

# **Varistor**

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**SPECIFICATION FOR APPROVAL**

## **Series 05A - 20A**

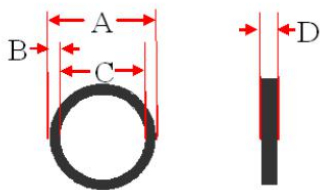
Edition: A00

# Part Number Code

		A				K	
Element Dia		Nothing:Standard  A : Chip S:Square Chip	Varistor Voltage		Tolerance		Surge Series
05	$\Phi 5.0mm$		From 180 to 182		K: $\pm 10\%$	J:High Surge	
07	$\Phi 7.0mm$		Tow significant digits		L: $\pm 15\%$	N: Combined wave	
10	$\Phi 10.0mm$		followed by no. of zeros				
14	$\Phi 14.0mm$		Examples: 180=18V				
20	$\Phi 20.0mm$	101=100V 182=1800V					

## DIMENSION

### D Thickness(Unit:mm)



Sizes	A	C	B
05A	4.6-5.5	2.7-3.9	>0.3
07A	6.4-7.5	4.8-5.7	
10A	9.4-10.4	7.5-8.4	
14A	13.27-14.07	10.4-12.5	
20A	19.03-20.03	11.2-17.8	

Part Code	05A	07A	10A	14A	20A
181	0.5-1.6	0.5-1.6	0.5-1.6	0.5-1.6	0.7-1.6
201	0.6-1.4	0.6-1.4	0.6-1.4	0.6-1.4	0.7-1.5
221	0.5-1.4	0.5-1.4	0.6-1.4	0.6-1.4	0.8-1.5
241	0.6-1.6	0.6-1.6	0.7-1.6	0.8-1.6	0.8-1.6
271	0.7-1.6	0.7-1.6	0.8-1.6	0.8-1.6	0.9-1.8
301	0.8-1.8	0.8-1.8	0.8-1.8	0.8-1.8	0.9-2.0
331	0.9-1.9	0.9-1.9	1.0-1.9	1.0-1.9	1.0-2.0
361	1.1-2.2	1.1-2.2	1.1-2.2	1.1-2.2	1.1-2.3
391	1.2-2.4	1.2-2.4	1.2-2.4	1.2-2.4	1.3-2.4
431	1.3-2.5	1.3-2.5	1.3-2.5	1.3-2.5	1.3-2.6
471	1.5-2.7	1.5-2.7	1.4-2.8	1.4-2.8	1.4-2.8
511	1.6-2.9	1.6-2.9	1.6-3.0	1.6-3.0	1.6-3.0
561	1.8-3.2	1.8-3.2	1.8-3.2	1.8-3.2	1.8-3.3
621	2.0-3.5	2.0-3.5	2.1-3.5	2.1-3.5	2.1-3.6
681	2.2-3.7	2.2-3.7	2.2-3.8	2.2-3.8	2.2-4.0
751	2.4-4.2	2.4-4.2	2.4-4.2	2.4-4.2	2.4-4.2
781	/	2.5-4.2	2.5-4.3	2.5-4.3	2.5-4.3
821	/	2.7-4.5	2.7-4.5	2.7-4.5	2.7-4.7

## ● 05A Specification

PART No. Φ 5.0mm		$\cong$ IR3 $\mu$ A	$\cong$ α L	Maximum Allowable Voltage		Varistor Voltage $V_{1.0mA}$	Clamping Voltage (MAX.)		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		Rated Power (W)	Typical Capacitance (Reference) @ 1KHz (pf)
				AC. rms	DC		VC	IP	Standard	High Surge	Standard	High Surge		
Standard	High Surge	5	42	(V)		(V)	(V)	(A)	(A)		(JOULE)		0.1	(pf)
05A181K	05A181KJ			115	150	180 (164-198)	320	5	400	800	5.9	7.5		
05A201K	05A201KJ			130	170	200 (189-220)	355				6.5	8.5		
05A221K	05A221KJ			140	180	220 (205-242)	380				7.0	9.0		
05A241K	05A241KJ			150	200	240 (221-264)	415				8.0	10.5		
05A271K	05A271KJ			175	225	270 (248-297)	475				8.5	11.0		
05A301K	05A301KJ			190	250	300 (276-330)	520				9.0	12.0		
05A331K	05A331KJ			210	275	330 (304-363)	570				9.5	13.0		
05A361K	05A361KJ			230	300	360 (331-396)	620				10.0	16.0		
05A391K	05A391KJ			250	320	390 (359-429)	675				12.0	17.0		
05A431K	05A431KJ			275	350	430 (396-473)	745				13.0	20.0		
05A471K	05A471KJ			300	385	470 (432-517)	810				15.0	21.0		
05A511K	05A511KJ			320	415	510 (469-561)	845				16.0	22.5		
05A561K	05A561KJ			350	460	560 (515-616)	920				16.8	24.0		
05A621K	05A621KJ			385	505	620 (570-682)	1025				17.7	26.6		
05A681K	05A681KJ			420	560	680 (626-748)	1120				19.4	29.1		

# ● 07A Specification

PART No. Φ 7.0mm		≤ IR3 μA	≧ α L	Maximum Allowable Voltage		Varistor Voltage V <sub>1.0mA</sub>	Clamping Voltage (MAX. )		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		Rated Power (W)	Typical Capacitance (Reference) @ 1KHz (pF)
				AC. rms	DC		VC	IP	Standard	High Surge	Standard	High Surge		
Standard	High Surge			(V)		(V)	(V)	(A)	(A)		(JOULE)			
07A181K	07A181KJ	5	42	115	150	180 (164-198)	300	10	1250	1750	11.7	16.0	0.25	280
07A201K	07A201KJ			130	170	200 (189-220)	340				13.0	17.0		250
07A221K	07A221KJ			140	180	220 (205-242)	360				14.0	19.0		230
07A241K	07A241KJ			150	200	240 (221-264)	395				15.0	21.0		210
07A271K	07A271KJ			175	225	270 (248-297)	455				18.0	24.0		185
07A301K	07A301KJ			190	250	300 (276-330)	500				20.0	26.0		165
07A331K	07A331KJ			210	275	330 (304-363)	550				23.0	28.0		150
07A361K	07A361KJ			230	300	360 (331-396)	595				24.0	32.0		140
07A391K	07A391KJ			250	320	390 (359-429)	650		600×2	1200×2	26.0	35.0		130
07A431K	07A431KJ			275	350	430 (396-473)	710				28.0	40.0		115
07A471K	07A471KJ			300	385	470 (432-517)	775				29.0	42.0		105
07A511K	07A511KJ			320	415	510 (469-561)	845				31.0	45.0		100
07A561K	07A561KJ			350	460	560 (515-616)	925				35.0	49.0		90
07A621K	07A621KJ			385	505	620 (570-682)	1025				38.0	55.0		80
07A681K	07A681KJ			420	560	680 (626-748)	1120				42.0	60.0		75
07A751K	07A751KJ			460	615	750 (690-825)	1240				45.0	64.0		70
07A781K	07A781KJ			485	640	780 (718-858)	1290				48.0	69.0		65
07A821K	07A821KJ			510	670	820 (754-902)	1355				52.0	73.0		60

# ● 10A Specification

PART No. Φ 10.0mm		$\cong$ IR3 $\mu$ A	$\cong$ α L	Maximum Allowable Voltage		Varistor Voltage	Clamping Voltage (MAX. )		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		Rated Power	Typical Capacitance (Reference)
				AC. rms	DC	V <sub>1.0mA</sub>	VC	IP	Standard	High Surge	Standard	High Surge	(W)	@ 1KHz (pf)
Standard	High Surge			(V)		(V)	(V)	(A)	(A)		(JOULE)			(pf)
10A181K	10A181KJ	6	42	115	150	180 (164-198)	300	25	2500	3500	27.0	30.0	0.40	560
10A201K	10A201KJ			130	170	200 (189-220)	340				30.0	35.0		500
10A221K	10A221KJ			140	180	220 (205-242)	360				32.0	39.0		450
10A241K	10A241KJ			150	200	240 (221-264)	395				35.0	42.0		420
10A271K	10A271KJ			175	225	270 (248-297)	455				37.0	49.0		370
10A301K	10A301KJ			190	250	300 (276-330)	500				40.0	54.0		330
10A331K	10A331KJ			210	275	330 (304-363)	550				43.0	58.0		300
10A361K	10A361KJ			230	300	360 (331-396)	595				47.0	65.0		280
10A391K	10A391KJ			250	320	390 (359-429)	650				60.0	70.0		260
10A431K	10A431KJ			275	350	430 (396-473)	710		1250×2	2500×2	65.0	80.0		230
10A471K	10A471KJ			300	385	470 (432-517)	775				67.0	85.0		210
10A511K	10A511KJ			320	415	510 (469-561)	845				69.0	90.0		200
10A561K	10A561KJ			350	460	560 (515-616)	925				70.0	92.0		180
10A621K	10A621KJ			385	505	620 (570-682)	1025				72.0	95.0		160
10A681K	10A681KJ			420	560	680 (626-748)	1120				75.0	98.0		150
10A751K	10A751KJ			460	615	750 (690-825)	1240				77.0	100.0		130
10A781K	10A781KJ			485	640	780 (718-858)	1290				80.0	105.0		125
10A821K	10A821KJ			510	670	820 (754-902)	1355				85.0	110.0		120


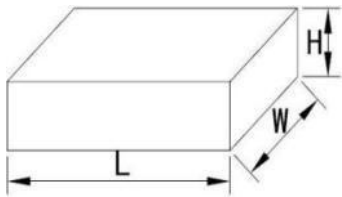
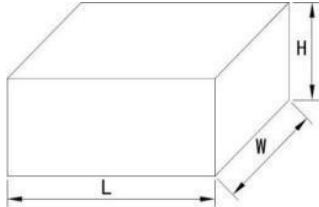
## ● 14A Specifiation

PART No. Φ 14.0mm		≦ IR3 μA	≧ α L	Maximum Allowable Voltage		Varistor Voltage	Clamping Voltage (MAX. )		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		Rated Power	Typical Capacitance (Reference)	
				AC. rms	DC	V <sub>1.0mA</sub>	VC	IP	Standard	High Surge	Standard	High Surge	(W)	@ 1KHz	
				(V)			(V)		(V)	(A)	(A)				(JOULE)
Standard	High Surge					(V)	(V)	(A)						(pf)	
14A181K	14A181KJ	7	42	115	150	180 (164-198)		300	50	4500 2500×2	6000 4500×2	50.0	60	0.60	1100
14A201K	14A201KJ			130	170	200 (187-224.5)		340				57.0	70		1000
14A221K	14A221KJ			140	180	220 (205-242)		360				60.0	78		900
14A241K	14A241KJ			150	200	240 (221-264)		395				63.0	84		830
14A271K	14A271KJ			175	225	270 (248-297)		455				70.0	99		740
14A301K	14A301KJ			190	250	300 (276-330)		500				77.0	108		670
14A331K	14A331KJ			210	275	330 (304-363)		550				85.0	115		610
14A361K	14A361KJ			230	300	360 (331-396)		595				93.0	130		560
14A391K	14A391KJ			250	320	390 (359-429)		650				100	140		510
14A431K	14A431KJ			275	350	430 (396-473)		710				115	155		460
14A471K	14A471KJ			300	385	470 (432-517)		775				118	175		430
14A511K	14A511KJ			320	415	510 (469-561)		845				121	180		390
14A561K	14A561KJ			350	460	560 (515-616)		925				125	185		360
14A621K	14A621KJ			385	505	620 (570-682)		1025				128	190		320
14A681K	14A681KJ			420	560	680 (626-748)		1120				130	200		290
14A751K	14A751KJ			460	615	750 (690-825)		1240				143	210		270
14A781K	14A781KJ			485	640	780 (718-858)		1290				148	220		260
14A821K	14A821KJ			510	670	820 (754-902)		1355				157	235		240

# ● 20A Specification

PART No. Φ 20.0mm		≡ IR3 μA	≧ α L	Maximum Allowable Voltage		Varistor Voltage V <sub>1.0mA</sub>	Clamping Voltage (MAX.)		Maximum Peak Current (8/20μs)		Maximum Energy (10/1000μs)		Rated Power (W)	Typical Capacitance (Reference) @ 1KHz (pF)
				AC. rms	DC		VC	IP	Standard	High Surge	Standard	High Surge		
Standard	High Surge			(V)		(V)	(V)	(A)	(A)		(JOULE)			(pF)
20A181K	20A181KJ	10	42	115	150	180 (164-198)	300	100	6500	10000	85	130	1.00	2200
20A201K	20A201KJ			130	170	200 (187-224.5)	340				95	140		2000
20A221K	20A221KJ			140	180	220 (205-242)	360				100	155		1800
20A241K	20A241KJ			150	200	240 (221-264)	395				108	168		1650
20A271K	20A271KJ			175	225	270 (248-297)	455				127	190		1500
20A301K	20A301KJ			190	250	300 (276-330)	500				136	210		1300
20A331K	20A331KJ			210	275	330 (304-363)	550				150	228		1200
20A361K	20A361KJ			230	300	360 (331-396)	595				163	255		1100
20A391K	20A391KJ			250	320	390 (359-429)	650				180	275		1000
20A431K	20A431KJ			275	350	430 (396-473)	710				190	305		930
20A471K	20A471KJ			300	385	470 (432-517)	775				204	350		850
20A511K	20A511KJ			320	415	510 (469-561)	845				210	360		780
20A561K	20A561KJ			350	460	560 (515-616)	925				215	380		710
20A621K	20A621KJ			385	505	620 (570-682)	1025				224	390		650
20A681K	20A681KJ			420	560	680 (626-748)	1120				230	400		600
20A751K	20A751KJ			460	615	750 (690-825)	1240				255	420		530
20A781K	20A781KJ			485	640	780 (718-858)	1290				265	440		510
20A821K	20A821KJ			510	670	820 (754-902)	1355				282	460		500

## 1.Packing material size

Content	Illustration	Material	Measurement
Inner pocket		PE bag	L=230mm W=180mm
Inner box		Box	L=240mm W=170mm H=25mm
Outer carton		Carton	L=364mm W=254mm H=130mm

## 2.Package Quantity

Sizes	Part Code	Kpcs/bag	Kpcs/box	Kpcs/Outer carton
05A	181K~391K	20.0	20.0	80.0
	431K~621K	10.0	10.0	40.0
	681K~821K	8.0	8.0	32.0
07A	181K~271K	20.0	20.0	80.0
	301K~391K	15.0	15.0	60.0
	431K~471K	13.0	13.0	52.0
	511K~621K	10.0	10.0	40.0
	681K~102K	8.0	8.0	32.0
10A	181K~271K	10.0	10.0	40.0
	301K~391K	8.0	8.0	32.0
	431K~471K	6.0	6.0	24.0
	511K~621K	5.0	5.0	20.0
	681K~102K	4.0	4.0	16.0
14A	181K~431K	3.0	3.0	12.0
	471K~561K	2.5	2.5	10.0
	621K~751K	2.0	2.0	8.0
	821K~182K	1.0	1.0	4.0
20A	181K~271K	1.5-2.0	1.5-2.0	6.0-8.0
	301K~621K	1.0	1.0	4.0
	681K~821K	0.8	0.8	3.2
	911K~182K	0.7	0.7	2.8



