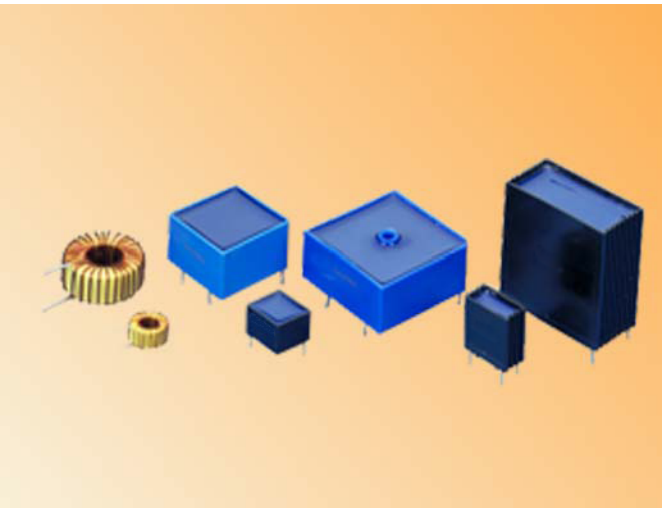
AlfaMag Electronics

SA Series • High Efficiency - High Stability Storage Chokes

SA Series storage chokes have been designed with Fe-based amorphous alloy which provides high flux density and low core loss which is ideal for optimizing choke design. Providing exceptional efficiency and field modulation when used as loading coils for interim energy storage with SMPS, the use of amorphous cores gives a highly stable inductance over a wide DC bias current range and high "Q" with operating frequencies to 500kHz.



AlfaMag Electronics Compliance RoHS

Features

- Fe-based amorphous alloy cores
- Operating frequencies to 500kHz
- Small size and high "Q"
- Highly stable inductance with changing DC bias current
- Low temperature rise
- Fully encapsulated styles available meeting class GFK (-40°C to +125°C, humidity class F) per DIN 40040
- Manufactured in ISO-9001:2000, TS-16949:2002 and ISO-14001:2004 certified Talema facility
- Fully RoHS compliant

Electrical Specifications @ 25°C

Test frequency: Inductance measured@ 10kHz / 10mV
Test voltage between windings: 500Vrms
Operating temperature: -40°C to +125°C
Climatic category: IEC68-1 40/125/56

Part Number	I_{DC} Amps	L (µH) Typ. @ Rated Current	L_O (µH) ±25% No Load	DCR mOhms Typical	Energy Storage (µJ) *	Schematic	Coil Size O.D. x Ht. (a x b)	Housing Size Code		Mounting Style (Terminal Ød)		
								F	V	O	F	V
SA__-0.63-22	0.63	22	23	95	4	1	12 x 8	17	20	0.355	0.60	0.80
SA__-0.63-33		33	35	118	7	1	12 x 8	17	20	0.355	0.60	0.80
SA__-0.63-47		47	49	141	10	1	13 x 9	17	20	0.355	0.60	0.80
SA__-0.63-68		68	70	167	13	1	13 x 9	17	20	0.355	0.60	0.80
SA__-0.63-100		100	105	206	20	1	13 x 9	17	20	0.355	0.60	0.80
SA__-0.63-150		150	157	276	29	1	13 x 9	17	20	0.335	0.60	0.80
SA__-0.63-220		220	248	348	44	1	14 x 9	17	20	0.335	0.60	0.80
SA__-0.63-330		330	389	436	65	1	14 x 9	17	20	0.335	0.60	0.80
SA__-0.63-470		470	480	421	92	1	16 x 8	22	20	0.335	0.60	0.80
SA__-0.63-680		680	728	519	136	1	17 x 9	22	25	0.335	0.60	0.80
SA__-0.63-1000		1000	1105	639	197	1	17 x 9	22	25	0.335	0.60	0.80
SA__-0.63-1500		1500	1523	801	299	1	22 x 8	29	30	0.335	0.60	0.80
SA__-0.63-2200		2200	2249	974	437	1	23 x 9	29	30	0.335	0.60	0.80
SA__-0.63-3300		3300	3514	1217	655	1	24 x 10	29	30	0.335	0.60	0.80
SA__-0.63-4700		4700	5345	1501	933	1	24 x 10	29	30	0.335	0.60	0.80
SA__-0.63-6800		6800	6949	2003	1351	1	27 x 16	32	35	0.335	0.60	0.80
SA__-0.63-8200		8200	9057	2287	1618	1	28 x 17	32	40	0.335	0.60	0.80
SA__-1.0-22	1.0	22	23	59	11	1	12 x 8	17	20	0.450	0.60	0.80
SA__-1.0-33		33	35	73	17	1	12 x 8	17	20	0.450	0.60	0.80
SA__-1.0-47		47	49	88	23	1	13 x 9	17	25	0.450	0.60	0.80
SA__-1.0-68		68	73	107	34	1	13 x 9	17	25	0.450	0.60	0.80
SA__-1.0-100		100	102	110	51	1	16 x 9	22	25	0.450	0.60	0.80
SA__-1.0-150		150	151	134	74	1	16 x 9	22	25	0.450	0.60	0.80
SA__-1.0-220		220	230	165	110	1	16 x 9	22	25	0.450	0.60	0.80
SA__-1.0-330		330	362	207	167	1	18 x 10	22	25	0.450	0.60	0.80
SA__-1.0-470		470	472	252	236	1	22 x 9	29	25	0.450	0.60	0.80
SA__-1.0-680		680	698	307	342	1	24 x 10	29	25	0.450	0.60	0.80
SA__-1.0-1000		1000	1031	373	500	1	24 x 10	29	30	0.450	0.60	0.80
SA__-1.0-1500		1500	1641	470	746	1	24 x 10	29	30	0.450	0.60	0.80
SA__-1.0-2200		2200	2589	591	1100	1	25 x 11	29	30	0.450	0.60	0.80
SA__-1.0-3300		3300	3359	788	1646	1	28 x 17	32	40	0.450	0.60	0.80
SA__-1.0-4700		4700	4968	958	2360	1	28 x 17	32	40	0.450	0.60	0.80
SA__-1.0-6800		6800	8000	1215	3400	1	29 x 18	32	40	0.450	0.60	0.80

AlfaMag's engineering staff can assist in the design of other inductance values and sizes.

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Electrical Specifications at 25°C

Part Number	I_{DC} Amps	L (µH) Typ. @ Rated Current	L_O (µH) ±25% No Load	DCR mOhms Typical	Energy Storage (µJ) *	Schematic	Coil Size O.D. x Ht. (a x b)	Housing Size Code		Mounting Style Terminal Ød		
								F	V	O	F	V
SA__-1.6-22	1.6	22	23	38	27	1	13 x 8	17	20	0.560	0.560	0.800
SA__-1.6-33		33	27	49	42	1	14x 9	17	25	0.560	0.560	0.800
SA__-1.6-47		47	55	60	59	1	14 x 9	17	25	0.560	0.560	0.800
SA__-1.6-68		68	67	57	84	1	17 x 9	22	25	0.560	0.560	0.800
SA__-1.6-100		100	107	73	130	1	17 x 9	22	25	0.560	0.560	0.800
SA__-1.6-150		150	169	91	195	1	17 x 9	22	25	0.560	0.560	0.800
SA__-1.6-220		220	268	115	278	1	18 x 11	22	25	0.560	0.560	0.800
SA__-1.6-330		330	343	139	426	1	23 x 9	29	25	0.560	0.560	0.800
SA__-1.6-470		470	516	170	608	1	23 x 9	29	25	0.560	0.560	0.800
SA__-1.6-680		680	765	207	872	1	24 x 11	29	30	0.560	0.560	0.800
SA__-1.6-1000		1000	1300	165	1272	1	27 x 16	32	35	0.560	0.560	0.800
SA__-1.6-1500		1500	1549	345	1923	1	27 x 16	32	35	0.560	0.560	0.800
SA__-1.6-2200		2200	2402	430	2929	1	28 x 17	32	40	0.560	0.560	0.800
SA__-1.6-3300		3300	3458	565	4205	1	33 x 17	42	40	0.560	0.560	0.800
SA__-1.6-4700		4700	4968	718	6041	1	43 x 16	49	45	0.560	0.560	0.800
SA__-1.6-5600		5600	6216	804	7161	1	45 x 18	49	--	0.560	0.560	--
SA__-2.0-22	2.0	22	23	27	46	1	15 x 8	17	20	0.630	0.630	0.630
SA__-2.0-33		33	33	32	65	1	15 x 8	17	20	0.630	0.630	0.630
SA__-2.0-47		47	49	39	83	1	15 x 8	17	20	0.630	0.630	0.630
SA__-2.0-68		68	75	48	137	1	15 x 8	17	20	0.630	0.630	0.630
SA__-2.0-100		100	112	59	200	1	16 x 9	22	20	0.630	0.630	0.630
SA__-2.0-150		150	195	76	302	1	16 x 9	22	20	0.630	0.630	0.630
SA__-2.0-220		220	234	91	446	1	23 x 10	29	30	0.630	0.630	0.630
SA__-2.0-330		330	362	113	658	1	25 x 11	29	30	0.630	0.630	0.630
SA__-2.0-470		470	551	139	947	1	25 x 11	29	30	0.630	0.630	0.630
SA__-2.0-680		680	701	184	1374	1	27 x 16	32	35	0.630	0.630	0.630
SA__-2.0-1000		1000	1060	226	2014	1	29 x 18	32	40	0.630	0.630	0.630
SA__-2.0-1500		1500	1693	285	3013	1	29 x 17	32	40	0.630	0.630	0.630
SA__-2.0-2200		2200	2500	379	4401	1	35 x 19	49	45	0.630	0.630	0.630
SA__-2.0-3300		3300	3594	483	6612	1	46 x 19	49	--	0.630	0.630	--
SA__-2.0-3900		3900	4567	544	7855	1	46 x 19	49	--	0.630	0.630	--
SA__-2.5-22	2.5	22	23	23	70	1	16 x 8	22	20	0.670	0.670	0.670
SA__-2.5-33		33	33	28	101	1	16 x 8	22	20	0.670	0.670	0.670
SA__-2.5-47		47	52	35	150	1	18 x 10	22	25	0.670	0.670	0.670
SA__-2.5-68		68	75	42	209	1	18 x 10	22	25	0.670	0.670	0.670
SA__-2.5-100		100	123	53	307	1	18 x 10	22	25	0.670	0.670	0.670
SA__-2.5-150		150	159	65	476	1	23 x 10	32	30	0.670	0.670	0.670
SA__-2.5-220		220	242	80	688	1	23 x 10	32	30	0.670	0.670	0.670
SA__-2.5-330		330	381	100	1023	1	23 x 10	32	30	0.670	0.670	0.670
SA__-2.5-470		470	476	131	1459	1	27 x 16	32	35	0.670	0.670	0.670
SA__-2.5-680		680	720	161	2138	1	27 x 16	32	35	0.670	0.670	0.670
SA__-2.5-1000		1000	1107	200	3114	1	29 x 18	32	40	0.670	0.670	0.670
SA__-2.5-1500		1500	1786	278	4743	1	34 x 18	42	40	0.670	0.670	0.670
SA__-2.5-2200		2200	2441	345	6867	1	43 x 16	49	--	0.670	0.670	--
SA__-2.5-2700		2700	3295	401	8444	1	43 x 16	49	--	0.670	0.670	--
SA__-3.15-22	3.15	22	23	19	107	1	16 x 8	22	20	0.750	0.750	0.750
SA__-3.15-33		33	36	24	164	1	18 x 10	22	25	0.750	0.750	0.750
SA__-3.15-47		47	56	29	238	1	18 x 10	22	25	0.750	0.750	0.750
SA__-3.15-68		68	71	35	346	1	22 x 8	29	25	0.750	0.750	0.750
SA__-3.15-100		100	103	42	488	1	24 x 10	29	30	0.750	0.750	0.750
SA__-3.15-150		150	165	54	736	1	24 x 10	29	30	0.750	0.750	0.750
SA__-3.15-220		220	266	68	1107	1	24 x 10	29	30	0.750	0.750	0.750
SA__-3.15-330		330	333	89	1619	1	28 x 17	32	40	0.750	0.750	0.750
SA__-3.15-470		470	492	108	2319	1	28 x 17	32	40	0.750	0.750	0.750
SA__-3.15-680		680	799	138	3369	1	28 x 17	32	40	0.750	0.750	0.750
SA__-3.15-1000		1000	1265	190	5020	1	35 x 19	42	40	0.750	0.750	0.750
SA__-3.15-1500		1500	1656	231	7393	1	44 x 17	49	--	0.750	0.750	--

When ordering use suffix "O", "F" or "V" to designate desired package style. Example: SAO for Open, SAV for Vertical and SAF for Flat mount.

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Electrical Specifications at 25°C

Part Number	I_{DC} Amps	L (µH) Typ. @ Rated Current	L_O (µH) ±25% No Load	DCR mOhms Typical	Energy Storage (µJ) *	Schematic	Coil Size O.D. x Ht. (a x b)	Housing Size Code		Mounting Style Terminal Ød		
								F	V	O	F	V
SA__-4.0-22	4.0	22	23	15	165	1	16 X 8	22	20	0.850	0.850	0.850
SA__-4.0-33		33	39	19	260	1	18 x 11	22	25	0.850	0.850	0.850
SA__-4.0-47		47	48	22	375	1	22 x 9	29	25	0.850	0.850	0.850
SA__-4.0-68		68	75	28	556	1	24 x 11	29	30	0.850	0.850	0.850
SA__-4.0-100		100	113	35	812	1	24 x 11	29	30	0.850	0.850	0.850
SA__-4.0-150		150	157	48	1242	1	26 x 15	32	35	0.850	0.850	0.850
SA__-4.0-220		220	226	57	1752	1	28 x 17	32	40	0.850	0.850	0.850
SA__-4.0-330		330	360	72	2646	1	28 x 17	32	40	0.850	0.850	0.850
SA__-4.0-400		400	476	83	3239	1	28 x 17	32	40	0.850	0.850	0.850
SA__-4.0-470		470	508	94	3738	1	33 x 17	42	40	0.850	0.850	0.850
SA__-4.0-680		680	703	117	5515	1	44 x 17	49	--	0.850	0.850	--
SA__-4.0-1000		1000	1191	153	8006	1	44 x 17	49	--	0.850	0.850	--
SA__-5.0-22	5.0	22	28	13	281	1	19 x 11	22	25	0.950	0.950	0.950
SA__-5.0-33		33	35	15	430	1	22 x 9	29	25	0.950	0.950	0.950
SA__-5.0-47		47	51	19	596	1	22 x 9	29	25	0.950	0.950	0.950
SA__-5.0-68		68	75	23	831	1	25 x 11	29	30	0.950	0.950	0.950
SA__-5.0-100		100	100	31	1242	1	26 x 15	32	35	0.950	0.950	0.950
SA__-5.0-150		150	157	38	1882	1	26 x 15	32	35	0.950	0.950	0.950
SA__-5.0-220		220	237	47	2722	1	29 x 18	32	40	0.950	0.950	0.950
SA__-5.0-330		330	362	63	4068	1	34 x 18	42	40	0.950	0.950	0.950
SA__-5.0-470		470	492	78	5955	1	42 x 15	49	45	0.950	0.950	0.950
SA__-5.0-630		630	703	94	7914	1	45 x 18	49	--	0.950	0.950	--
SA__-5.0-680		680	845	103	8554	1	45 x 18	49	--	0.950	0.950	--
SA__-6.3-22	6.3	22	24	9	450	1	23 x 9	29	25	1.120	1.120	1.120
SA__-6.3-33		33	35	11	635	1	23 x 9	29	25	1.120	1.120	1.120
SA__-6.3-47		47	55	14	959	1	26 x 12	29	30	1.120	1.120	1.120
SA__-6.3-68		68	68	18	1317	1	27 x 16	32	35	1.120	1.120	1.120
SA__-6.3-100		100	108	23	2051	1	27 x 16	32	35	1.120	1.120	1.120
SA__-6.3-150		150	166	28	2963	1	30 x 19	32	40	1.120	1.120	1.120
SA__-6.3-220		220	251	38	4435	1	35 x 19	42	40	1.120	1.120	1.120
SA__-6.3-330		330	357	48	6587	1	43 x 16	49	45	1.120	1.120	1.120
SA__-6.3-390		390	459	55	7842	1	46 x 19	49	--	1.120	1.120	--
SA__-8.0-22	8.0	22	24	7	695	1	23 x 10	29	30	1.250	1.250	1.250
SA__-8.0-33		33	38	9	1037	1	26 x 13	29	30	1.250	1.250	1.250
SA__-8.0-47		47	47	12	1434	1	27 x 16	32	35	1.250	1.250	1.250
SA__-8.0-68		68	74	15	2241	1	27 x 16	32	35	1.250	1.250	1.250
SA__-8.0-100		100	123	20	3188	1	30 x 19	32	40	1.250	1.250	1.250
SA__-8.0-150		150	179	26	4698	1	35 x 19	42	40	1.250	1.250	1.250
SA__-8.0-220		220	244	32	7107	1	43 x 16	49	45	1.250	1.250	1.250
SA__-8.0-270		270	330	37	8554	1	46 x 19	49	--	1.250	1.250	--
SA__-10-22	10	22	22	7	1060	1	27 x 16	32	40	1.320	1.320	1.320
SA__-10-33		33	33	9	1589	1	27 x 16	32	40	1.320	1.320	1.320
SA__-10-47		47	51	11	2406	1	27 x 16	32	40	1.320	1.320	1.320
SA__-10-68		68	80	14	3280	1	27 x 16	32	40	1.320	1.320	1.320
SA__-10-100		100	127	19	5079	1	34 x 18	42	40	1.320	1.320	1.320
SA__-10-150		150	171	24	7442	1	43 x 16	49	--	1.320	1.320	--
SA__-10-180		180	233	27	8876	1	43 x 16	49	--	1.320	1.320	--
SA__-16-22	16	22	29	5	2986	2P	30 x 19	32	40	1.180	1.180	1.180
SA__-16-33		33	36	6	4128	2P	35 x 19	42	40	1.180	1.180	1.180
SA__-16-47		47	70	10	7150	2P	43 x 16	49	45	1.180	1.180	1.180
SA__-16-68		68	83	10	8554	2P	43 x 16	49	45	1.180	1.180	1.180
SA__-20-10	20	10	10	3	2011	2P	27 x 16	32	40	1.320	1.320	1.320
SA__-20-22		22	24	4	4278	2P	32 x 16	42	40	1.320	1.320	1.320
SA__-20-33		33	38	6	6867	2P	43 x 16	49	--	1.320	1.320	--
SA__-20-47		47	53	7	8976	2P	43 x 16	49	--	1.320	1.320	--

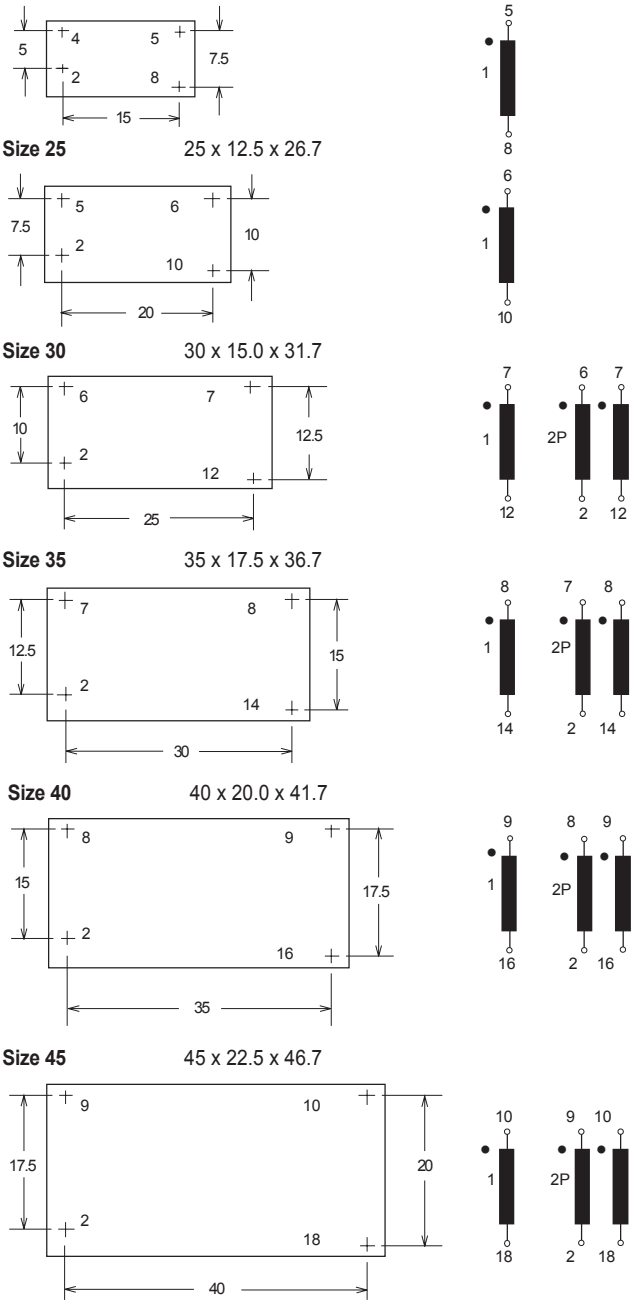
Notes:

1) The µJoule rating (½LI²) is the ability of the inductor to store energy.
2) Inductance measured at 0.10 Vrms @ 10kHz without DC Current and 0.25 Vrms @ 10kHz with DC Current.
3) On larger units and units wound with finer wire additional mechanical mounting is recommended. See next page for Mounting Opt ions.

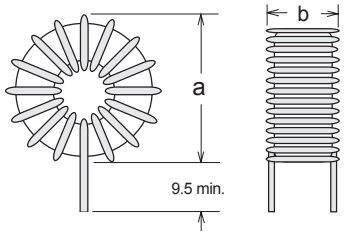
Mounting Styles • SA Series • High Efficiency Storage Chokes

Mounting Style V

Dimensions	X x Y x Z	Schematic 1	Schematic 2
Size 20	20 x 10.0 x 21.7		
Size 25	25 x 12.5 x 26.7		
Size 30	30 x 15.0 x 31.7		
Size 35	35 x 17.5 x 36.7		
Size 40	40 x 20.0 x 41.7		
Size 45	45 x 22.5 x 46.7		

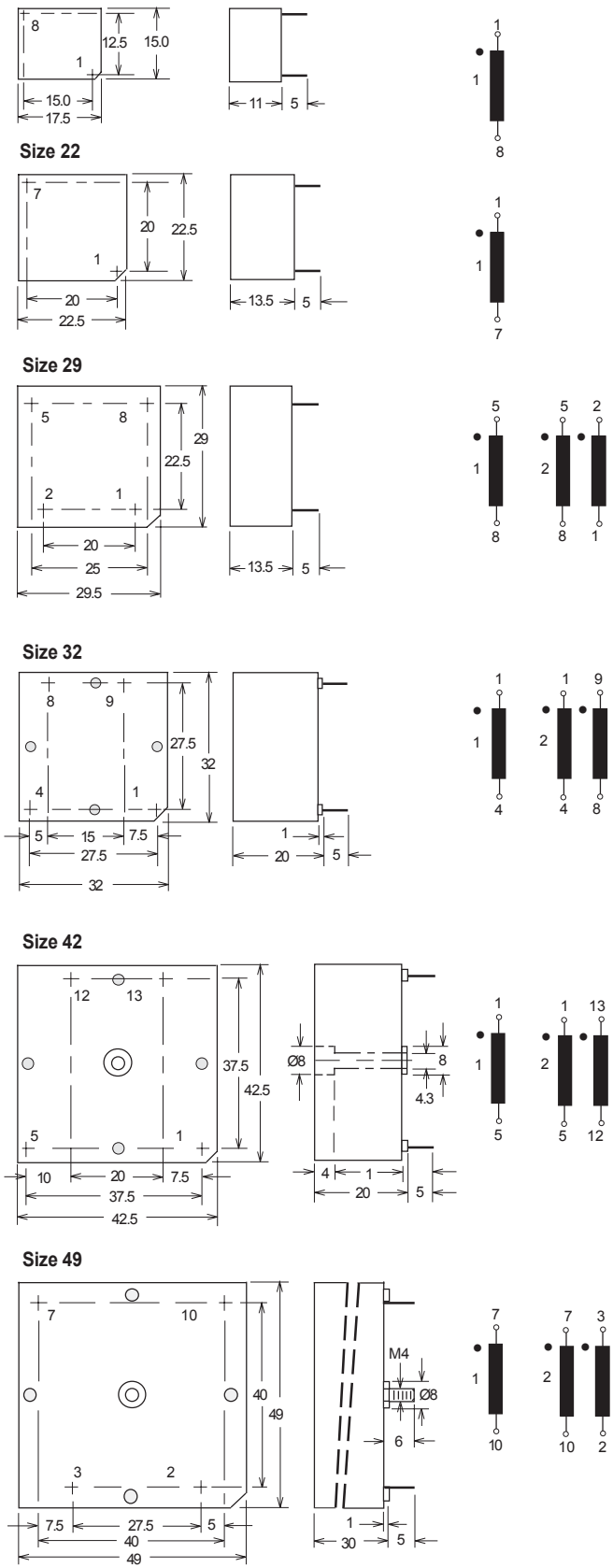


Mounting Style ' O' = Open Mount



Mounting Style F

Schematic 1 2



Tolerance on Pin Length: ±0.3mm

AlfaMag Electronics * 10830 Kinghurst Dr. Houston, TX 77099
Phone: 832-775-1318 * Fax: 832-775-1317* email: sales@alfamag.com
Toll Free: 800-413-6693 * www.alfamag.com