/37.5A, ± 5times 8/20μs 1kV/500A, ± 5times

Specification given here in may be changed at any time without prior notice. Please confirm technical specifications before you order or use.