

VCR

METAL OXIDE VARISTORS Transient Voltage Surge Suppressors

05D Specification

Put "J" in Free Code Stands For High Surge Series

VCR		Maximum Allowable Voltage		Varistor Voltage	Clampin g Voltage (Max.)	Maximum Peak Current (8/20μs)	Maximum Energy (10/1000μs)	RATED POWER	Typical Capacitance (Reference)						
P/N		AC.rms	DC	V _{1.0mA}	VC	IP	Standard	High Surge	Standard	High Surg e	(W)	@1KHz			
Standard	High Surge	(V)		(V)	(V)	(A)	(A)		(JOULE)			(pf)			
05D180L	J	11	14	18(15-21)	40	1	100	250	0.4	0.6	0.01	1400	*	*	*
05D220K	J	14	18	22(20-24)	48				0.5	0.7		1150	*	*	*
05D270K	J	17	22	27(24-30)	60				0.6	0.9		930	*	*	*
05D330K	J	20	26	33(30-36)	73				0.8	1.1		760	*	*	*
05D390K	J	25	31	39(35-43)	80				0.9	1.2		640	*	*	*
05D470K	J	30	38	47(42-52)	104				1.1	1.5		530	*	*	*
05D560K	J	35	45	56(50-62)	123				1.3	1.8		450	*	*	*
05D680K	J	40	56	68(61-75)	150				1.6	2.2		370	*	*	*
05D820K	J	50	65	82(74-90)	146	5	400	800	2.5	4.0	0.10	300	*	*	*
05D101K	J	60	85	100(90-110)	175				3.0	4.1		250	*	*	*
05D121K	J	75	100	120(108-132)	210				4.0	4.9		210	*	*	*
05D151K	J	95	125	150(135-165)	260				4.8	6.5		165	*	*	*
05D181K	J	115	150	180(162-198)	320				5.9	7.5		140	*	*	*
05D201K	J	130	170	200(185-225)	355				6.5	8.5		125	*	*	*
05D221K	J	140	180	220(198-242)	380				7.0	9.0		110	*	*	*
05D241K	J	150	200	240(216-264)	410				8.0	10.5		100	*	*	*
05D271K	J	175	225	270(243-297)	475				8.5	11.0		95	*	*	*
05D301K	J	190	250	300(270-330)	520				9.0	12.0		85	*	*	*
05D331K	J	210	275	330(297-363)	570				9.5	13.0		75	*	*	*
05D361K	J	230	300	360(324-396)	620				10.0	16.0		70	*	*	*
05D391K	J	250	320	390(351-429)	675				12.0	17.0		65	*	*	*
05D431K	J	275	350	430(387-473)	745				13.0	20.0		60	*	*	*
05D471K	J	300	385	470(423-517)	810				15.0	21.0		55	*	*	*
05D511K	J	320	415	510(459-561)	845				16.0	22.5		50	*	*	*
05D561K	J	350	460	560(504-616)	920				16.0	24.0		45	*	*	*

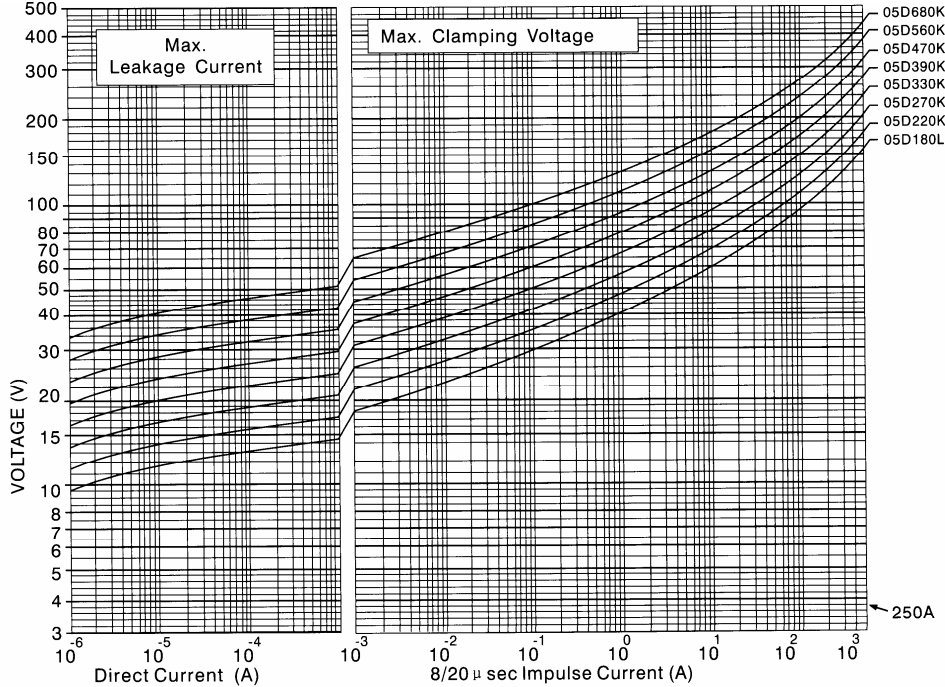
Operating temperature range: - 40°C TO +85°C

Storage temperature range: - 40°C TO +125°C

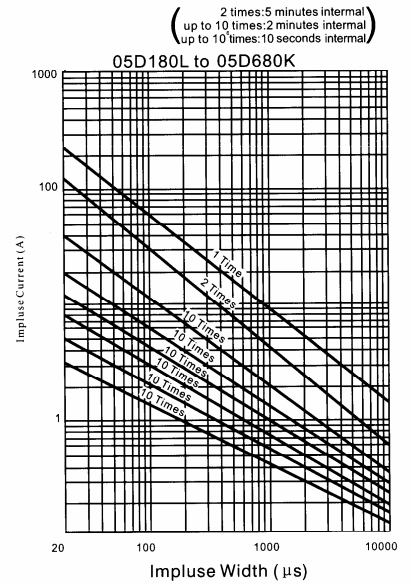
05D SERIES

V-I curve

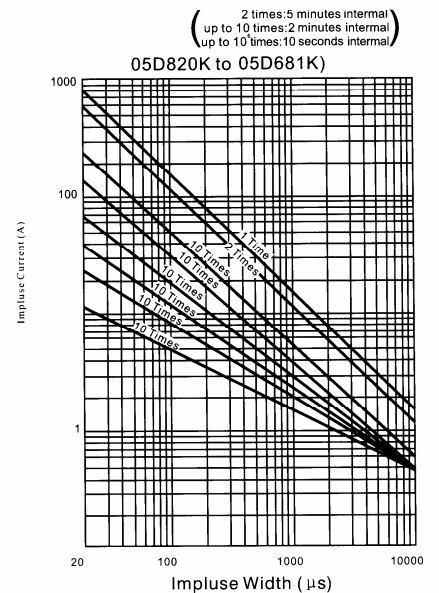
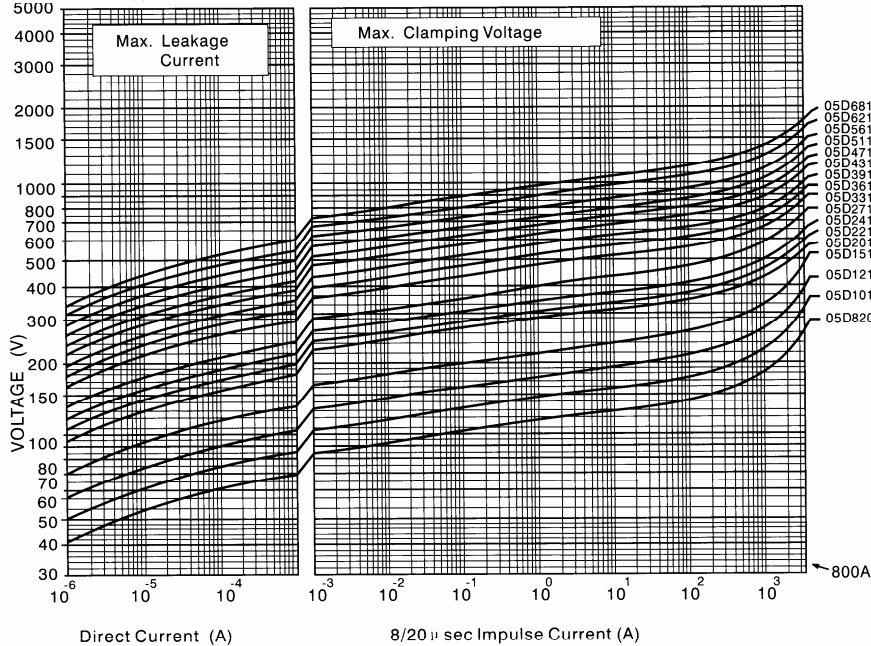
VCR-05D180L to VCR-05D680K



Impulse Lifetime Ratings



05D820K to 05D681K



07D Specification

Put "J" in Free Code Stands for High Surge series

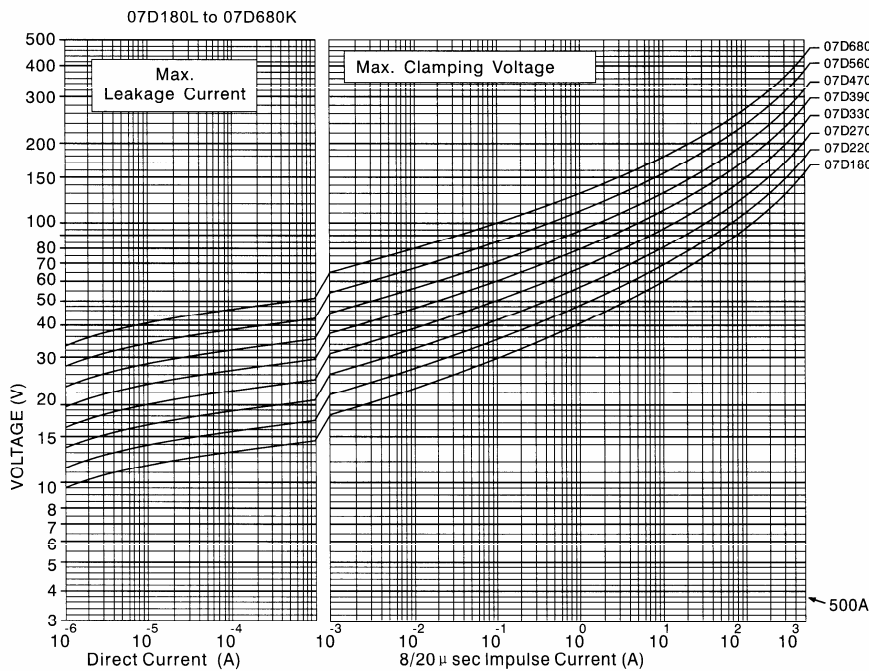
VCR		Maximum Allowable Voltage		Varistor Voltage	Clamping Voltage (Max.)		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		RATED POWER	Typical Capacitance (Reference)			
P/N		AC.rms	DC	V _{1.0mA}	VC	IP	Standard	High Surge	Standard	High Surge	(W)	@1KHz			
Standard	High Surge	(V)		(V)	(V)	(A)	(A)		(JOULE)			(pf)			
07D180L	J	11	14	18(15-21)	36	2.5	250	500	0.9	2.0	0.02	2800	*	*	*
07D220K	J	14	18	22(20-24)	43				1.1	2.4		2300	*	*	*
07D270K	J	17	22	27(24-30)	53				1.4	3.0		1800	*	*	*
07D330K	J	20	26	33(30-36)	65				1.7	3.5		1500	*	*	*
07D390K	J	25	31	39(35-43)	77				2.1	4.0		1300	*	*	*
07D470K	J	30	38	47(42-52)	93				2.5	5.0		1100	*	*	*
07D560K	J	35	45	56(50-62)	110				3.1	6.0		890	*	*	*
07D680K	J	40	56	68(61-75)	135				3.6	7.0		740	*	*	*
07D820K	J	50	65	82(74-90)	135	10	1200	1750	5.5	10	0.25	600	*	*	*
07D101K	J	60	85	100(90-110)	165				6.5	12		500	*	*	*
07D121K	J	75	100	120(108-132)	200				7.8	13		420	*	*	*
07D151K	J	95	125	150(135-165)	250				9.7	13		330	*	*	*
07D181K	J	115	150	180(162-198)	300				11.7	16		280	*	*	*
07D201K	J	130	170	200(185-225)	340				13	17		250	*	*	*
07D221K	J	140	180	220(198-242)	360				14	19		230	*	*	*
07D241K	J	150	200	240(216-264)	395				15	21		210	*	*	*
07D271K	J	175	225	270(243-297)	455				18	24		185	*	*	*
07D301K	J	190	250	300(270-330)	500				20	26		165	*	*	*
07D331K	J	210	275	330(297-363)	550				23	28		150	*	*	*
07D361K	J	230	300	360(324-396)	595				25	32		140	*	*	*
07D391K	J	250	320	390(351-429)	650				25	35		130	*	*	*
07D431K	J	275	350	430(387-473)	710				28	40		115	*	*	*
07D471K	J	300	385	470(423-517)	775				30	42		105	*	*	*
07D511K	J	320	415	510(459-561)	845				30	45		100	*	*	*
07D561K	J	350	460	560(504-616)	925				30	49		90	*	*	*
07D621K	J	385	505	620(558-682)	1025				33	55		80	*	*	*
07D681K	J	420	560	680(612-748)	1120				33	60		75	*	*	*

Operating temperature range: - 40°C TO +85°C

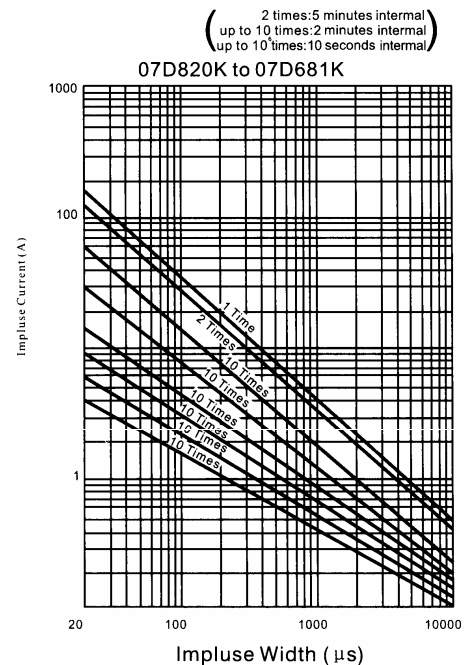
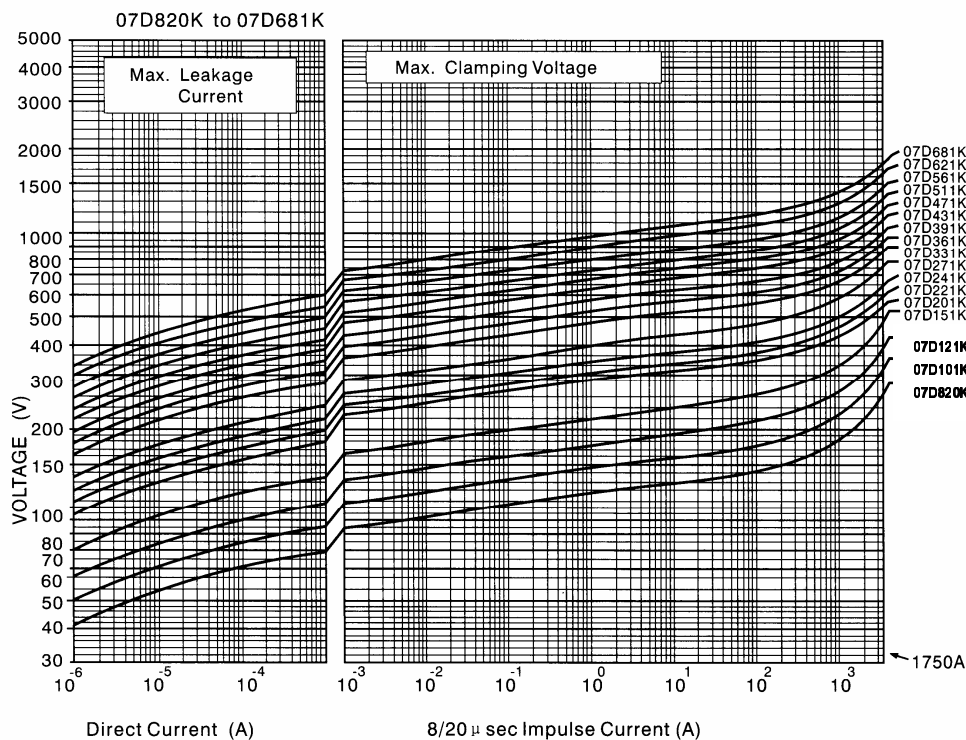
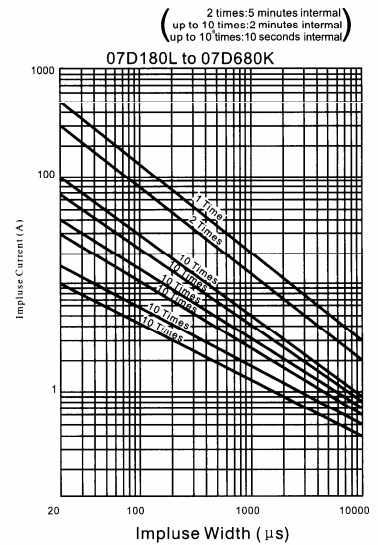
Storage temperature range: - 40°C TO +125°C

07D SERIES

V-I curve



Impulse Lifetime Ratings



10D Specification

Put "J" in Free Code Stands for High Surge Series

VCR		Maximum Allowable Voltage		Varistor Voltage	Clamping Voltage (Max.)		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		RATED POWER	Typical Capacitance (Reference)			
P/N		A.C.rms	DC	V _{1.0mA}	VC	IP	Standard	High Surge	Standard	High Surge	(W)	@ 1KHz			
Standard	High Surge	(V)		(V)	(V)	(A)	(A)		(JOULE)			(pf)			
10D180L	J	11	14	18(15-21)	36	5.0	500	1000	2.1	3.0	0.05	5600	*	*	*
10D220K	J	14	18	22(20-24)	43				2.5	5.0		4500	*	*	*
10D270K	J	17	22	27(24-30)	53				3.0	6.0		3700	*	*	*
10D330K	J	20	26	33(30-36)	65				4.0	7.0		3000	*	*	*
10D390K	J	25	31	39(35-43)	77				4.6	9.0		2400	*	*	*
10D470K	J	30	38	47(42-52)	93				5.5	11		2100	*	*	*
10D560K	J	35	45	56(50-62)	110				7.0	13		1800	*	*	*
10D680K	J	40	56	68(61-75)	135				8.2	15		1500	*	*	*
10D820K	J	50	65	82(74-90)	135	25	2500	3500	12	17	0.40	1200	*	*	*
10D101K	J	60	85	100(90-110)	165				15	18		1000	*	*	*
10D121K	J	75	100	120(108-132)	200				18	21		830	*	*	*
10D151K	J	95	125	150(135-165)	250				22	25		670	*	*	*
10D181K	J	115	150	180(162-198)	300				27	30		560	*	*	*
10D201K	J	130	170	200(185-225)	340				30	35		500	*	*	*
10D221K	J	140	180	220(198-242)	360				32	39		450	*	*	*
10D241K	J	150	200	240(216-264)	395				35	42		420	*	*	*
10D271K	J	175	225	270(243-297)	455				40	49		370	*	*	*
10D301K	J	190	250	300(270-330)	500				40	54		330	*	*	*
10D331K	J	210	275	330(297-363)	550				43	58		300	*	*	*
10D361K	J	230	300	360(324-396)	595				47	65		280	*	*	*
10D391K	J	250	320	390(351-429)	650				60	70		260	*	*	*
10D431K	J	275	350	430(387-473)	710				65	80		230	*	*	*
10D471K	J	300	385	470(423-517)	775				70	85		210	*	*	*
10D511K	J	320	415	510(459-561)	845				70	90		200	*	*	*
10D561K	J	350	460	560(504-616)	925				70	92		180	*	*	*
10D621K	J	385	505	620(558-682)	1025				70	95		160	*	*	*
10D681K	J	420	560	680(612-748)	1120				70	98		150	*	*	*
10D751K	J	460	615	750(675-825)	1240				75	100		130	*	*	*
10D781K	J	485	640	780(702-858)	1290				80	105		130	*	*	*
10D821K	J	510	670	820(738-902)	1355				85	110		120	*	*	*
10D911K	J	550	745	910(819-1001)	1500				93	130		110	*	*	*
10D102K	J	625	825	1000(900-1100)	1650				102	140		100	*	*	*
10D112K	J	680	895	1100(990-1210)	1815				115	155		90	*	*	*

Operating temperature range: - 40°C TO +85°C

Storage temperature range: - 40°C TO +125°C

10D SERIES

