

气体放电管 GDT (Gas Discharge Tubes)

气体放电管通过气体电离放电的原理来消除浪涌电压，他们具有高绝缘阻抗，低电容，和低漏电流的特点，因此对设备的正常运行影响很小。

YINT可提供高性能的小封装的插件/贴片的气体放电管，具有很快的响应速度，大浪涌抑制能力，从而降低设备损坏的风险。因为GDT的浪涌吸收能力，是雷击浪涌防护的一个很好的选择，特别适用于室外的电信设备。

Gas discharge tubes eliminate the surge voltage by the principle of gas ionization discharge. They have high insulation resistance, low capacitance and low leakage current to ensure minimal effect on normal operation of equipment.

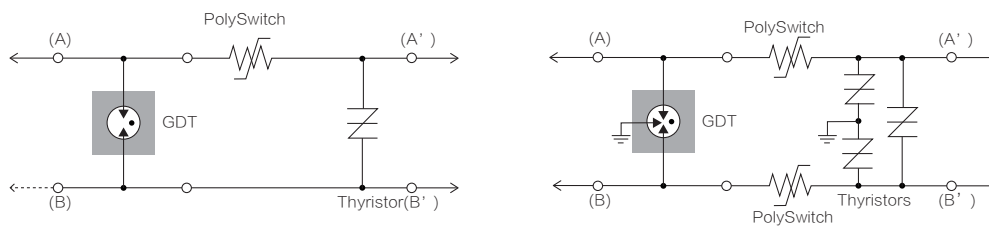
YINT provides high-performance and small size packaging (DIP/SMD) gas discharge tubes with fast response speed and surge suppression capability, which reduces the risk of equipment damage, this is also a good choice for protecting devices from damaging by surge current caused by lightning, especially suitable for outdoor telecommunications equipment.



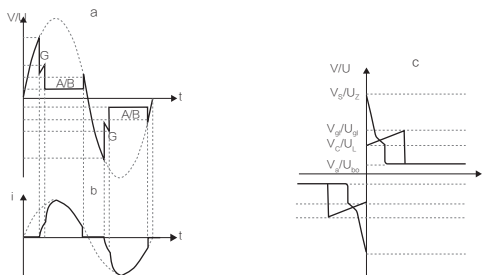
特点 Feature

- ▲ 高绝缘电阻 High insulation resistance
- ▲ 开关型过压保护器件 Crowbar overvoltage protection
- ▲ 低电容和插入损耗 Low capacitance and insertion loss
- ▲ 电压从70V到3000V Voltage from 70V to 3000V
- ▲ 冲击电流可以高达数百千安 Surge current up to several hundred thousand Amps

Application



Limitation of a sinusoidal overvoltage by a surge arrester



a : shows the voltage curve at the arrester

b : the current as a function of time when limiting a sinusoidal voltage surge.

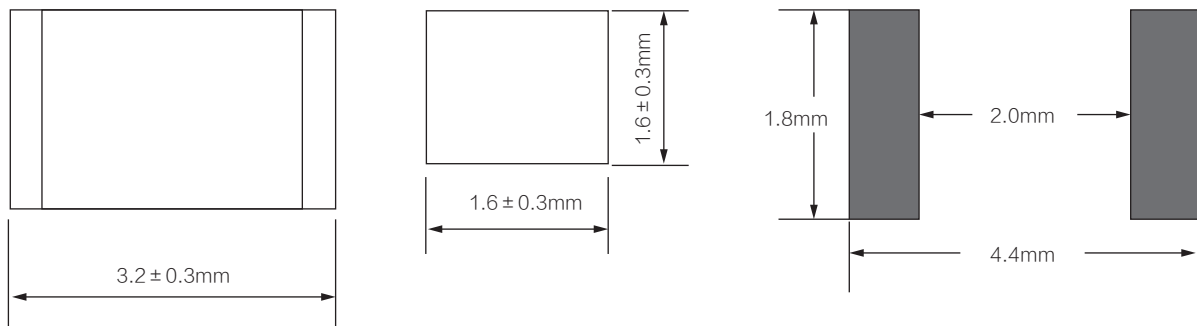
c : The V/I characteristic of the surge arrester was obtained by combining the graphs of voltage and current as a function of time.

SMD1206 Series Electrical Characteristics



Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage	Minimum Insulation Resistance		Maximum Capacitance	Nominal Impulse Discharge Current	Impulse Discharge Voltage
	100V/s (V)	1KV/ μ s (V)	Test Voltage(V)	(M Ω)	1MHz (pF)	8/20 μ s	10/700 μ S
SMD1206-091	90+30%	<750	50	1000	0.3	0.5KA	4KV
SMD1206-151	150+30%	<750	50	1000	0.3	0.5KA	4KV
SMD1206-201	200+30%	<950	100	1000	0.3	0.5KA	4KV
SMD1206-231	230+30%	<950	100	1000	0.3	0.5KA	4KV
SMD1206-301	300+30%	<950	100	1000	0.3	0.5KA	4KV
SMD1206-351	350+30%	<950	100	1000	0.3	0.5KA	4KV
SMD1206-401	400+30%	<1050	100	1000	0.3	0.5KA	4KV
SMD1206-421	420+30%	<1050	100	1000	0.3	0.5KA	4KV
SMD1206-471	470+30%	<1050	100	1000	0.3	0.5KA	4KV

PACKAGE OUTLINE DIMENSIONS in millimeters :SMD1206



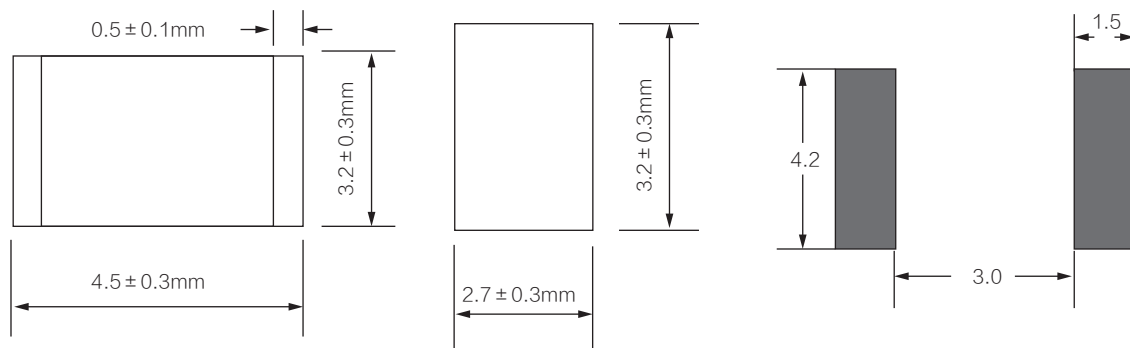
Mounting Pad Layout

SMD1812 Series Electrical Characteristics



Part Number	DC Spark-over Voltage	Impulse Spark-over Voltage	Minimum Insulation Resistance		Maximum Capacitance	Nominal Impulse Discharge Current	Impulse Discharge Voltage
	100V/s (V)		1KV/ μ s (V)	Test Voltage(V)			
SMD1812-071	75+30%	300	50	1	0.5	2KA	4KV
SMD1812-091	90+30%	300	50	1	0.5	2KA	4KV
SMD1812-121	120+30%	300	50	1	0.5	2KA	4KV
SMD1812-151	150+30%	300	50	1	0.5	2KA	4KV
SMD1812-201	200+30%	300	100	1	0.5	2KA	4KV
SMD1812-231	230+30%	300	100	1	0.5	2KA	4KV
SMD1812-301	300+30%	300	100	1	0.5	2KA	4KV
SMD1812-351	350+30%	300	100	1	0.5	2KA	4KV
SMD1812-401	400+30%	300	100	1	0.5	2KA	4KV
SMD1812-421	420+30%	300	100	1	0.5	2KA	4KV
SMD1812-471	470+30%	300	100	1	0.5	2KA	4KV
SMD1812-501	500+30%	300	100	1	0.5	2KA	4KV
SMD1812-601	600+30%	300	100	1	0.5	2KA	4KV

PACKAGE OUTLINE DIMENSIONS in millimeters :SMD1812



Mounting Pad Layout

2R***S-6 × 4.2 Series Electrical Characteristics (TA = 25 ° C unless otherwise noted)

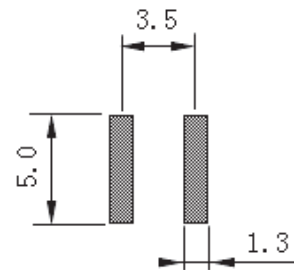
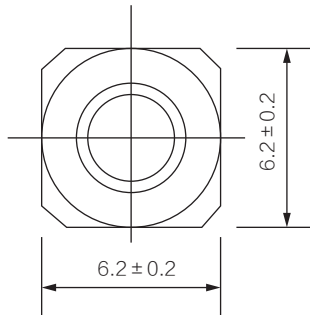
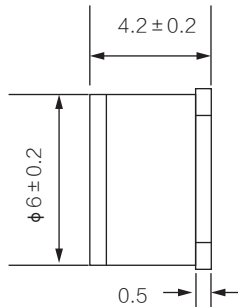


Part Number	DC Breakdown Voltage	Tolerance	Impulse Spark-over Voltage	Impulse Discharge Current 10hits (5hits each polarity)	AC Discharge Current 5 hits	Insulation Resistance*	Capacitance
	100V/s (V)	of Vs	1KV/μs (V)	8/20μs	50Hz	GΩ	1MHz
2R075S-6 × 4.2	75V	± 20%	≤ 600V	5KA	5A	≥ 10	≤ 1pF
2R090S-6 × 4.2	90V	± 20%	≤ 600V	5KA	5A	≥ 10	≤ 1pF
2R150S-6 × 4.2	150V	± 20%	≤ 600V	5KA	5A	≥ 10	≤ 1pF
2R200S-6 × 4.2	200V	± 20%	≤ 700V	5KA	5A	≥ 10	≤ 1pF
2R230S-6 × 4.2	230V	± 20%	≤ 700V	5KA	5A	≥ 10	≤ 1pF
2R300S-6 × 4.2	300V	± 20%	≤ 900V	5KA	5A	≥ 10	≤ 1pF
2R350S-6 × 4.2	350V	± 20%	≤ 1000V	5KA	5A	≥ 10	≤ 1pF
2R400S-6 × 4.2	400V	± 20%	≤ 1000V	5KA	5A	≥ 10	≤ 1pF
2R470S-6 × 4.2	470V	± 20%	≤ 1200V	5KA	5A	≥ 10	≤ 1pF
2R600S-6 × 4.2	600V	± 20%	≤ 1400V	5KA	5A	≥ 10	≤ 1pF
2R1000S-6 × 4.2	1000V	± 20%	≤ 1800V	3KA	5A	≥ 1	≤ 1pF

- 1) At delivery AQL 0.65 leave II Military Standard 105 E.
- 2) In ionized mode
- 3) Test according to ITU-T Rec.k.12

GDT

Specification Status: Draft (mm)



Recommended pad size

2R***S-8×6 Series Electrical Characteristics (TA = 25 ° C unless otherwise noted)



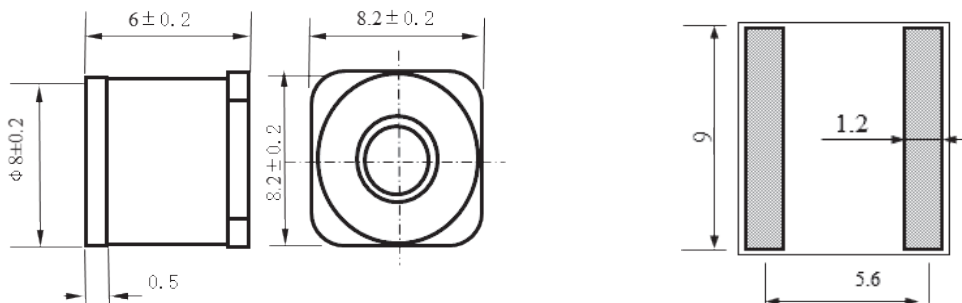
Part Number	DC Breakdown Voltage	Tolerance	Impulse Spark-over Voltage	Impulse Discharge Current 10hits (5hits each polarity)	AC Discharge Current 5 hits	Insulation Resistance*	Capacitance
	100V/s (V)	of Vs	1KV/μs (V)	8/20μs	50Hz	GΩ	1MHz
2R075S-8×6	75V	±20%	≤600V	10KA	10A	≥10	≤1pF
2R090S-8×6	90V	±20%	≤600V	10KA	10A	≥10	≤1pF
2R150S-8×6	150V	±20%	≤700V	10KA	10A	≥10	≤1pF
2R200S-8×6	200V	±20%	≤700V	10KA	10A	≥10	≤1pF
2R230S-8×6	230V	±20%	≤700V	10KA	10A	≥10	≤1pF
2R300S-8×6	300V	±20%	≤900V	10KA	10A	≥10	≤1pF
2R350S-8×6	350V	±20%	≤1000V	10KA	10A	≥10	≤1pF
2R400S-8×6	400V	±20%	≤1000V	10KA	10A	≥10	≤1pF
2R470S-8×6	470V	±20%	≤1200V	10KA	10A	≥10	≤1pF
2R600S-8×6	600V	±20%	≤1400V	10KA	10A	≥10	≤1pF

1) At delivery AQL 0.65 leave II Military Standard 105 E.

2) In ionized mode

3) Test according to ITU-T Rec.k.12

Specification Status: Draft (mm)



2R***L-5.5×6 Series Electrical Characteristics (TA = 25 °C unless otherwise noted)



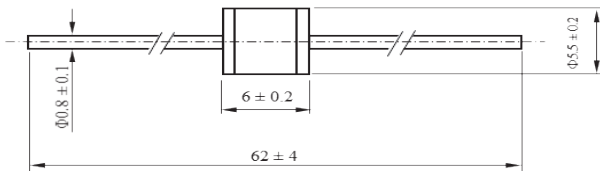
Part Number	DC Breakdown Voltage	Tolerance	Impulse Spark-over Voltage	Impulse Discharge Current 10hits (5hits each polarity)	AC Discharge Current 5 hits	Insulation Resistance*	Capacitance
	100V/s (V)	of Vs	1KV/μs (V)	8/20μs	50Hz	GΩ	1MHz
2R075L-5.5×6	75V	±20%	≤600V	5KA	5A	≥10	≤1pF
2R090L-5.5×6	90V	±20%	≤600V	5KA	5A	≥10	≤1pF
2R150L-5.5×6	150V	±20%	≤600V	5KA	5A	≥10	≤1pF
2R200L-5.5×6	200V	±20%	≤700V	5KA	5A	≥10	≤1pF
2R230L-5.5×6	230V	±20%	≤700V	5KA	5A	≥10	≤1pF
2R300L-5.5×6	300V	±20%	≤900V	5KA	5A	≥10	≤1pF
2R350L-5.5×6	350V	±20%	≤1000V	5KA	5A	≥10	≤1pF
2R400L-5.5×6	400V	±20%	≤1000V	5KA	5A	≥10	≤1pF
2R470L-5.5×6	470V	±20%	≤1200V	5KA	5A	≥10	≤1pF
2R600L-5.5×6	600V	±20%	≤1400V	5KA	5A	≥10	≤1pF
2R1000L-5.5×6	1000V	±20%	≤2000V	3KA	3A	≥1	≤1pF

1) At delivery AQL 0.65 leave II Military Standard 105 E.

2) In ionized mode

3) Test according to ITU-T Rec.k.12

Specification Status: Draft (mm)



2R***L-8×6 Series Electrical Characteristics (TA = 25 ° C unless otherwise noted)



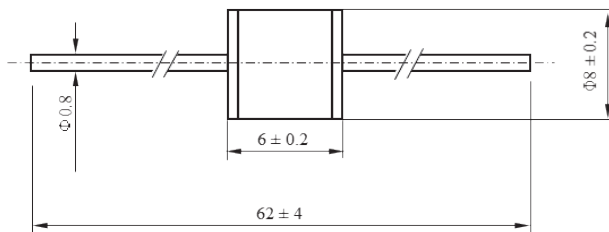
Part Number	DC Breakdown Voltage	Tolerance	Impulse Spark-over Voltage	Impulse Discharge Current 10hits (5hits each polarity)	AC Discharge Current 5 hits	Insulation Resistance*	Capacitance
	100V/s (V)	of Vs	1KV/μs (V)	8/20μs	50Hz	GΩ	1MHz
2R075L-8×6	75V	±20%	≤600V	10KA	10A	≥10	≤1pF
2R090L-8×6	90V	±20%	≤600V	10KA	10A	≥10	≤1pF
2R150L-8×6	150V	±20%	≤600V	10KA	10A	≥10	≤1pF
2R200L-8×6	200V	±20%	≤700V	10KA	10A	≥10	≤1pF
2R230L-8×6	230V	±20%	≤700V	10KA	10A	≥10	≤1pF
2R300L-8×6	300V	±20%	≤900V	10KA	10A	≥10	≤1pF
2R350L-8×6	350V	±20%	≤1000V	10KA	10A	≥10	≤1pF
2R400L-8×6	400V	±20%	≤1000V	10KA	10A	≥10	≤1pF
2R470L-8×6	470V	±20%	≤1200V	10KA	10A	≥10	≤1pF
2R600L-8×6	600V	±20%	≤1400V	10KA	10A	≥10	≤1pF

1) At delivery AQL 0.65 leave II Military Standard 105 E.

2) In ionized mode

3) Test according to ITU-T Rec.k.12

Specification Status: Draft (mm)



3R***S-5 × 7.6 Series Electrical Characteristics (TA = 25 °C unless otherwise noted)



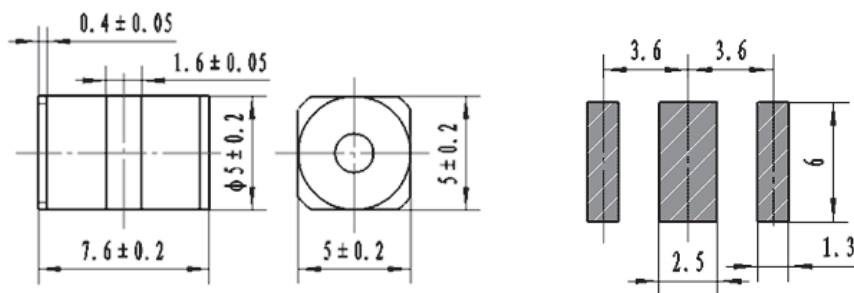
Part Number	DC Breakdown Voltage	Tolerance	Impulse Spark-over Voltage	Impulse Discharge Current 10hits (5hits each polarity)	AC Discharge Current 5 hits	Insulation Resistance*	Capacitance
	100V/s (V)	of Vs	1KV/μs (V)	8/20μs	50Hz	GΩ	1MHz
3R075S-5 × 7.6	75V	±20%	≤600V	5KA	5A	≥10	≤1pF
3R090S-5 × 7.6	90V	±20%	≤600V	5KA	5A	≥10	≤1pF
3R150S-5 × 7.6	150V	±20%	≤600V	5KA	5A	≥10	≤1pF
3R200S-5 × 7.6	200V	±20%	≤700V	5KA	5A	≥10	≤1pF
3R230S-5 × 7.6	230V	±20%	≤700V	5KA	5A	≥10	≤1pF
3R300S-5 × 7.6	300V	±20%	≤900V	5KA	5A	≥10	≤1pF
3R350S-5 × 7.6	350V	±20%	≤1000V	5KA	5A	≥10	≤1pF
3R400S-5 × 7.6	400V	±20%	≤1000V	5KA	5A	≥10	≤1pF
3R470S-5 × 7.6	470V	±20%	≤1200V	5KA	5A	≥10	≤1pF
3R600S-5 × 7.6	600V	±20%	≤1400V	5KA	5A	≥10	≤1pF

1) At delivery AQL 0.65 leave II Military Standard 105 E.

2) In ionized mode

3) Test according to ITU-T Rec.k.12

Specification Status: Draft (mm)



3R***S-6 × 8 Series Electrical Characteristics (TA = 25 ° C unless otherwise noted)



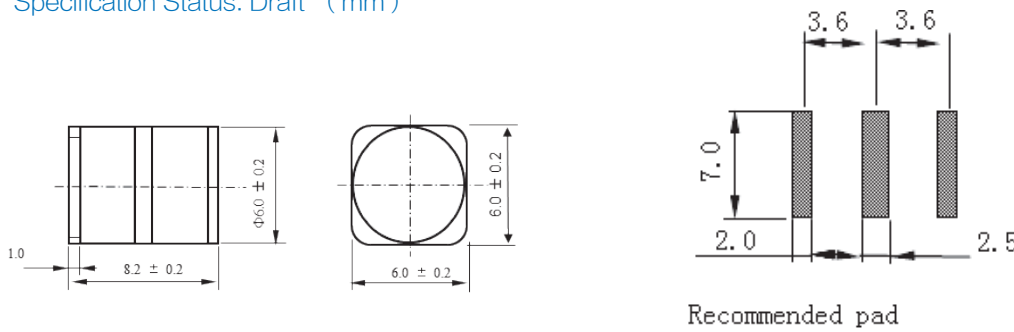
Part Number	DC Breakdown Voltage	Tolerance	Impulse Spark-over Voltage	Impulse Discharge Current 10hits (5hits each polarity)	AC Discharge Current 5 hits	Insulation Resistance*	Capacitance
	100V/s (V)	of Vs	1KV/μs (V)	8/20μs	50Hz	GΩ	1MHz
3R075S-6 × 8	75V	±20%	≤600V	10KA	10A	≥10	≤1pF
3R090S-6 × 8	90V	±20%	≤600V	10KA	10A	≥10	≤1pF
3R150S-6 × 8	150V	±20%	≤600V	10KA	10A	≥10	≤1pF
3R200S-6 × 8	200V	±20%	≤700V	10KA	10A	≥10	≤1pF
3R230S-6 × 8	230V	±20%	≤700V	10KA	10A	≥10	≤1pF
3R300S-6 × 8	300V	±20%	≤900V	10KA	10A	≥10	≤1pF
3R350S-6 × 8	350V	±20%	≤1000V	10KA	10A	≥10	≤1pF
3R400S-6 × 8	400V	±20%	≤1000V	10KA	10A	≥10	≤1pF
3R470S-6 × 8	470V	±20%	≤1200V	10KA	10A	≥10	≤1pF
3R600S-6 × 8	600V	±20%	≤1400V	10KA	10A	≥10	≤1pF

1) At delivery AQL 0.65 leave II Military Standard 105 E.

2) In ionized mode

3) Test according to ITU-T Rec.k.12

Specification Status: Draft (mm)



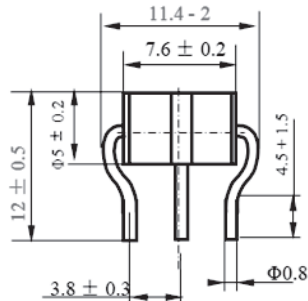
3R***L-5 × 7.6 Series Electrical Characteristics (TA = 25 °C unless otherwise noted)



Part Number	DC Breakdown Voltage	Tolerance	Impulse Spark-over Voltage	Impulse Discharge Current 10hits (5hits each polarity)	AC Discharge Current 5 hits	Insulation Resistance*	Capacitance
	100V/s (V)	of Vs	1KV/μs (V)	8/20μs	50Hz	GΩ	1MHz
3R075L-5 × 7.6	75V	±20%	≤600V	5KA	5A	≥10	≤1pF
3R090L-5 × 7.6	90V	±20%	≤600V	5KA	5A	≥10	≤1pF
3R150L-5 × 7.6	150V	±20%	≤600V	5KA	5A	≥10	≤1pF
3R200L-5 × 7.6	200V	±20%	≤700V	5KA	5A	≥10	≤1pF
3R230L-5 × 7.6	230V	±20%	≤700V	5KA	5A	≥10	≤1pF
3R300L-5 × 7.6	300V	±20%	≤900V	5KA	5A	≥10	≤1pF
3R350L-5 × 7.6	350V	±20%	≤1000V	5KA	5A	≥10	≤1pF
3R400L-5 × 7.6	400V	±20%	≤1000V	5KA	5A	≥10	≤1pF
3R470L-5 × 7.6	470V	±20%	≤1200V	5KA	5A	≥10	≤1pF
3R600L-5 × 7.6	600V	±20%	≤1400V	5KA	5A	≥10	≤1pF

- 1) At delivery AQL 0.65 leave II Military Standard 105 E.
- 2) In ionized mode
- 3) Test according to ITU-T Rec.k.12

Specification Status: Draft (mm)



3R***L-6×8 Series Electrical Characteristics (TA = 25 ° C unless otherwise noted)



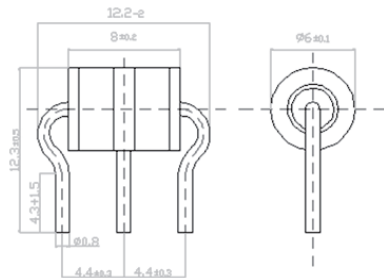
Part Number	DC Breakdown Voltage	Tolerance	Impulse Spark-over Voltage	Impulse Discharge Current 10hits (5hits each polarity)	AC Discharge Current 5 hits	Insulation Resistance*	Capacitance
	100V/s (V)	of Vs	1KV/μs (V)	8/20μs	50Hz	GΩ	1MHz
3R075L-6×8	75V	±20%	≤600V	10KA	10A	≥10	≤1pF
3R090L-6×8	90V	±20%	≤600V	10KA	10A	≥10	≤1pF
3R150L-6×8	150V	±20%	≤600V	10KA	10A	≥10	≤1pF
3R200L-6×8	200V	±20%	≤700V	10KA	10A	≥10	≤1pF
3R230L-6×8	230V	±20%	≤700V	10KA	10A	≥10	≤1pF
3R300L-6×8	300V	±20%	≤900V	10KA	10A	≥10	≤1pF
3R350L-6×8	350V	±20%	≤1000V	10KA	10A	≥10	≤1pF
3R400L-6×8	400V	±20%	≤1000V	10KA	10A	≥10	≤1pF
3R470L-6×8	470V	±20%	≤1200V	10KA	10A	≥10	≤1pF
3R600L-6×8	600V	±20%	≤1400V	10KA	10A	≥10	≤1pF

1) At delivery AQL 0.65 leave II Military Standard 105 E.

2) In ionized mode

3) Test according to ITU-T Rec.k.12

Specification Status: Draft (mm)



3R***L-8 × 10 Series Electrical Characteristics (TA = 25 ° C unless otherwise noted)



Part Number	DC Breakdown Voltage	Tolerance	Impulse Spark-over Voltage	Impulse Discharge Current 10hits (5hits each polarity)	AC Discharge Current 5 hits	Insulation Resistance*	Capacitance
	100V/s (V)	of Vs	1KV/μs (V)	8/20μs	50Hz	GΩ	1MHz
3R075L-8 × 10	75V	± 20%	≤ 600V	10KA	10A	≥ 10	≤ 1pF
3R090L-8 × 10	90V	± 20%	≤ 600V	10KA	10A	≥ 10	≤ 1pF
3R150L-8 × 10	150V	± 20%	≤ 600V	10KA	10A	≥ 10	≤ 1pF
3R200L-8 × 10	200V	± 20%	≤ 700V	10KA	10A	≥ 10	≤ 1pF
3R230L-8 × 10	230V	± 20%	≤ 700V	10KA	10A	≥ 10	≤ 1pF
3R300L-8 × 10	300V	± 20%	≤ 900V	10KA	10A	≥ 10	≤ 1pF
3R350L-8 × 10	350V	± 20%	≤ 1000V	10KA	10A	≥ 10	≤ 1pF
3R400L-8 × 10	400V	± 20%	≤ 1000V	10KA	10A	≥ 10	≤ 1pF
3R470L-8 × 10	470V	± 20%	≤ 1200V	10KA	10A	≥ 10	≤ 1pF
3R600L-8 × 10	600V	± 20%	≤ 1400V	10KA	10A	≥ 10	≤ 1pF

- 1) At delivery AQL 0.65 leave II Military Standard 105 E.
- 2) In ionized mode
- 3) Test according to ITU-T Rec.k.12

GDT

Specification Status: Draft (mm)

