

TWO ELECTRODE SURGE ARRESTERS

CG/CG2 Series



DESCRIPTION

REMtech's two electrode CG/CG2 Comgaps are designed for a high degree of surge protection at a low cost. The CG Series (75-110V) is primarily used for protection of test and communication equipment in which low voltage limits and extremely low arc voltages are required. The CG2 Series (145V-1000V) is used for the protection of test and communication equipment for which higher voltage limits and holdover voltages are necessary. Comgaps function as switches which dissipate a minimum amount of energy and therefore handle currents that far surpass other types of transient voltage protection.

FEATURES

- Small size
- Rugged ceramic-metal construction
- Low capacitance (<1pF)
- Non Radioactive 600-1000 V
- Available with or without leads
- Available in tape-and-reel packaging

APPLICATIONS

- Communication lines
- CATV equipment
- Test equipment
- Data lines
- Power supplies
- Instrumentation circuits
- Medical electronics

APPROVALS

- UL Recognized: File Number E111526
- Meets REA PE-80

RATINGS (@ 25° C)

Parameter	Min	Typ	Max	Units
DC Breakdown Voltage	60	75	90	V
	72	90	108	V
	88	110	132	V
	116	145	174	V
	195	230	265	V
	213	250	288	V
	255	300	345	V
	297	350	403	V
	400	470	540	V
	510	600	690	V
680	800	920	V	
850	1000	1150	V	
Insulation Resistance	10 ¹⁰	-	-	Ω
Capacitance	-	-	1	pF
Operational Temperature	-40	-	+125	°C

(See detailed specifications for more information.)

TWO ELECTRODE NON-RADIOACTIVE SURGE ARRESTERS

CG/CG2 SN Series

SPECIFICATIONS

All characteristics at 25°C

PARAMETER	CONDITIONS	SYMBOL	CG90SN			CG2-230SN			CG2-250SN			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Device Specifications												
DC Breakdown	500V/s	V _{BD}	72	90	113	184	230	276	200	250	300	V
Impulse Breakdown	100V/μs	V _{BD}	-	-	500	-	-	600	-	-	600	V
Insulation Resistance	100V	IR	10 ⁹	-	-	10 ⁹	-	-	10 ⁹	-	-	Ω
Capacitance	1MHz	C	-	-	1	-	-	1	-	-	1	pF
Arc Voltage	1=5A min	V _{ARC}	-	10	-	-	10	-	-	10	-	V
Life Ratings⁽¹⁾												
Surge Life	500A (10/1000μs)	-	400	-	-	400	-	-	400	-	-	shots
Max Current Surge	10kA (8/20μs)	-	10	-	-	10	-	-	10	-	-	shots
AC Current	10x 1sec @ 60Hz	-	-	-	20	-	-	20	-	-	20	A
AC Follow-on Current	1/2 cycle @ 60Hz	-	-	-	N/A	-	-	20	-	-	20	A pk
DC Holdover Voltage	per REA PE-80, 0.2A	-	-	65	-	-	150	-	-	150	-	V

PARAMETER	CONDITIONS	SYMBOL	CG2-300SN			CG2-350SN			CG2-470SN			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Device Specifications												
DC Breakdown	500V/s	V _{BD}	240	300	360	280	350	420	376	470	564	V
Impulse Breakdown	100V/μs	V _{BD}	-	-	700	-	-	750	-	-	850	V
Insulation Resistance	100V	IR	10 ⁹	-	-	10 ⁹	-	-	10 ⁹	-	-	Ω
Capacitance	1MHz	C	-	-	1	-	-	1	-	-	1	pF
Arc Voltage	1=5A min	V _{ARC}	-	10	-	-	10	-	-	10	-	V
Life Ratings⁽¹⁾												
Surge Life	500A (10/1000μs)	-	400	-	-	400	-	-	400	-	-	shots
Max Current Surge	10kA (8/20μs)	-	10	-	-	10	-	-	10	-	-	shots
AC Current	10x 1sec @ 60Hz	-	-	-	20	-	-	20	-	-	20	A
AC Follow-on Current	1/2 cycle @ 60Hz	-	-	-	20	-	-	20	-	-	20	A pk
DC Holdover Voltage	per REA PE-80, 0.2A	-	-	150	-	-	150	-	-	150	-	V

⁽¹⁾End-of-life limits are:

DC: 50% of minimum initial DC breakdown voltage limit to 150% of maximum initial DC breakdown voltage limit.

Impulse: less than 150% of initial Impulse breakdown voltage limit.

TWO ELECTRODE NON-RADIOACTIVE SURGE ARRESTERS

CG/CG2 SN Series



DESCRIPTION

REMtech's two electrode non-radioactive CG/CG2 SN Comgaps are designed for use in surge protection applications for which the radioactive isotope used in the standard CG/CG2 Series (75-470V) is not desired. The gas-filled, rugged ceramic-metal construction of Comgaps makes them well suited to adverse environments. Comgaps function as switches which dissipate a minimum amount of energy and therefore handle currents that far surpass other types of transient voltage protection.

FEATURES

- Small size
- Rugged ceramic-metal construction
- Non-radioactive
- Low capacitance (<1pF)
- Available with or without leads
- Available in tape-and-reel packaging

APPLICATIONS

- Communication lines
- CATV equipment
- Test equipment
- Power supplies
- Medical electronics
- Instrumentation circuits

APPROVALS

- Meets REA PE-80
- Designed to meet CCITT-K12

RATINGS (@ 25° C)

Parameter	Min	Typ	Max	Units
DC Breakdown Voltage	72	90	108	V
184	230	276	V	
200	250	300	V	
240	300	360	V	
280	350	420	V	
376	470	564	V	
Insulation Resistance	10 ⁹	-	-	Ω
Capacitance	-	-	1	pF
Operational Temp	-40	-	+125	°C

(See detailed specifications for more information.)

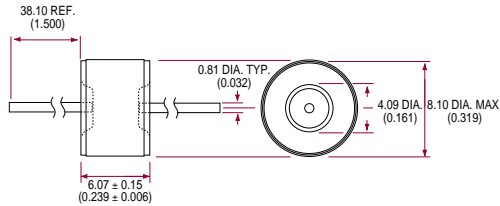
TWO ELECTRODE SURGE ARRESTERS

CG/CG2 Series

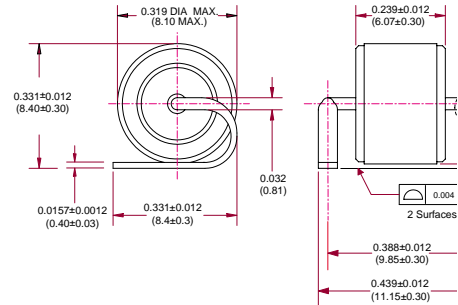
MECHANICAL DIMENSIONS

Other lead forms are available upon request.
Contact REMtech for more information.

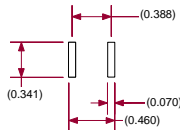
DIMENSIONS
mm
(inches)



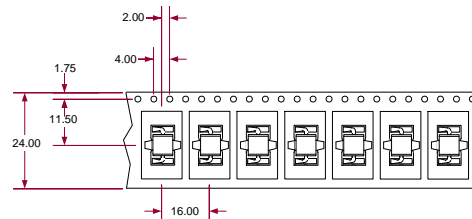
LS Outline



LS Recommended Land Pattern



LS Tape & Reel Packaging



Tape & Reel packaging is available on request. See ordering information below for part number structure.

ORDERING INFORMATION

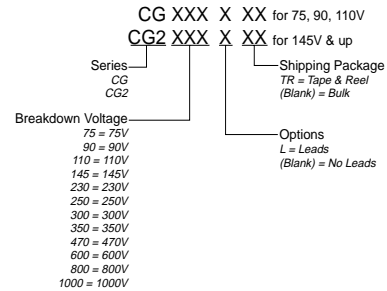
Tape & Reel Information

CGXXXLTR - Tape & Reel per EIA RS-296-D. Quantity = 1,000/Reel

CGXXXLTE - Tape & Reel per IEC286-1. Quantity = 1,000/Reel

CGXXXLSTR - See figure above for tape & reel information. Quantity = 1,400/Reel

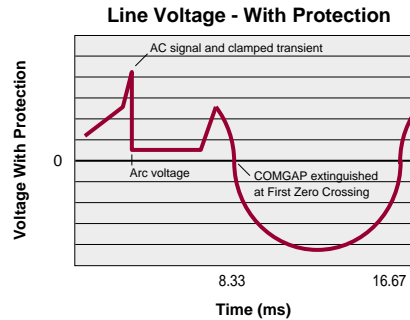
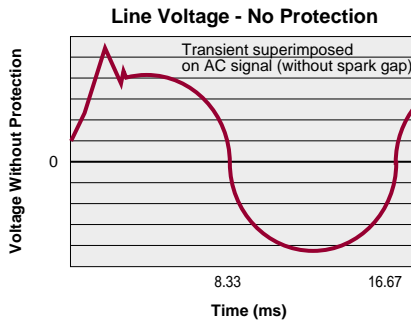
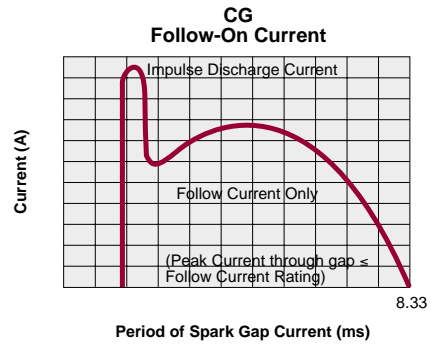
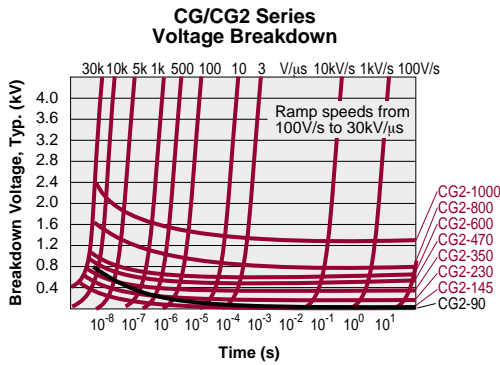
CG/CG2's with other breakdown voltages in the 75-1000 V range are available upon request. A complete part number is represented by the digits below. For example, CG75 is a non-leaded 75V device, CG2-230L is a leaded 230V device, and CG2-800LTR is a leaded 800V device on tape-and-reel per EIA standard RS-296-D.



TWO ELECTRODE SURGE ARRESTERS

CG/CG2 Series

PERFORMANCE CHARACTERISTICS



TWO ELECTRODE SURGE ARRESTERS

SPECIFICATIONS

CG/CG2 Series

All characteristics at 25°C

PARAMETER	CONDITIONS	SYMBOL	CG75			CG90			CG110			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Device Specifications												
DC Breakdown	500V/s	V _{BD}	60	75	90	72	90	108	88	110	132	V
Impulse Breakdown	100V/μs	V _{bd}	- ¹⁰	-	400	- ¹⁰	-	400	- ¹⁰	-	450	V
Insulation Resistance	50V	IR	10	-	-	10	-	-	10	-	-	Ω
Capacitance	1MHz	C	-	-	1	-	-	1	-	-	1	pF
Arc Voltage	I=5A min	V _{ARC}	-	10	-	-	10	-	-	10	-	V
Life Ratings⁽¹⁾												
Surge Life	500A (10/1000μs)	-	1000	-	-	1000	-	-	1000	-	-	shots
Max Current Surge	20kA (8/20μs)	-	5	-	-	5	-	-	5	-	-	shots
AC Current	10x 1sec @ 60Hz	-	-	-	20	-	-	20	-	-	20	A
DC Holdover Voltage	per REA PE-80, 0.2A	-	-	55	-	-	65	-	-	80	-	V

PARAMETER	CONDITIONS	SYMBOL	CG2-145			CG2-230			CG2-250			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Device Specifications												
DC Breakdown	500V/s	V _{BD}	116	145	174	195	230	265	213	250	288	V
Impulse Breakdown	100V/μs	V _{bd}	- ¹⁰	-	500	- ¹⁰	-	600	- ¹⁰	-	625	V
Insulation Resistance	100V	IR	10	-	-	10	-	-	10	-	-	Ω
Capacitance	1MHz	C	-	-	1	-	-	1	-	-	1	pF
Arc Voltage	I=5A min	V _{ARC}	-	15	-	-	15	-	-	15	-	V
Life Ratings⁽¹⁾												
Surge Life	500A (10/1000μs)	-	1000	-	-	1000	-	-	1000	-	-	shots
Max Current Surge	20kA (8/20μs)	-	5	-	-	5	-	-	5	-	-	shots
AC Current	10x 1sec @ 60Hz	-	-	-	20	-	-	20	-	-	20	A
AC Follow-on Current	1/2 cycle @ 60Hz	-	-	-	20	-	-	20	-	-	20	A pk
DC Holdover Voltage	per REA PE-80, 0.2A	-	-	90	-	-	150	-	-	150	-	V

PARAMETER	CONDITIONS	SYMBOL	CG2-300			CG2-350			CG2-470			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Device Specifications												
DC Breakdown	500V/s	V _{BD}	255	300	345	297	350	403	400	470	540	V
Impulse Breakdown	100V/μs	V _{bd}	- ¹⁰	-	700	- ¹⁰	-	750	- ¹⁰	-	850	V
Insulation Resistance	100V	IR	10	-	-	10	-	-	10	-	-	Ω
Capacitance	1MHz	C	-	-	1	-	-	1	-	-	1	pF
Arc Voltage	I=5A min	V _{ARC}	-	15	-	-	15	-	-	15	-	V
Life Ratings⁽¹⁾												
Surge Life	500A (10/1000μs)	-	1000	-	-	1000	-	-	1000	-	-	shots
Max Current Surge	20kA (8/20μs)	-	5	-	-	5	-	-	5	-	-	shots
AC Current	10x 1sec @ 60Hz	-	-	-	20	-	-	20	-	-	20	A
AC Follow-on Current	1/2 cycle @ 60Hz	-	-	-	20	-	-	20	-	-	20	A pk
DC Holdover Voltage	per REA PE-80, 0.2A	-	-	150	-	-	150	-	-	150	-	V

PARAMETER	CONDITIONS	SYMBOL	CG2-600			CG2-800			CG2-1000			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Device Specifications												
DC Breakdown	500V/s	V _{BD}	510	600	690	680	800	920	850	1000	1150	V
Impulse Breakdown	100V/μs	V _{bd}	- ¹⁰	-	1000	- ¹⁰	-	1200	- ¹⁰	-	1500	V
Insulation Resistance	100V	IR	10	-	-	10	-	-	10	-	-	Ω
Capacitance	1MHz	C	-	-	1	-	-	1	-	-	1	pF
Arc Voltage	I=5A min	V _{ARC}	-	15	-	-	15	-	-	15	-	V
Life Ratings⁽¹⁾												
Surge Life	500A (10/1000μs)	-	1000	-	-	1000	-	-	1000	-	-	shots
Max Current Surge	10kA (8/20μs)	-	10	-	-	10	-	-	10	-	-	shots
AC Current	10x 1sec @ 60Hz	-	-	-	20	-	-	20	-	-	20	A
AC Follow-on Current	1/2 cycle @ 60Hz	-	-	-	20	-	-	20	-	-	20	A pk
DC Holdover Voltage	per REA PE-80, 0.2A	-	-	150	-	-	150	-	-	150	-	V

⁽¹⁾End-of-Life limits are: DC: 50% of minimum initial DC breakdown voltage limit to 150% of maximum initial DC breakdown voltage limit
Impulse: less than 150% of initial Impulse breakdown voltage limit.

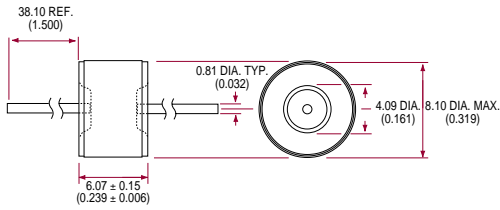
TWO ELECTRODE NON-RADIOACTIVE SURGE ARRESTERS

CG/CG2 SN Series

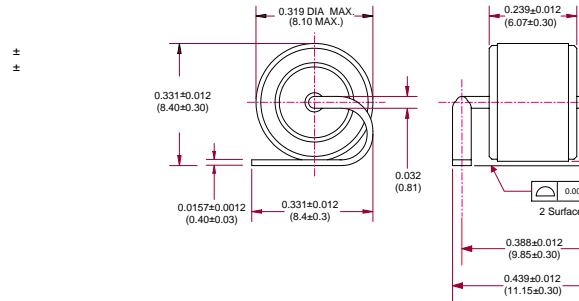
MECHANICAL DIMENSIONS

Other lead forms are available upon request.
Contact REMtech for more information.

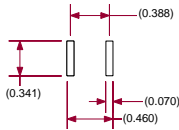
DIMENSIONS
mm
(inches)



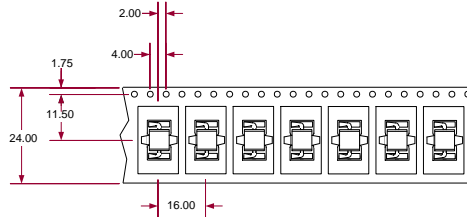
LS Outline



LS Recommended Land Pattern



LS Tape & Reel Packaging



Tape & Reel packaging is available on request. See ordering information below for part number structure.

ORDERING INFORMATION

CG/CG2 SN's with other breakdown voltages in the 90-470 V range are available upon request. A complete part number is represented by the digits below. For example, CG2-230SN is a non-leaded 230V device, CG2-470LSN is a leaded 470V device, and CG90LSNTR is a leaded 90V device on tape-and-reel per EIA standard RS-296-D.

Tape & Reel Information

CGXXLSNTR - Tape & Reel per EIA RS-296-D. Quantity = 1,000/Reel

CGXXLSNTE - Tape & Reel per IEC286-1. Quantity = 1,000/Reel

CGXXLSSNTR - See figure above for tape & reel information. Quantity = 1,400/Reel

