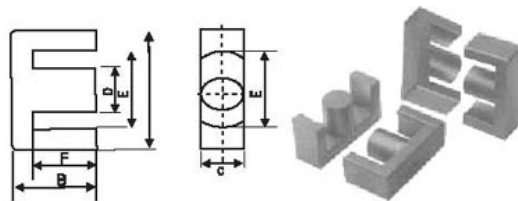




EER CORES ETD CORES



Description of the "E" patterns

The "E" patterns are sought that are easy to assemble, could be interleave to minimize gap effects, and would minimize waste. Since "E" cores have two open coil sides, they provide substantial room to bring high current lead wires out from the coil. It is easier to achieve high voltage electrical isolation with an "E" core. In the typical "E" lamination, the center leg (one of three legs) is twice the width of either outer leg. In theory, magnetic flux flowing out of the center leg divides equally and flows into the outer two "E" core legs. Since the outer legs handle half the flux they only need to have half the cross-section that the center leg has. It is easier to achieve high voltage electrical isolation with an "E" core than with a pot core.

Presentation of EER-core and ETD-core

EER-core and ETD-core are examples of type "E" cores with round center legs. The combined cross section of the two outer legs of EER cores and ETD cores should equal or exceed that of the center leg. The core stack is a stack of laminations and the typical stack has core legs of rectangular cross-section. Typically the inductor or transformer coil is placed over the center core leg. To minimize winding resistance (hence also minimize winding losses) it is desirable to have a round center leg. A round center leg also eliminates the sharp bend encountered when winding wire around a rectangular leg; consequently a round center leg permits use of larger wire. Achieving round center legs with laminations is possible but very impractical. With the development of powdered cores and ferrite cores it became practical to have a round center leg. EER-core and ETD-core type, such as EER42, EER40, EER20, EER35, EER28, EER30, EER34, EER43, EER45, EER50, etc, ferrite cores are developed for higher power higher frequency switching transformers.

Application of EER-core and ETD-core

EER cores and ETD cores are usually larger, but have a wide winding area, which makes them particularly good for higher power designs or multiple output designs. Remember a larger core size will be needed for a margin wound type transformer than for a triple insulated type to allow room for the margins. EER cores with round center leg offer ideal features for the design of SMPS transformers chokes. We offer various EER cores and ETD cores, including EER42, EER40, EER20, EER35, EER28, EER30, EER34, EER43, EER45, EER50, EER49, EER25.5, EER55, EER54, EER53, ETD29, ETD34, ETD39, ETD49, ETD44, ETD10, ETD41, ETD32, ETD59, ETD31, and ETD22. Please find our details of ETD-core and EER-core by types and dimensions data shown as below.

Type	Dimensions(mm)					
	A	B	C	D	E	F
EER25	25.3±0.6	9.3±0.3	7.5 ± 0.3	7.5 ± 0.3	19.8	6.2 ± 0.3
EER28A	28.5±0.6	14.0 ± 0.3	11.4 ± 0.3	9.9±0.3	21.2	9.6±0.3
EER28B	28.5±0.6	16.9 ± 0.3	11.4 ± 0.3	9.9 ± 0.3	21.2	12.5 ± 0.3
ETD29	29.8±0.8	15.8 ± 0.2	9.5 ± 0.3	9.5 ± 0.3	22.0	11.0 ± 0.3
EER30	30.0 ± 0.8	17.5 ± 0.3	11.2 ± 0.3	9.9 ± 0.3	22.5	12.6 ± 0.3
ETD34	34.2 ± 0.8	17.3 ± 0.2	10.8 ± 0.3	10.8 ± 0.3	25.6	12.1 ± 0.3
EER35A	35.0 ± 0.7	21.0 ± 0.3	11.3 ± 0.4	11.3 ± 0.3	25.3	15.0 ± 0.3
EER35/34B	35.0 ± 0.7	16.8 ± 0.3	11.3 ± 0.4	11.3 ± 0.3	25.3	10.8 ± 0.3
EER35C	36.0 ± 0.7	21.6 ± 0.4	11.3 ± 0.4	11.3 ± 0.4	26.5	15.6 ± 0.4
EER37	36.0 ± 0.6	20.7 ± 0.3	11.3 ± 0.3	11.3 ± 0.3	27.6	14.7 ± 0.3
ETD39	39.1 ± 0.9	19.8 ± 0.2	12.6 ± 0.4	12.5 ± 0.3	29.3	14.6 ± 0.4
EER40A	40.0 ± 0.8	22.4 ± 0.3	13.3 ± 0.3	13.3 ± 0.3	29.0	15.4 ± 0.3
EER40B	44.0 ± 0.8	22.4 ± 0.3	13.3 ± 0.3	13.3 ± 0.3	29.3	15.4 ± 0.3
EER40C	40.0± 0.7	22.9 ± 0.3	13.3 ± 0.3	13.3 ± 0.3	29.5	15.9 ± 0.3
EER40D	40.2± 0.5	21.4± 0.3	15.5± 0.3	15.5± 0.3	29.4	15.4± 0.3
EER40E	40.0 ^{+0.6} _{-0.5}	23.0± 0.3	13.3± 0.3	13.3± 0.3	29.0	16.0± 0.3
EER40F	41.0max	22.8±0.3	13.3±0.4	13.3±0.3	29.5	15.8±0.3
EER40G	40.8 ^{+0.1} _{-0.5}	21.3±0.2	15.0±0.2	14.0±0.25	30.7	15.3±0.2
EER40H	41.0±0.7	24.0 ^{+0.3} ₋₀	13.0 ⁺⁰ _{-0.3}	13.0 ⁺⁰ _{-0.3}	30.0	17.0 ^{+0.3} ₋₀
EER49A	49.0 ± 0.8	26.2 ± 0.4	17.0 ± 0.5	17.0 ± 0.5	36.5	18.7 ^{+0.3} _{-0.2}
EER49B	49.0 ± 1.0	27.0 ± 0.3	17.2 ± 0.4	17.2 ± 0.3	36.5	18.7 ± 0.3
ETD49	49.0 ± 1.0	24.7 ± 0.3	16.3 ± 0.4	16.3 ± 0.4	36.1	18.1 ± 0.4
EER50	50.5 ± 0.8	27.0 ± 0.3	18.7 ± 0.4	18.7 ± 0.4	38.0	18.7 ± 0.3
EER53	53.2 ± 0.8	23.2 ± 0.3	21.5 ± 0.3	20.0 ^{+0.2} _{-0.3}	38.7	16.3 ± 0.3
EER54	54.2 ± 0.8	25.1 ± 0.4	18.9 ± 0.4	18.9 ± 0.3	40.5	17.5 ± 0.3
EER55A	56.0 ± 0.8	30.7 ± 0.3	20.4 ± 0.3	20.4 ± 0.3	44.0	22.9 ± 0.3
EER55B	55.9 ± 1.0	29.0 ± 0.3	24.3 ± 0.5	20.2 ± 0.3	43.5	20.4 ± 0.3

Type	Core parameter				weight (g/pr.)	A _L (nH/N ²)		
	C1 (mm ⁻¹)	Ae (mm ²)	le (mm)	Ve (mm ³)		F2B (±25%)	F2BD (± 25%)	F2B1 (±25%)
EER25	1.09	44.3	48.3	2140	12	2100	2050	1920
EER28A	0.79	82.1	64	5254	28	3120	3080	2870
EE28B	0.86	85.6	73.2	6266	33	2100	2660	2520
ETD29	0.95	73.6	70.6	5196	28	2500	≥2100	2200
EER30	0.99	85.5	75.4	6673	32	2800	2600	2500
ETD34	0.81	97.1	78.6	7632	40	2600	2450	2400
EER35A	0.84	107	90.8	9716	53	2960	2580	2600
EER35/34B	0.68	107	72.8	7790	51	3100	2770	2770
EER35C	0.84	107	90	9630	55	3100	2700	2700
EER37	0.8	112.1	90.5	10149	52.5	2960	2580	2600
ETD39	0.737	125	92.1	1151	60	3240	2800	2700
EER40A	0.66	149	98	14602	78	/	3500	3500
EER40B	0.68	149	102	15198	78	/	3500	3500
EER40C	0.67	149	100	14900	78	/	3400	3400
EER40D	0.50	187.7	93.9	17415	78	3830	3800	3300
EER40E	0.65	151	98.2	14828	77	/	3300	3300
EER40F	0.65	151	98.1	15215	78	/	3300	3300
EER40G	0.609	158	96.3	15230	80	/	3600	3600
EER40H	0.7	145	102.8	14906	80	/	3200	3200
EER42A	0.547	183	96.3	17623	94	/	4500	4500
EER42B	0.528	183.7	96.9	17800	92	/	4400	4400
EER42/C	0.5	155.3	97.5	15137	96	/	3500	3400
EER43A	0.5	194	98.0	19821	105	/	4500	4500
EER43B	0.5	194	96.8	19584	102	/	4500	4500
ETD44	0.59	173.0	103.0	17720	94	/	4110	4000
EER45	0.6	189.5	105.0	19894	108	/	5000	4670
EER49A	0.5	235.8	116.0	27357	112	/	6800	6250
EER49B	0.5	241	118	28460	148	3500	6500	6030
ETD49	0.534	217.6	112.2	24417	124	3700	3700	4400
EER50	0.437	277.5	117.6	32637	170	/	5730	5300
EER53	0.338	319.5	105.9	33828	170	/	6200	6200
EER54	1.0	594.1	48.7	28958.2	181	/	4800	4800
EER55A	0.62	303.1	188.2	41896.1	220	/	7100	
EER55B	0.36	353.8	128.7	45533	228	/		

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