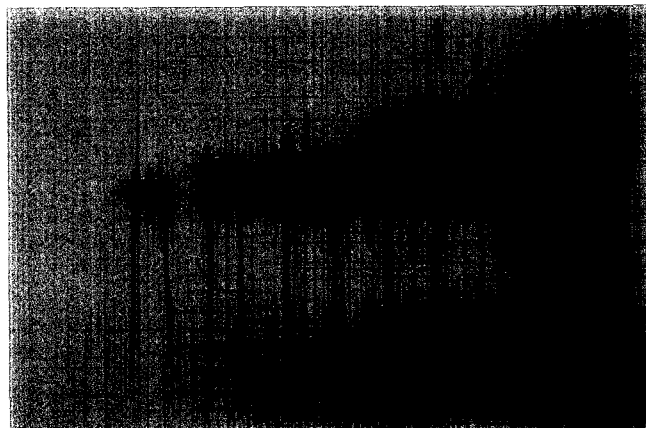


LOW & MEDIUM VOLTAGE DISC VARISTORS CV SERIES



Description

CV Series of transient surge suppressors are disc shaped varistors that can be operated continuously in low and medium voltage circuits of electronic systems as well as across AC power lines.

Due to their radial lead construction these components require very little mounting space. These devices are available in five model sizes : 5 mm, 7 mm, 10 mm, 14 mm and 20 mm and feature a wide AC operating voltage ranging from 11 V to 550 V.



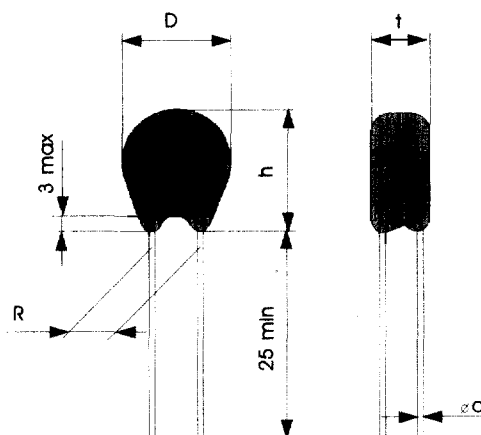
Features

- Operating voltage range V_{rms} 11 V to 550 V
- Operating voltage range V_{dc} 14 V to 745 V
- 5 Model sizes available5 mm, 7 mm, 10 mm, 14 mm, 20 mm
- Broad range of current handling capability I_{max} 100 A to 6500 A (8/20 μ A)
- Broad range of energy absorption capability W_{max} 0.3 J to 280 J (10/1000 μ A)
- + 85 °C continuous operating temperature
- Available with straight and crimped leads
- Available in tape and reel for automatic pick and place
-  UL1414 & CSA C22.2 File E163318, Across-The-Line-Components for CV 130...300 K 07...20
-  Reg. Nr. 10144 - CECC 42000/42200/42201, File 5883.11-4790-1001/A11 for CV 60...300 K 07...20
- UL1449 & CSA C22.2 File E148696, Transient Voltage Surge Suppressors for CV 60...300 K 07...20 pending

Absolute Maximum Ratings

Continuous :	Units	Value
Steady State Applied Voltage :		
DC Voltage Range (Vdc)	V	14 to 745
AC Voltage Range (Vrms)	V	11 to 550
Transient :		
Peak Single Pulse Surge Current, 8/20 μ s Waveform, (I_{max})	A	100 to 6500
Single Pulse Surge Energy, 10/1000 μ s Waveform (W_{max})	J	0.3 to 280
Operating Ambient Temperature	°C	-40 to +85
Storage Temperature Range	°C	-40 to +125
Threshold Voltage Temperature Coefficient	%/ °C	< - 0.05
Insulation Resistance	G Ω	> 1
Isolation Voltage Capability	kV	> 2.5
Response Time	ns	< 25
Climatic Category		40 / 85 / 56

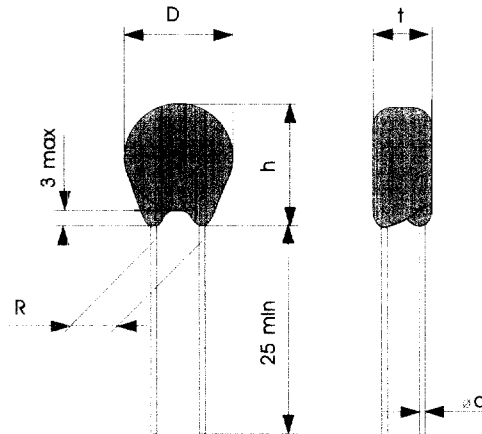
Device Ratings and Characteristics



CV 11 K 05.....CV 50 K 20

Type	Vrms	Vdc	Vn	Vc	Ic	Wmax	P	I _{max}	C	D	t	R	d	h
	v	v	@ 1 mA v	v	A	10/1000 μs J	max W	8/20 μs A	1kHz pF	max mm	max mm	mm	mm	max mm
CV 11 K 05	11	14	18	36	1.0	0.3	0.01	100	2500	7.0	3.5	5.0	0.6	9.5
CV 11 K 07	11	14	18	36	2.5	0.8	0.02	250	5400	9.0	3.5	5.0	0.6	11.5
CV 14 K 05	14	18	22	43	1.0	0.4	0.01	100	2200	7.0	3.6	5.0	0.6	9.5
CV 14 K 07	14	18	22	43	2.5	0.9	0.02	250	4900	9.0	3.6	5.0	0.6	11.5
CV 14 K 10	14	18	22	43	5.0	2.0	0.05	500	6300	12.5	4.2	7.5	0.8	15.0
CV 17 K 05	17	22	27	53	1.0	0.5	0.01	100	1900	7.0	3.7	5.0	0.6	9.5
CV 17 K 07	17	22	27	53	2.5	1.1	0.02	250	3500	9.0	3.7	5.0	0.6	11.5
CV 17 K 10	17	22	27	53	5.0	2.5	0.05	500	5100	12.5	4.3	7.5	0.8	15.0
CV 20 K 05	20	26	33	65	1.0	0.6	0.01	100	1650	7.0	3.6	5.0	0.6	9.5
CV 20 K 07	20	26	33	65	2.5	1.3	0.02	250	3100	9.0	3.6	5.0	0.6	11.5
CV 20 K 10	20	26	33	65	5.0	3.1	0.05	500	4500	12.5	3.6	7.5	0.8	15.0
CV 25 K 05	25	31	39	77	1.0	0.7	0.01	100	1500	7.0	3.6	5.0	0.6	9.5
CV 25 K 07	25	31	39	77	2.5	1.6	0.02	250	2800	9.0	3.6	5.0	0.6	11.5
CV 25 K 10	25	31	39	77	5.0	3.7	0.05	500	4200	12.5	3.6	7.5	0.8	15.0
CV 25 K 14	25	31	39	77	10.0	7.0	0.10	1000	5600	16.5	3.8	7.5	0.8	19.0
CV 25 K 20	25	31	39	77	20.0	22.0	0.20	2000	11000	22.5	3.8	10.0	0.8	26.0
CV 30 K 05	30	38	47	93	1.0	0.9	0.01	100	1000	7.0	3.8	5.0	0.6	9.5
CV 30 K 07	30	38	47	93	2.5	2.0	0.02	250	2000	9.0	3.8	5.0	0.6	11.5
CV 30 K 10	30	38	47	93	5.0	4.4	0.05	500	3800	12.5	4.0	7.5	0.8	15.0
CV 30 K 14	30	38	47	93	10.0	9.0	0.10	1000	5200	16.5	4.0	7.5	0.8	19.0
CV 30 K 20	30	38	47	93	20.0	26.0	0.20	2000	9000	22.5	4.0	10.0	0.8	26.0
CV 35 K 05	35	45	56	110	1.0	1.0	0.01	100	800	7.0	3.8	5.0	0.6	9.5
CV 35 K 07	35	45	56	110	2.5	2.2	0.02	250	1600	9.0	3.8	5.0	0.6	11.5
CV 35 K 10	35	45	56	110	5.0	5.5	0.05	500	3200	12.5	4.0	7.5	0.8	15.0
CV 35 K 14	35	45	56	110	10.0	9.0	0.10	1000	5000	16.5	4.0	7.5	0.8	19.0
CV 35 K 20	35	45	56	110	20.0	28.0	0.20	2000	8000	22.5	4.0	10.0	0.8	26.0
CV 40 K 05	40	56	68	135	1.0	1.2	0.01	100	7000	7.0	3.8	5.0	0.6	9.5
CV 40 K 07	40	56	68	135	2.5	2.5	0.02	250	1300	9.0	3.8	5.0	0.6	11.5
CV 40 K 10	40	56	68	135	5.0	6.3	0.05	500	2900	12.5	4.0	7.5	0.8	15.0
CV 40 K 14	40	56	68	135	10.0	12.0	0.10	1000	4500	16.5	4.0	7.5	0.8	19.0
CV 40 K 20	40	56	68	135	20.0	38.0	0.20	2000	7100	22.5	4.0	10.0	0.8	26.0
CV 50 K 05	50	65	82	135	5	3.4	0.10	400	400	7.0	3.5	5.0	0.6	9.5
CV 50 K 07	50	65	82	135	10	6.7	0.25	1200	600	9.0	3.5	5.0	0.6	11.5
CV 50 K 10	50	65	82	135	25	17.0	0.40	2500	1300	12.5	4.1	7.5	0.8	15.0
CV 50 K 14	50	65	82	135	50	29.0	0.60	4500	2600	16.5	4.1	7.5	0.8	19.0
CV 50 K 20	50	65	82	135	100	84.0	1.00	6500	5000	22.5	4.1	10.0	0.8	26.0

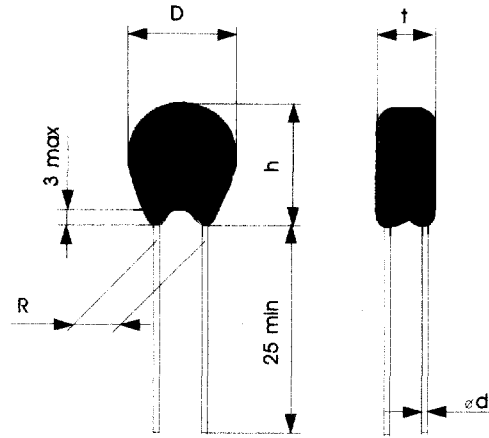
* for varistor size of 5 mm Vn is measured at 0.1 mA



CV 60 K 05.....CV 150 K 20

Type	Vrms	Vdc	Vn*	Vc	Ic	Wmax	P	Imax	C	D	t	R	d	h
	v	v	@ 1 mA v	v	A	10/1000 μ s J	max W	8/20 μ s A	1kHz pF	max mm	max mm	mm	mm	max mm
CV 60 K 05	60	85	100	165	5	2.5	0.10	400	300	7.0	3.5	5.0	0.6	9.5
CV 60 K 07	60	85	100	165	10	5.9	0.25	1200	600	9.0	3.5	5.0	0.6	11.5
CV 60 K 10	60	85	100	165	25	13.0	0.40	2500	1200	12.5	4.1	7.5	0.8	15.0
CV 60 K 14	60	85	100	165	50	27.0	0.60	4500	2100	16.5	4.1	7.5	0.8	19.0
CV 60 K 20	60	85	100	165	100	63.0	1.00	6500	4000	22.5	4.1	10.0	0.8	26.0
CV 75 K 05	75	100	120	200	5	3.0	0.10	400	240	7.0	3.6	5.0	0.6	9.5
CV 75 K 07	75	100	120	200	10	7.2	0.25	1200	500	9.0	3.6	5.0	0.6	11.5
CV 75 K 10	75	100	120	200	25	17.0	0.40	2500	1100	12.5	4.2	7.5	0.8	15.0
CV 75 K 14	75	100	120	200	50	31.0	0.60	4500	1900	16.5	4.2	7.5	0.8	19.0
CV 75 K 20	75	100	120	200	100	70.0	1.00	6500	3600	22.5	4.2	10.0	0.8	26.0
CV 95 K 05	95	125	150	250	5	3.6	0.10	400	210	7.0	3.8	5.0	0.6	9.5
CV 95 K 07	95	125	150	250	10	9.6	0.25	1200	430	9.0	3.8	5.0	0.6	11.5
CV 95 K 10	95	125	150	250	25	20.0	0.40	2500	850	12.5	4.3	7.5	0.8	15.0
CV 95 K 14	95	125	150	250	50	42.0	0.60	4500	1650	16.5	4.3	7.5	0.8	19.0
CV 95 K 20	95	125	150	250	100	84.0	1.00	6500	3400	22.5	4.3	10.0	0.8	26.0
CV 115 K 05	115	150	180	300	5	4.2	0.10	400	200	7.0	3.5	5.0	0.6	9.5
CV 115 K 07	115	150	180	300	10	11.0	0.25	1200	410	9.0	3.5	5.0	0.6	11.5
CV 115 K 10	115	150	180	300	25	24.0	0.40	2500	830	12.5	4.1	7.5	0.8	15.0
CV 115 K 14	115	150	180	300	50	49.0	0.60	4500	1400	16.5	4.1	7.5	0.8	19.0
CV 115 K 20	115	150	180	300	100	87.0	1.00	6500	3100	22.5	4.1	10.0	0.8	26.0
CV 130 K 05	130	170	205	340	5	4.8	0.10	400	150	7.0	3.6	5.0	0.6	9.5
CV 130 K 07	130	170	205	340	10	13.0	0.25	1200	350	9.0	3.6	5.0	0.6	11.5
CV 130 K 10	130	170	205	340	25	28.0	0.40	2500	500	12.5	4.2	7.5	0.8	15.0
CV 130 K 14	130	170	205	340	50	53.0	0.60	4500	1000	16.5	4.2	7.5	0.8	19.0
CV 130 K 20	130	170	205	340	100	98.0	1.00	6500	2200	22.5	4.2	10.0	0.8	26.0
CV 140 K 05	140	180	220	360	5	5.4	0.10	400	180	7.0	3.9	5.0	0.6	9.5
CV 140 K 07	140	180	220	360	10	13.0	0.25	1200	390	9.0	3.9	5.0	0.6	11.5
CV 140 K 10	140	180	220	360	25	32.0	0.40	2500	790	12.5	4.3	7.5	0.8	15.0
CV 140 K 14	140	180	220	360	50	56.0	0.60	4500	1200	16.5	4.3	7.5	0.8	19.0
CV 140 K 20	140	180	220	360	100	105.0	1.00	6500	2000	22.5	4.3	10.0	0.8	26.0
CV 150 K 05	150	200	240	395	5	6.0	0.10	400	150	7.0	4.0	5.0	0.6	9.5
CV 150 K 07	150	200	240	395	10	16.0	0.25	1200	320	9.0	4.0	5.0	0.6	11.5
CV 150 K 10	150	200	240	395	25	34.0	0.40	2500	650	12.5	4.6	7.5	0.8	15.0
CV 150 K 14	150	200	240	395	50	63.0	0.60	4500	800	16.5	4.6	7.5	0.8	19.0
CV 150 K 20	150	200	240	395	100	112.0	1.00	6500	1800	22.5	4.6	10.0	0.8	26.0

* for varistor size of 5 mm Vn is measured at 0.1 mA



CV 175 K 05.....CV 550 K 20

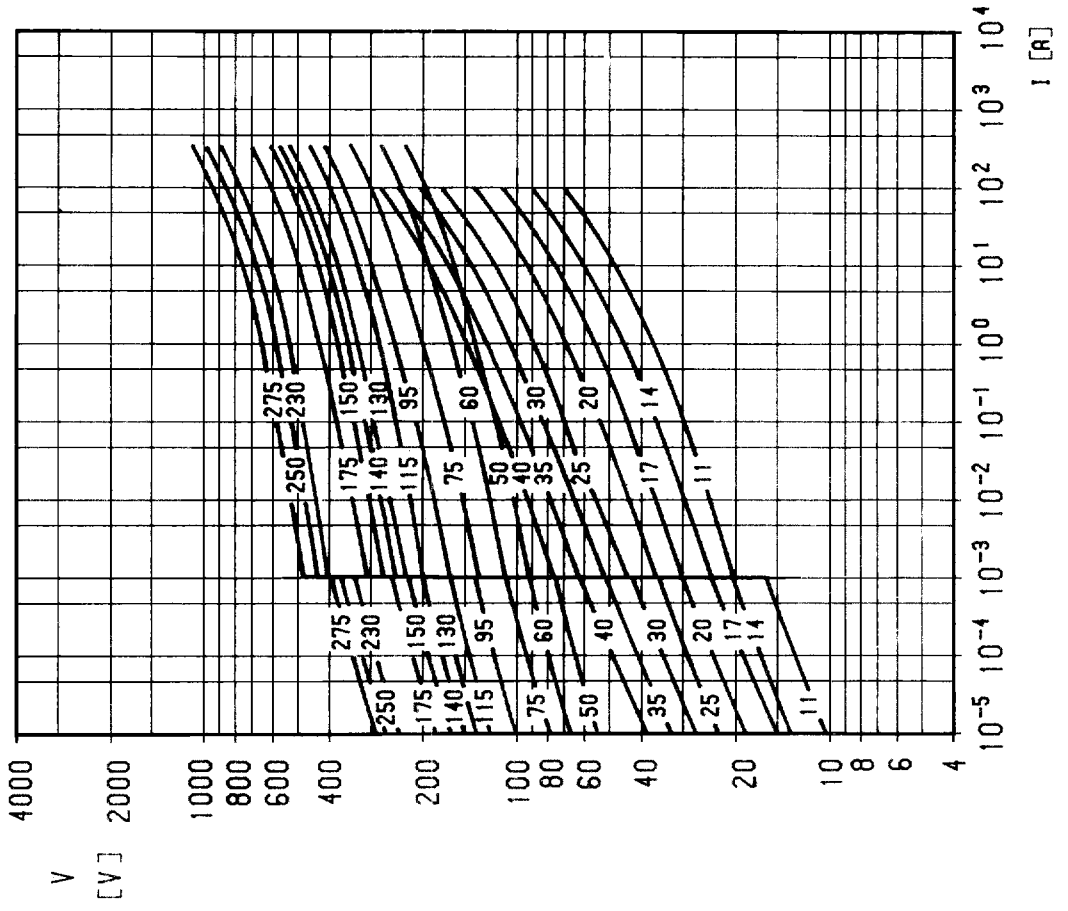
Type	Vrms	Vdc	Vn*	Vc	Ic	Wmax	P	I _{max}	C	D	t	R	d	h
	V	V	@ 1 mA V	V	A	10/1000 μs J	max W	8/20 μs A	1kHz pF	max mm	max mm	mm	mm	max mm
CV 175 K 05	175	225	270	455	5	7.2	0.10	400	130	7.0	4.3	5.0	0.6	9.5
CV 175 K 07	175	225	270	455	10	17.0	0.25	1200	300	9.0	4.3	5.0	0.6	11.5
CV 175 K 10	175	225	270	455	25	39.0	0.40	2500	620	12.5	4.9	7.5	0.8	15.0
CV 175 K 14	175	225	270	455	50	67.0	0.60	4500	750	16.5	4.9	7.5	0.8	19.0
CV 175 K 20	175	225	270	455	100	126.0	1.00	6500	1600	22.5	4.9	10.0	0.8	26.0
CV 230 K 05	230	300	360	595	5	9.0	0.10	400	110	7.0	4.8	5.0	0.6	9.5
CV 230 K 07	230	300	360	595	10	22.0	0.25	1200	280	9.0	4.8	5.0	0.6	11.5
CV 230 K 10	230	300	360	595	25	49.0	0.40	2500	580	12.5	5.4	7.5	0.8	15.0
CV 230 K 14	230	300	360	595	50	98.0	0.60	4500	710	16.5	5.4	7.5	0.8	19.0
CV 230 K 20	230	300	360	595	100	168.0	1.00	6500	1400	22.5	5.4	10.0	0.8	26.0
CV 250 K 05	250	320	390	650	5	9.6	0.10	400	100	7.0	5.0	5.0	0.6	9.5
CV 250 K 07	250	320	390	650	10	25.0	0.25	1200	270	9.0	5.0	5.0	0.6	11.5
CV 250 K 10	250	320	390	650	25	56.0	0.40	2500	540	12.5	5.6	7.5	0.8	15.0
CV 250 K 14	250	320	390	650	50	100.0	0.60	4500	680	16.5	5.6	7.5	0.8	19.0
CV 250 K 20	250	320	390	650	100	182.0	1.00	6500	1200	22.5	5.6	10.0	0.8	26.0
CV 275 K 05	275	350	430	710	5	11.0	0.10	400	90	7.0	5.2	5.0	0.6	9.5
CV 275 K 07	275	350	430	710	10	28.0	0.25	1200	230	9.0	5.2	5.0	0.6	11.5
CV 275 K 10	275	350	430	710	25	60.0	0.40	2500	500	12.5	5.8	7.5	0.8	15.0
CV 275 K 14	275	350	430	710	50	105.0	0.60	4500	610	16.5	5.8	7.5	0.8	19.0
CV 275 K 20	275	350	430	710	100	196.0	1.00	6500	1000	22.5	5.8	10.0	0.8	26.0
CV 300 K 07	300	385	470	775	10	29	0.25	1200	200	9.0	5.8	5.0	0.6	11.5
CV 300 K 10	300	385	470	775	25	63.0	0.40	2500	450	12.5	6.1	7.5	0.8	15.0
CV 300 K 14	300	385	470	775	50	112.0	0.60	4500	580	16.5	6.1	7.5	0.8	19.0
CV 300 K 20	300	385	470	775	100	210.0	1.00	6500	800	22.5	6.1	10.0	0.8	26.0
CV 320 K 10	320	420	510	840	25	63.0	0.40	2500	410	12.5	6.5	7.5	0.8	15.0
CV 320 K 14	320	420	510	840	50	126.0	0.60	4500	520	16.5	6.5	7.5	0.8	19.0
CV 320 K 20	320	420	510	840	100	224.0	1.00	6500	700	22.5	6.5	10.0	0.8	26.0
CV 385 K 10	385	505	620	1025	25	63.0	0.40	2500	390	12.5	6.9	7.5	0.8	15.0
CV 385 K 14	385	505	620	1025	50	119.0	0.60	4500	500	16.5	6.9	7.5	0.8	19.0
CV 385 K 20	385	505	620	1025	100	210.0	1.00	6500	660	22.5	6.9	10.0	0.8	26.0
CV 420 K 10	420	560	680	1120	25	63.0	0.40	2500	300	12.5	7.3	7.5	0.8	15.0
CV 420 K 14	420	560	680	1120	50	126.0	0.60	4500	420	16.5	7.3	7.5	0.8	19.0
CV 420 K 20	420	560	680	1120	100	224.0	1.00	6500	600	22.5	7.3	10.0	0.8	26.0
CV 460 K 10	460	615	750	1240	25	70.0	0.40	2500	250	12.5	7.8	7.5	0.8	15.0
CV 460 K 14	460	615	750	1240	50	140.0	0.60	4500	350	16.5	7.8	7.5	0.8	19.0
CV 460 K 20	460	615	750	1240	100	245.0	1.00	6500	680	22.5	7.8	10.0	0.8	26.0
CV 510 K 10	510	670	820	1355	25	77.0	0.40	2500	210	12.5	8.2	7.5	0.8	15.0
CV 510 K 14	510	670	820	1355	50	154.0	0.60	4500	300	16.5	8.2	7.5	0.8	19.0
CV 510 K 20	510	670	820	1355	100	266.0	1.00	6500	600	22.5	8.2	10.0	0.8	26.0
CV 550 K 10	550	745	910	1500	25	84.0	0.40	2500	180	12.5	8.8	7.5	0.8	15.0
CV 550 K 14	550	745	910	1500	50	154.0	0.60	4500	250	16.5	8.8	7.5	0.8	19.0
CV 550 K 20	550	745	910	1500	100	280.0	1.00	6500	500	22.5	8.8	10.0	0.8	26.0

* for varistor size of 5 mm Vn is measured at 0.1 mA

Protection Level

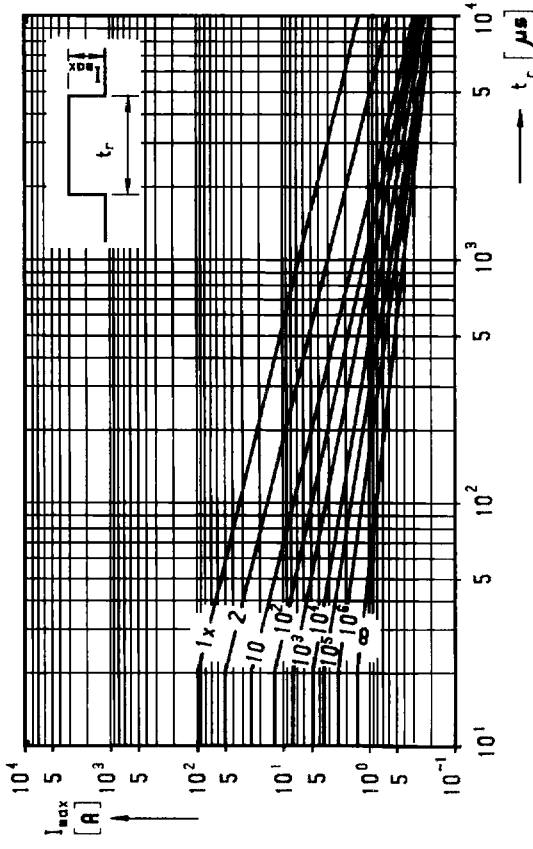
with the worst-case condition
in the tolerance region

CV 11...275

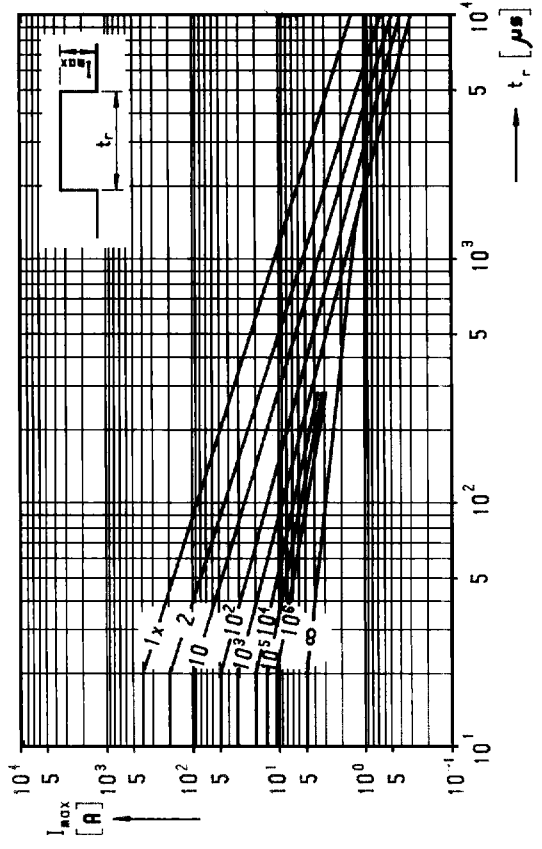


Pulse Rating Curves

CV 11...40



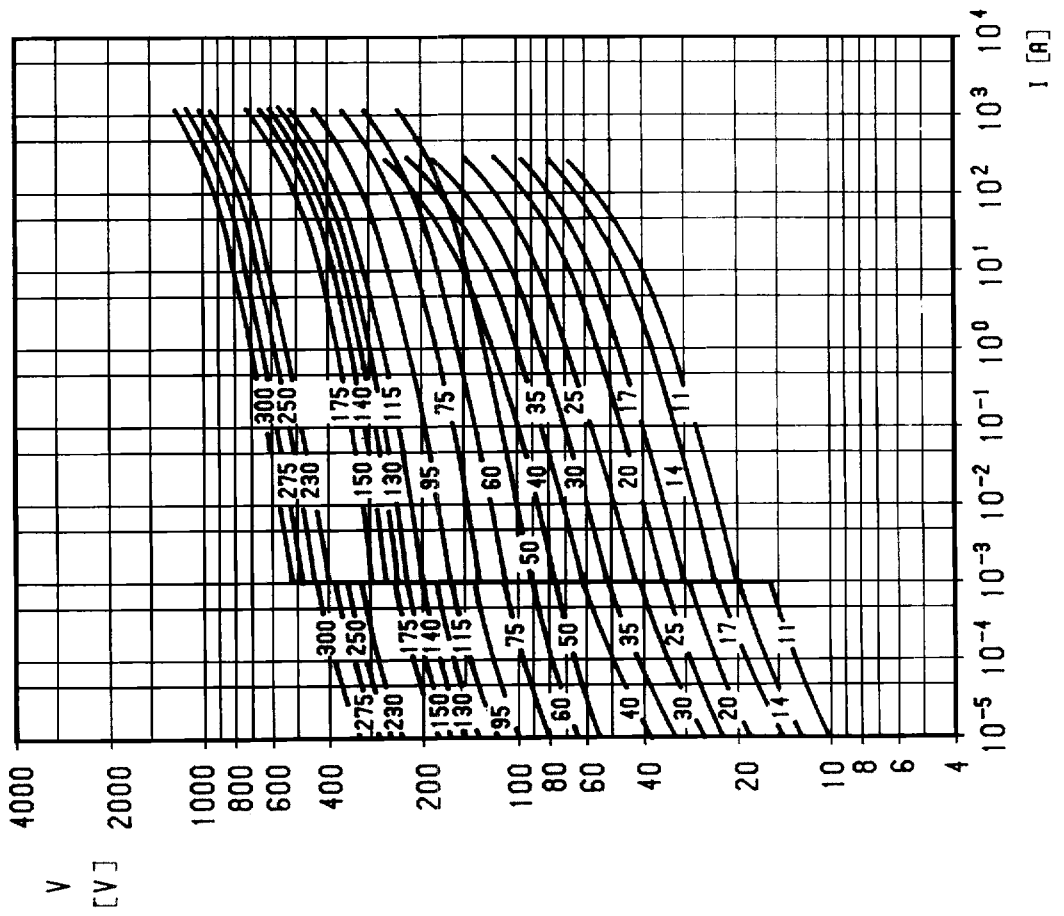
CV 50...275



Protection Level

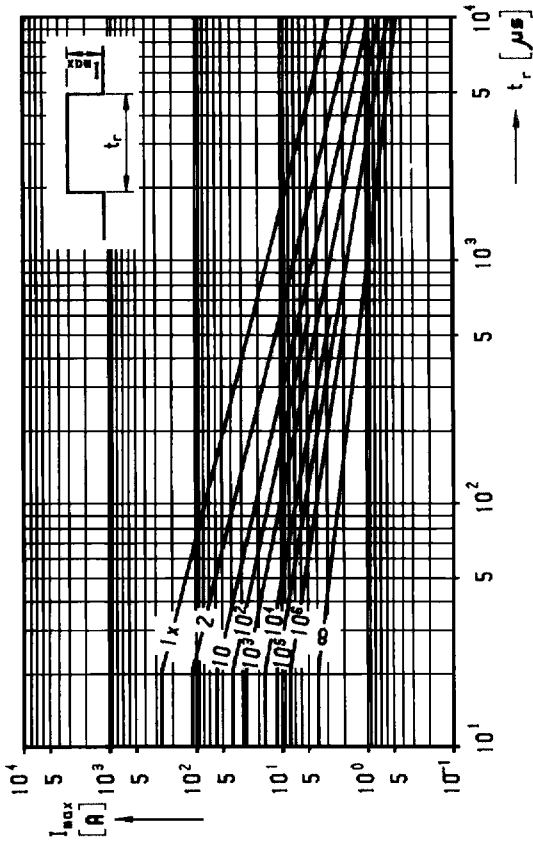
with the worst-case condition
in the tolerance region

CV 11...300

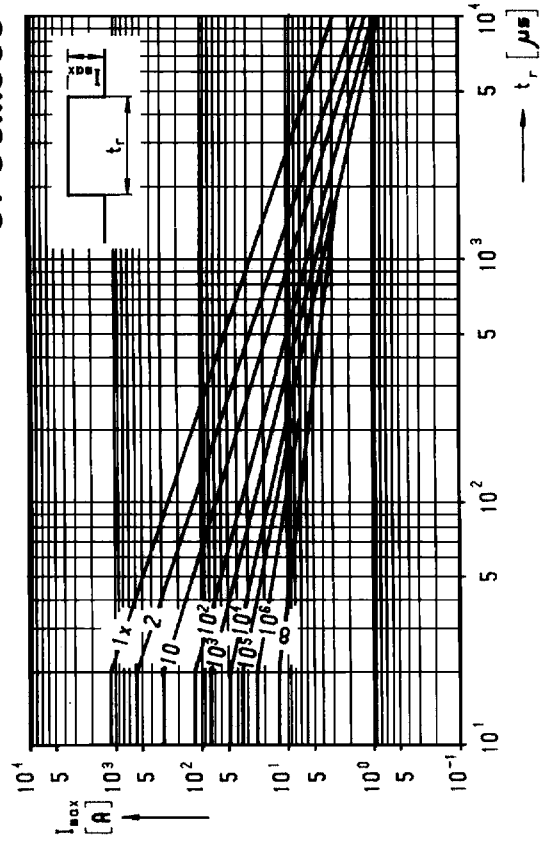


Pulse Rating Curves

CV 11...40

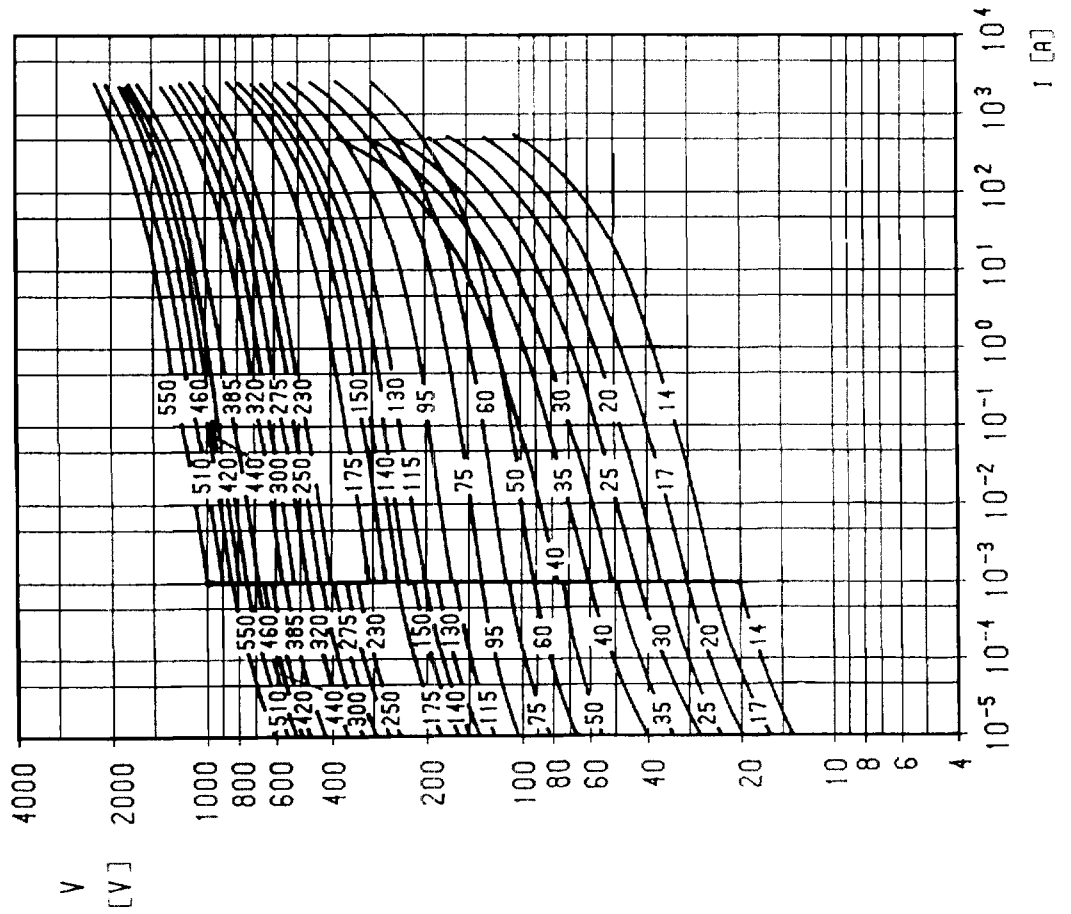


CV 50...300



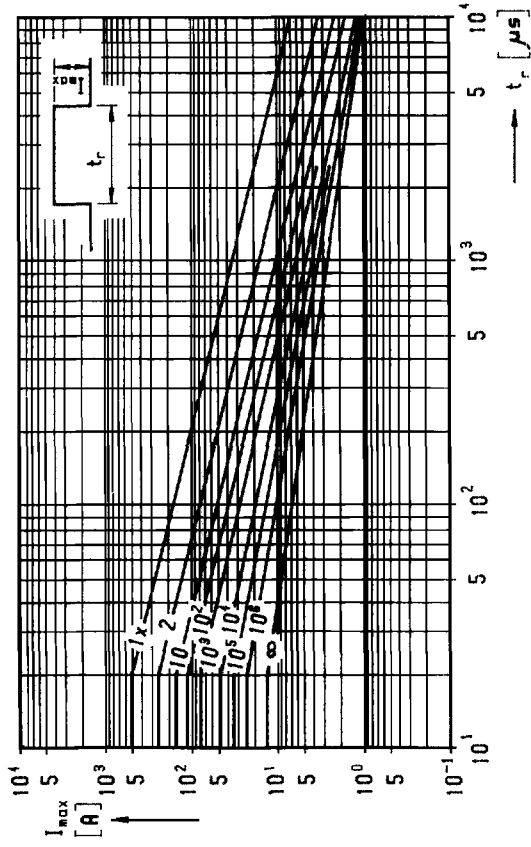
Protection Level

with the worst-case condition
in the tolerance region

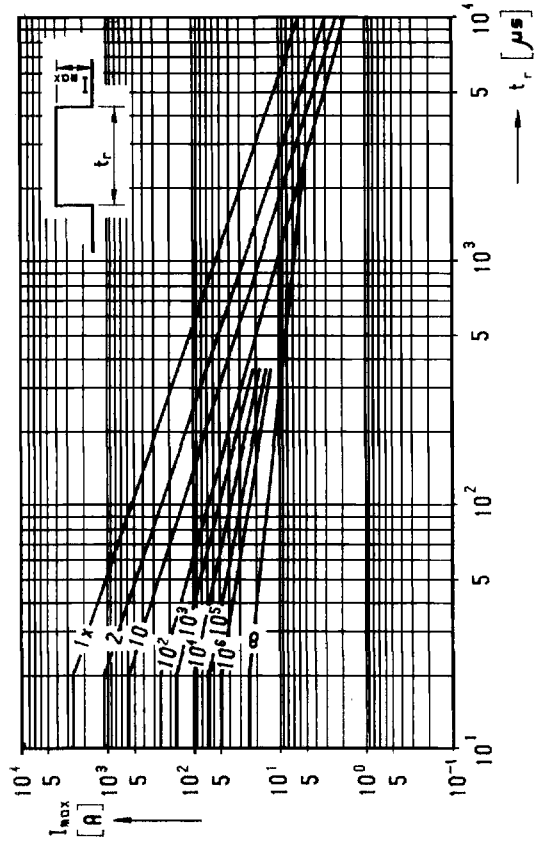


Pulse Rating Curves

CV 14...40



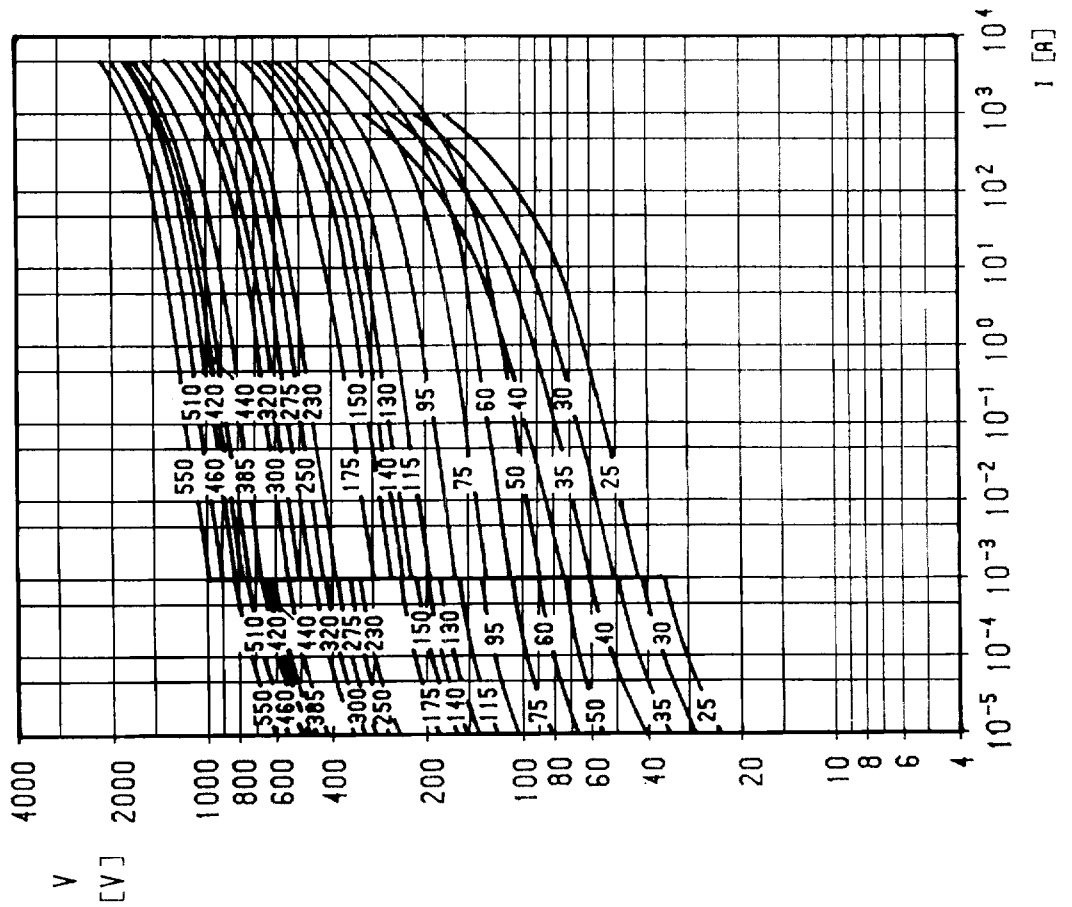
CV 50...550



Protection Level

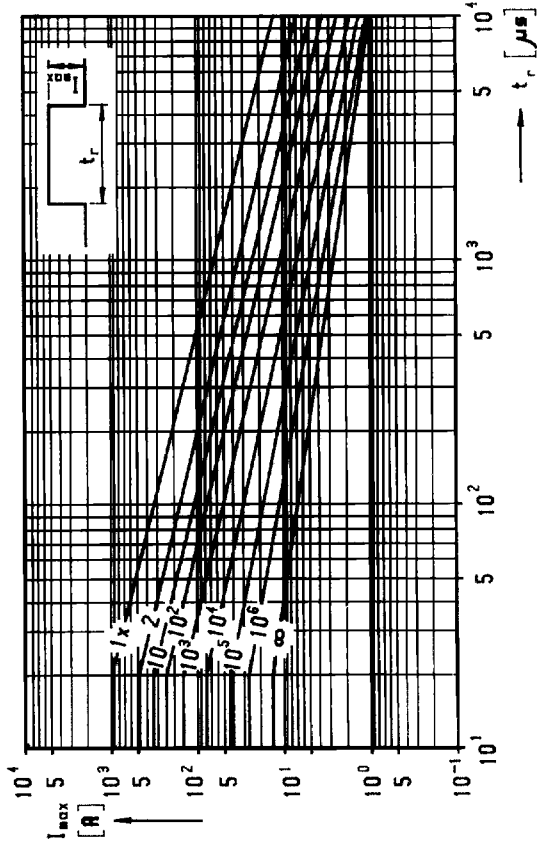
with the worst-case condition
in the tolerance region

CV 25...550

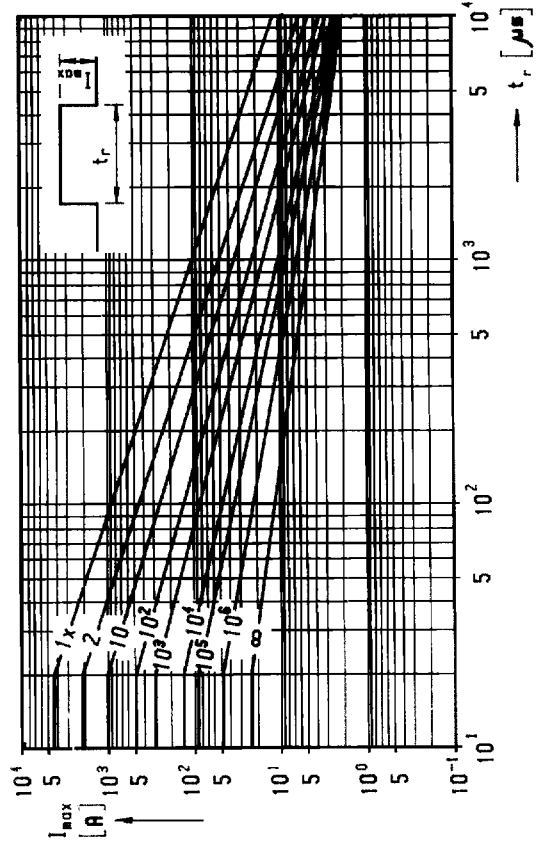


Pulse Rating Curves

CV 25...40



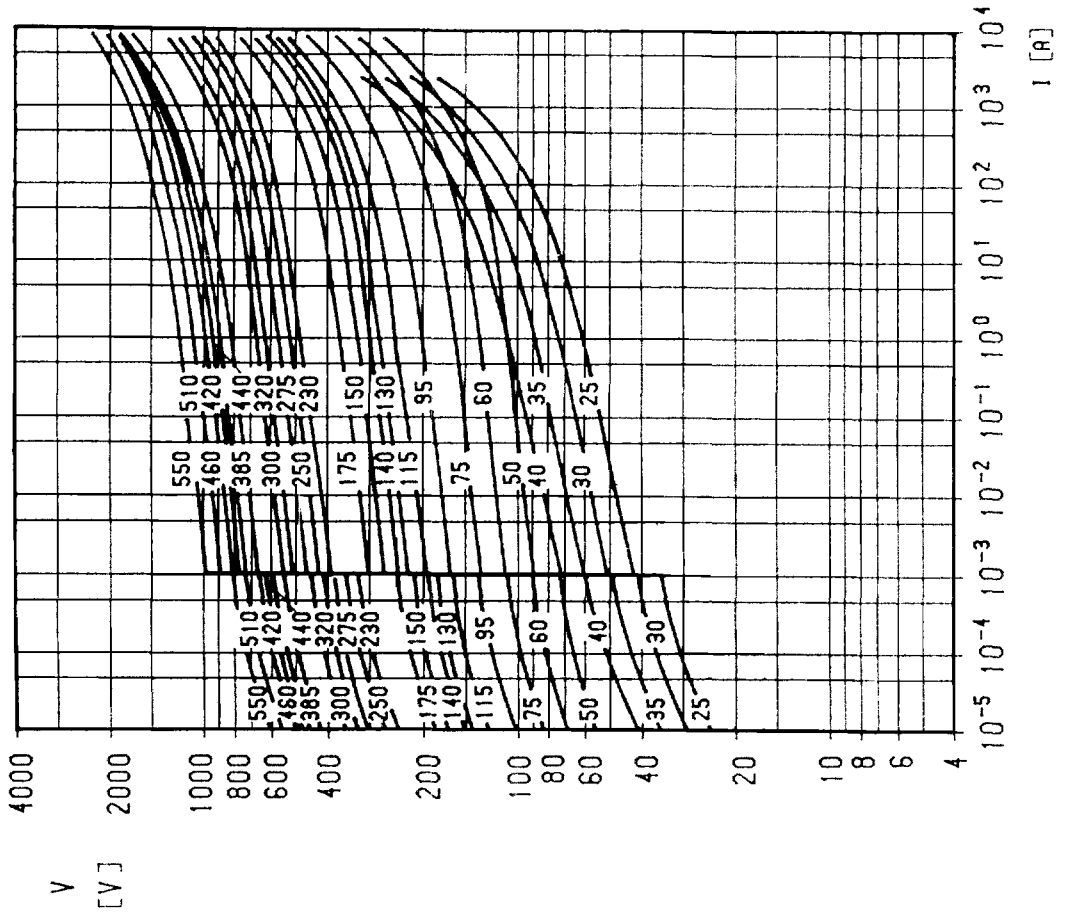
CV 50...550



Model Size 20

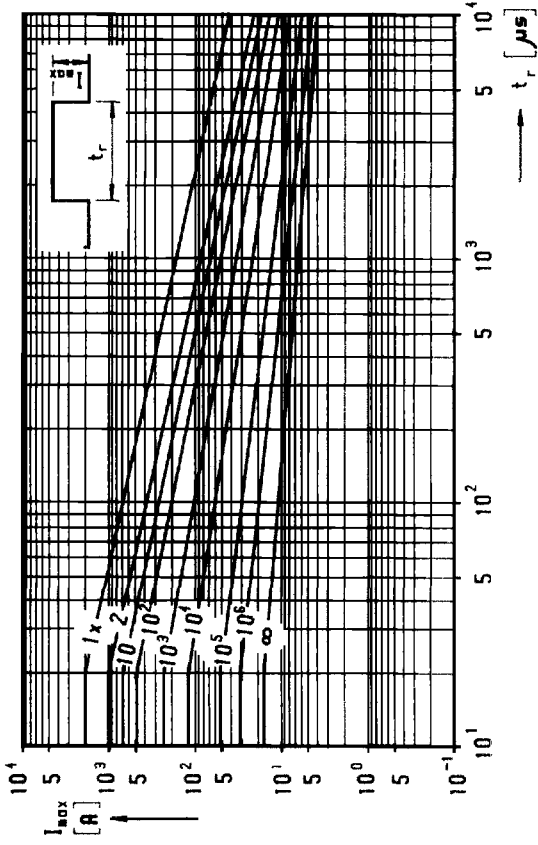
Protection Level

with the worst-case condition
in the tolerance region



CV 25...550

Pulse Rating Curves



CV 25...40

CV 50...550

