SELECTOR GUIDE

COSMO FERRITES LIMITED, founded in 1986 by promoters with over five decades of standing in the Indian Industry, is today the leading manufacturer of Soft Ferrites in India.

The Company has two operating units in the foothills of the Himalayas at a distance of 300 Kms. from Delhi. The plant is built over a floor area of 7000 sq. mtrs. and employs 300 personnel.

State of the art equipment from leading manufacturers in Western Europe, rigorous quality standards and well equipped in–house R&D set up ensures delivery of high quality ferrites to our customers and continuous product upgradation. The Company has an overriding commitment to its customers and values close and long lasting relationships with them.

COSMO FERRITES has a leading position in the Indian soft ferrites market. It pioneered the exports of Soft Ferrites from India in 1988 and has been the leading exporter of soft ferrites since then. More than 50% of production is exported to U.S.A., Western Europe and the Far East.

The Company's quality system is approved by International Electro–Technical Commission (IEC) of Geneva and its products carry IECQ certification since 1990. It is the first ferrite manufacturer in India to obtain ISO 9002 accreditation for its operations in 1993.

COSMO FERRITES is professionally managed at all levels. Guiding the management is a Board of Directors comprising eminent solicitors, bankers, former civil servants and management experts.

IECQ ISO 9002

Ferrites are ceramic materials, dark grey or black in appearance. They are very hard and brittle. A ferrite core is made by pressing a mixture of constituent raw materials to the required shapes and sintering the same into ceramic components. The general composition of ferrites is $MeFe_2O_4$ where Me represents one of the divalent transition metals such as Mn, Zn, Ni, Co, Cu, Fe or Mg.

The magnetic properties arise from interactions between metallic ions occupying particular positions relative to the oxygen ions in the crystal structure of the oxide. Ferrites exhibit good magnetic properties below a certain temperature, called the curie temperature. They can easily be magnetised by applying small electric field and can be used upto very high frequencies (500 KHz) without laminating. Ferrites features a resistivity of 10^0 to $10^8 \Omega m$, much higher than that of metals which have a resistivity range of 10^{-7} to 10^{-6} Ωm. The resultant neglible power losses make soft ferrites the best choice of core material for high frequency transformers and inductors.

Major application areas of ferrites are Inverter transformer, Current transformer, Fly back transformer, Driver transformer, Pulse transformer, Line filters, Choke, Noise Suppresor etc.

SYMBOL	UNITS	DESCRIPTION
A_e	mm^2	Effective Cross–Sectional Area of a Core
A_{min}	mm^2	Minimum Area of Cross–Section
A_L	nH	Inductance Per Turn
B_r	mT	Remanence Flux Density
B_s	mT	Saturation Flux Density
$\hat{B}$	mT	Peak Induction
d	Kg/m^3	Density
f	KHz	Frequency
g	mm	Airgap (Cut)
H_c	A/m	Coercive Field Strength
L_e	mm	Effective Magnetic Path Length
I	A	Current
L	H	Inductance
N	_	Number of Turns
P_c	Kw/m^3	Core Loss Density
SPM	deg.C	Secondary Permeability Maximum
T_c	deg.C	Curie Temperature
$\tan \delta/\mu_{iac}$	_	Relative Loss Factor
V_e	mm^3	Effective Volume of a Core
μ_{iac}	_	Initial Permeability
μ'	_	Real Component of Complex Permeability
μ''	_	Imaginary Component of Complex Permeability
ρ	Ωm	Resistivity

Our ferrites are produced to consistently high quality standards. The quality assurance system is based on statistical quality control methods. All products are tested in accordance with IEC 410/IEC 414 sampling plan to ensure an acceptable Average Quality Level (AQL) for major and minor defects.

A brief review of defect categories & AQL is presented below:

CLASSIFICATION OF DEFECTS:

MAJOR DEFECTS : These defects lead to a malfunction of the finished wounds components. Cosmo lot acceptance criteria ensures a low AQL (0.65%) of defectives with major defects.

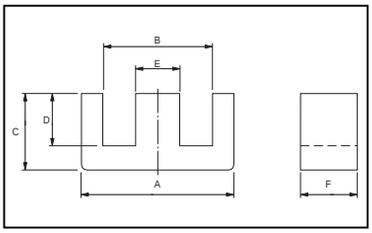
MINOR DEFECTS : These defects do not have a severe effect on the function of wound component. Often they have a negative effect on the visual appearance of the end product.

Cosmo lot acceptance criteria permits a relatively higher AQL (4%) of defectives with minor defects.

MAJOR & MINOR DEFECTS

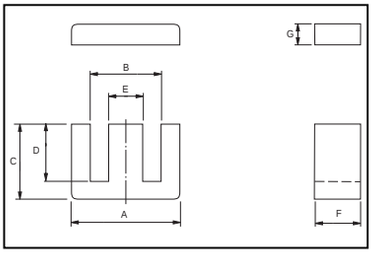
EE, EC, EER, ETD CORES

MAJOR DEFECTS	MINOR DEFECTS
A_L Value Primary dimensions (Amin, Cmin, Bmin, Dmin, Emax, Fmax) Bending	Core loss (Pc) Peak Induction ($\hat{B}$) Secondary dimensions (Amax, Cmax, Dmax, Bmax, Emin, Fmin) Visual defects (Chips, Cracks etc.)



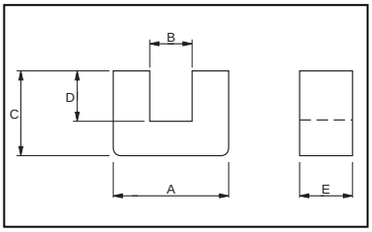
EI CORES

MAJOR DEFECTS	MINOR DEFECTS
A_L Value Primary dimensions (Amin, Cmin, Bmin, Dmin, Emax, Fmax, Gmin) Bending	Core loss (Pc) Peak Induction ($\hat{B}$) Secondary dimensions (Amax, Cmax, Dmax, Bmax, Emin, Fmin, Gmax) Visual defects (Chips, Cracks etc.)



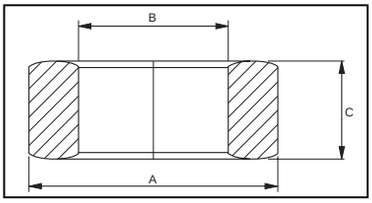
UU CORES

MAJOR DEFECTS	MINOR DEFECTS
A_L Value Primary dimensions (Amin, Cmin, Bmin, Dmin, Emax.) Bending	Core loss (Pc) Peak Induction ($\hat{B}$) Secondary dimensions (Amax, Cmax, Dmax, Bmax, Emin, Groove) Visual defects (Chips, Cracks etc.)



TOROIDS

MAJOR DEFECTS	MINOR DEFECTS
A_L Value Dimensions (Amax, Bmin, Cmax) Dielectric strenght (for coated toroids)	Dimensions (Amin, Bmax, Cmin)



AQL AND INSPECTION LEVELS FOR MAJOR & MINOR DEFECTS

DEFECT	AQL	INSPECTION LEVEL	SAMPLING PLAN
MAJOR	0.65%	ILV	IEC-414
MINOR	4%	S3	IEC-410

TRACEABILITY

A 10 digit batch number written on each label stuck on each Box as well as Tray allows to get information about :

- Material Grade used
- Type of Core
- Granulate/Powder Batch used
- Quantity and Date of Pressing
- References of machines involved in the process of relevent lot.

OUTGOING INSPECTION

Each lot passes through a final outgoing inspection before entering into the Sales Warehouse. During this inspection, all results (Dimensions, A_L, Power loss, Peak induction, Mechanical strength etc.) are checked, some samples are controlled and the test report is supplied to the user along with each lot.

MATERIAL TABLE

PROPERTY	SYMBOL	UNIT	TEMP	MATERIAL						
			(°C)	CF129	CF196	CF138	CF124	CF101	CF195	CF197
Initial Permeability	μ_{iac}	–	25	1900±20%	2000±20%	2100±20%	2500±20%	3000±20%	5000±20%	7500±20%
Saturation Flux Density	Bs (H=1kA/m)	mT	25	510	500	480	490	490	400	400
			100	410	400	380	390	390	260	260
Residual Flux Density	Br	mT	25	180	210	180	200	200	150	150
Coercivity	Hc	A/m	25	15	16	15	16	15	12	12
Power Loss Density	Pc (16KHz) 200mT	Kw/m^3	25	≤ 95	≤ 120	–	≤ 100	≤ 100	–	–
			100	≤ 60	≤ 110	–	≤ 90	≤ 120	–	–
	Pc (25KHz) 200mT	Kw/m^3	25	≤ 140	≤ 160	–	≤ 150	≤ 150	–	–
			100	≤ 95	≤140	–	≤ 130	≤ 170	–	–
	Pc (100KHz) 100mT	Kw/m^3	25	–	–	≤ 155	–	–	–	–
			100	–	–	≤ 80	–	–	–	–
	Pc (100KHz) 200mT	Kw/m^3	25	–	–	≤ 800	–	–	–	–
			100	–	–	≤ 500	–	–	–	–
Relative Loss Factor	tan δ/μ_{iac} (10 KHz)	x 10^{-6}	25	≤ 2.5	≤ 4	≤ 2.5	≤ 2.5	≤ 2.5	≤ 5.0	≤ 7
Sec. Max. Permeability	SPM	°C	–	90 – 110	70 – 90	90 – 110	60 – 80	50 – 70	–	–
Curie Temperature	Tc	°C	–	≥ 240	≥ 200	≥ 220	≥ 200	≥ 190	≥ 130	≥ 125
Resistivity	ρ	Ωm	25	1.0	0.4	1.0	0.5	0.4	0.2	0.2
Density	d	Kg/m^3	25	4.8 X 10^3	4.8 X 10^3	4.8 X 10^3	4.8 X 10^3	4.8 X 10^3	4.85 X 10^3	4.85 X 10^3
Geometry	–	–	–	EFF, EFC, EE, EI, ETD, EER, EC, UU	EE, EI, ETD, EER, EC, UU, TOROID	EFF, EFC, EE, EI, EP, ETD, EER, EC, UU	EE, UU	EE, EI, EER, UU	Small EE, UU, ET, UT, TOROID	ET, UT

Note :

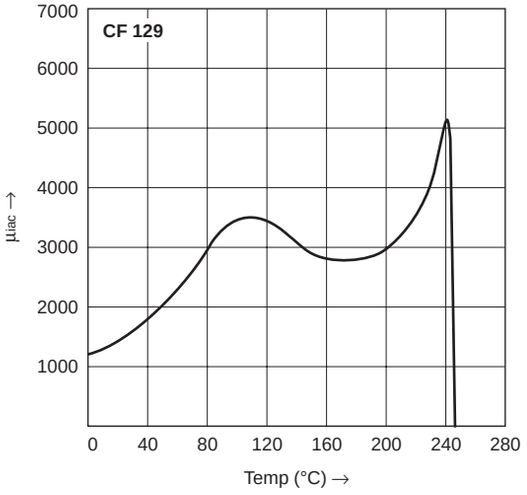
1. The values are obtained with Toroid T 2512.
2. Initial Permeability, Relative Loss Factor and Curie Temperature are measured at f = 10KHz & B = 0.1 mT.

MEASURING CONDITIONS

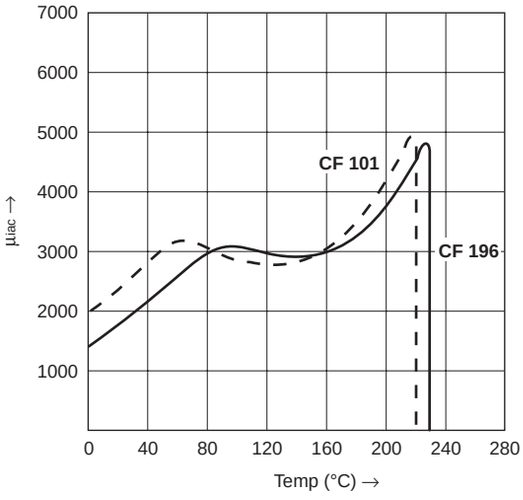
The various properties of ferrite materials listed in the material characteristics chart were measured on torroid T 2512 at the measuring conditions which correspond to a large extent to IEC 414.

PROPERTIES	SYMBOL	MEASURING CONDITIONS		
		FREQUENCY (f) kHz	FLUX DENSITY B (mT)	REMARKS
Initial permeability	μ_{iac}	≤ 10	≤ 0.1	For temp. refer to table
Saturation flux density	Bs	—	Approaching saturation	H = 1000 A/m
Coercive field strength	Hc	—	—	—
Power loss	Pc	16 25 100	100 200	For temp. refer to table
Relative loss factor	tan δ/μ_{iac}	10	≤ 0.1	For temp. refer to table
Curie temp.	Tc	≤ 10	≤ 0.1	—
DC Resistivity	ρ	—	—	500 Volts
Density	d	—	—	—
Inductance factor	A_L	1	1	For Ungapped EE, EI, ETD, EER, EC, UU Cores
		1	Equivalent to 300 mV voltage	For gapped EE, EI, ETD, EER, EC Cores
		10	Equivalent to 150 mV Voltage	Toroids

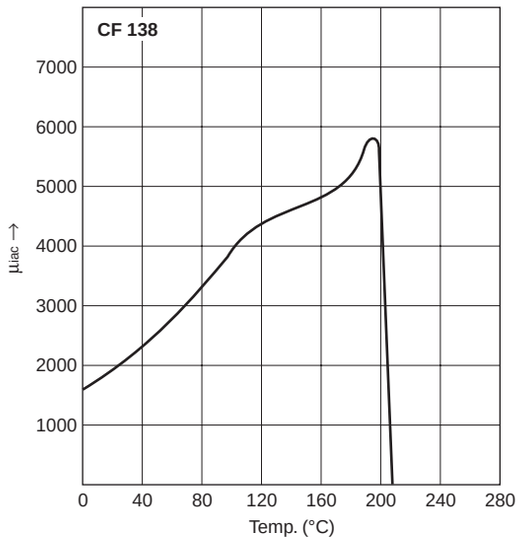
Initial Permeability Vs Temperature



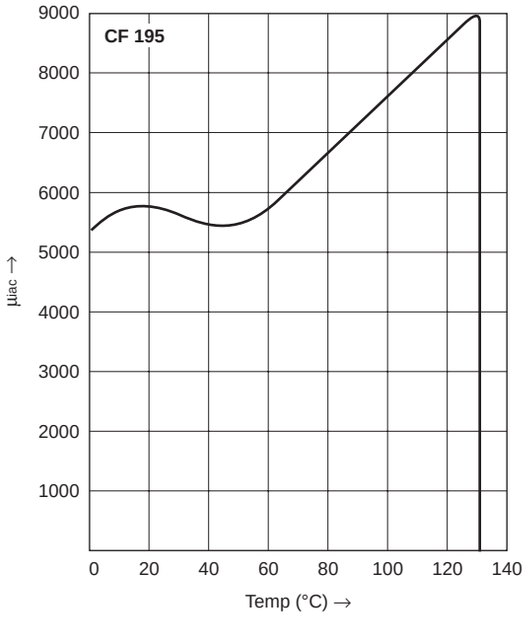
Initial Permeability Vs Temperature



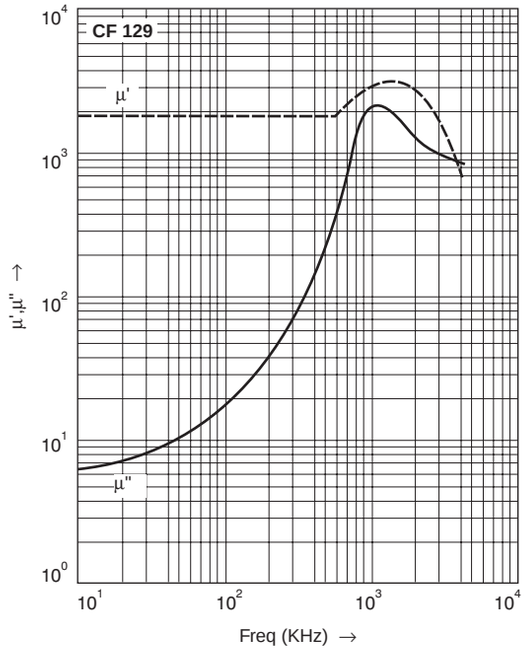
Initial Permeability Vs Temperature



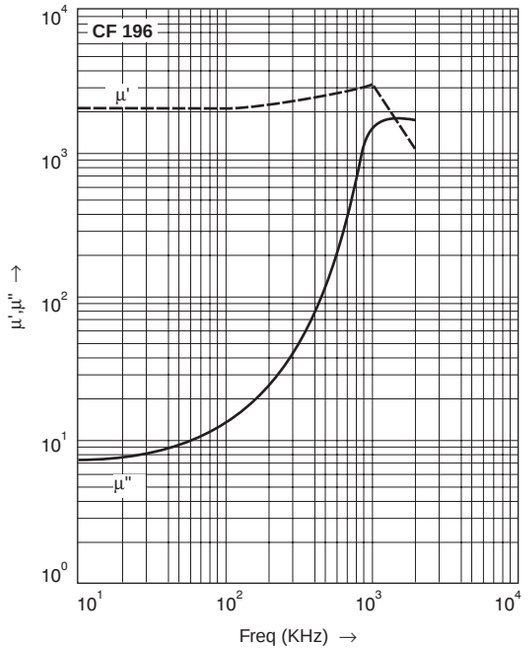
Initial Permeability Vs Temperature



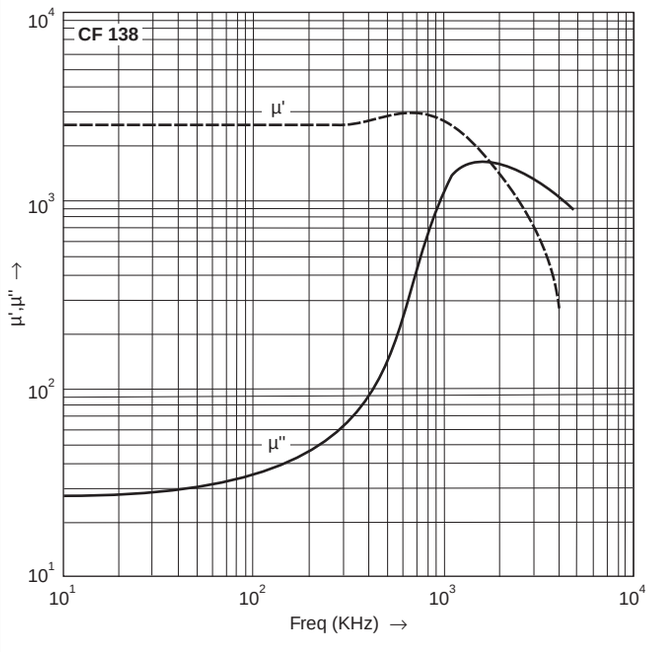
Complex Permeability Vs Frequency



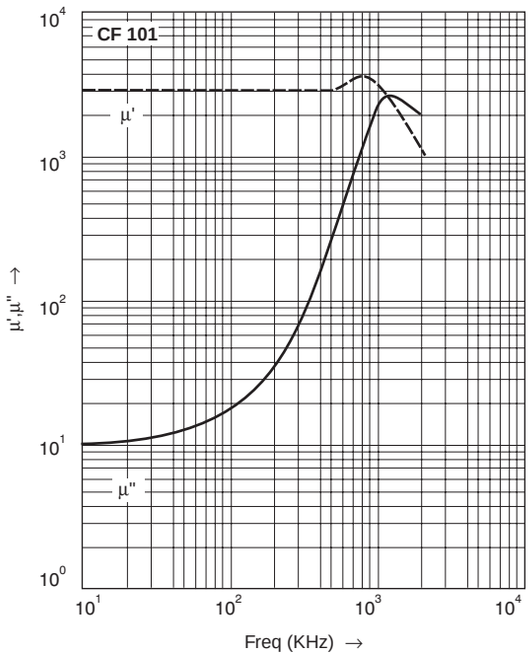
Complex Permeability Vs Frequency



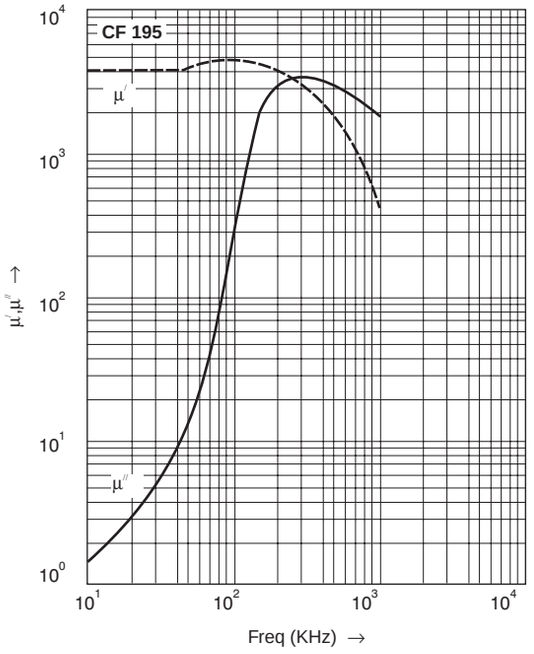
Complex Permeability Vs Frequency



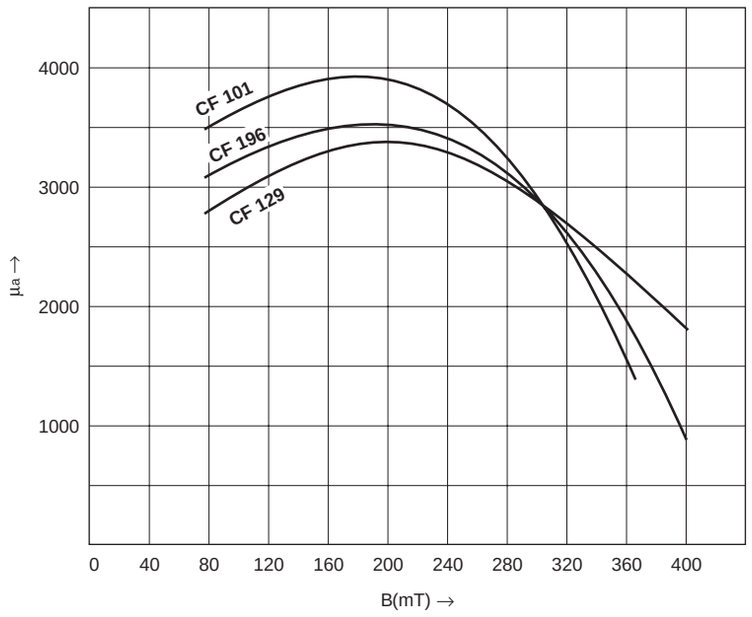
Complex Permeability Vs Frequency



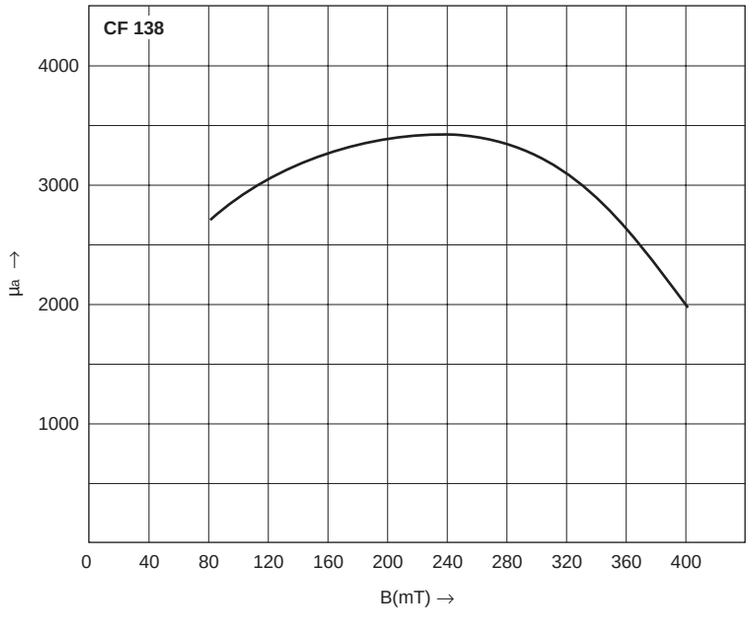
Complex Permeability Vs Frequency



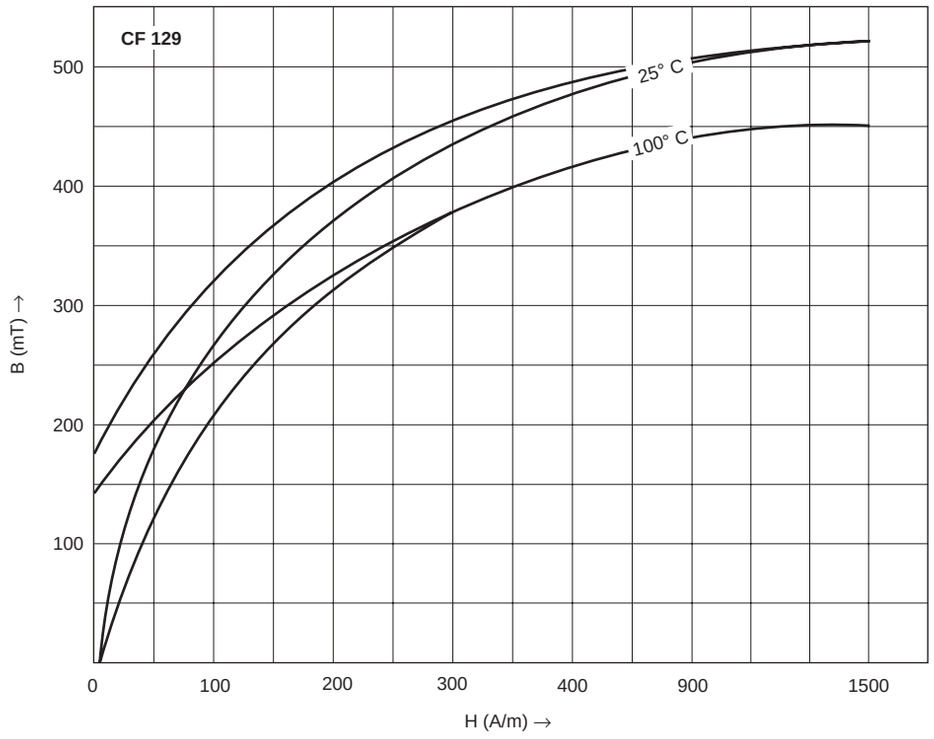
Amplitude Permeability as a Function of Flux Density



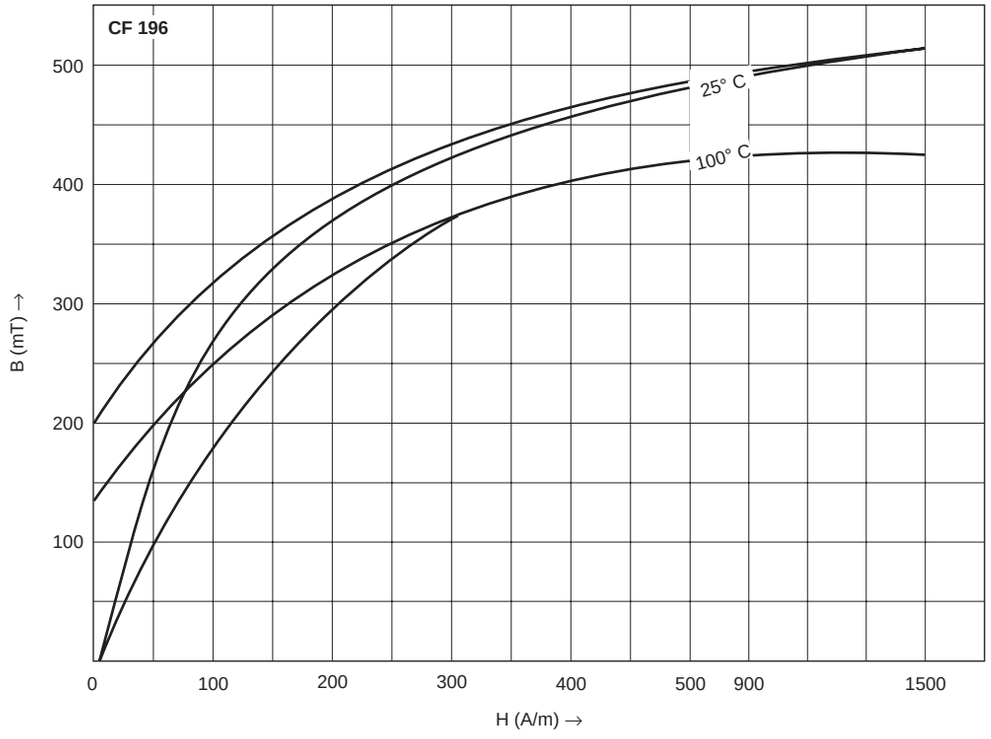
Amplitude Permeability as a Function of Flux Density



B-H As a Function of Temperature



B-H As a Function of Temperature



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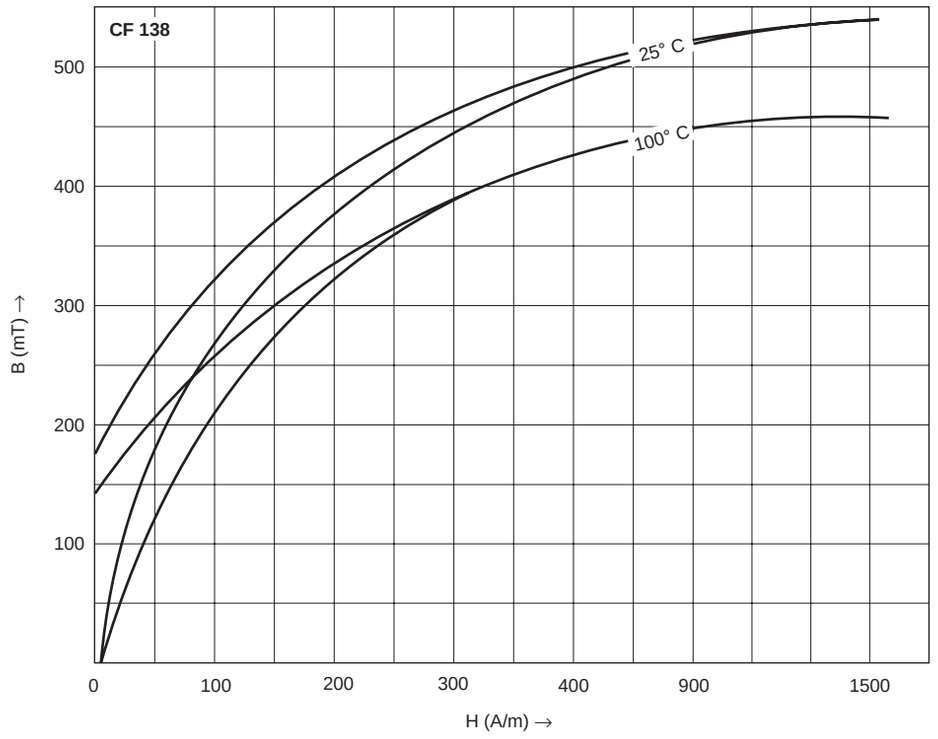
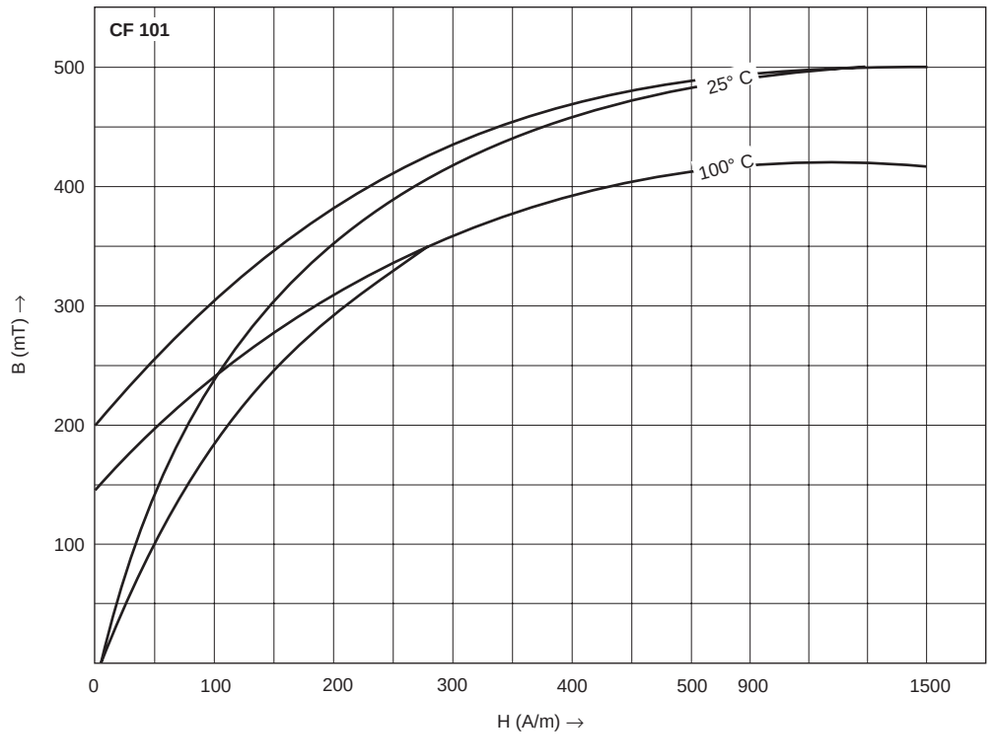
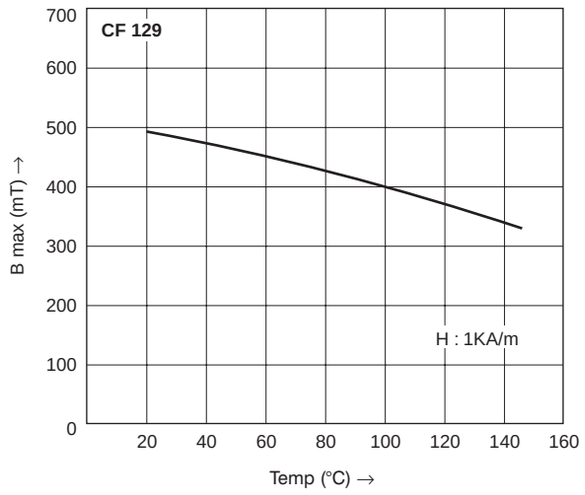


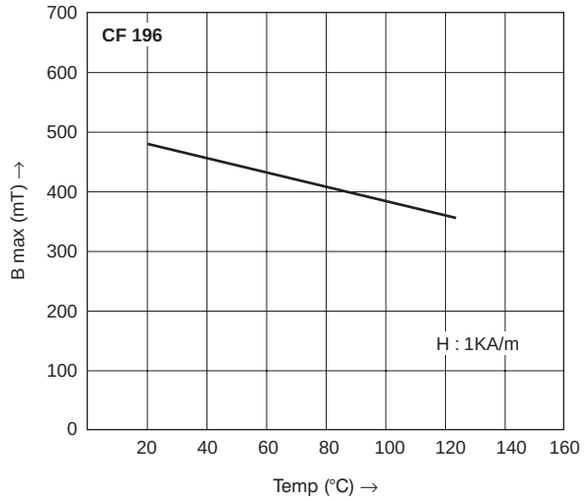
B-H As a Function of Temperature



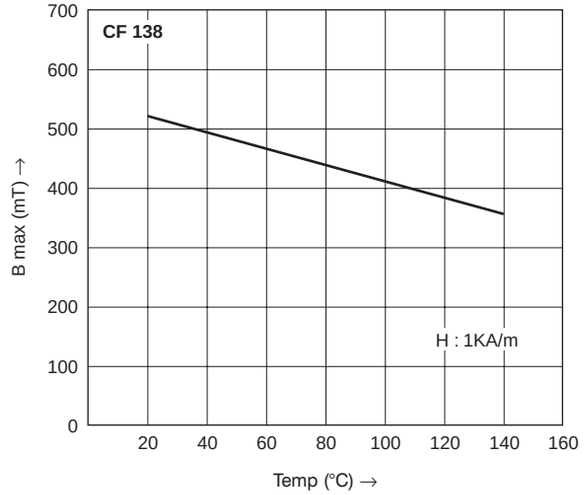
Flux density Vs Temperature



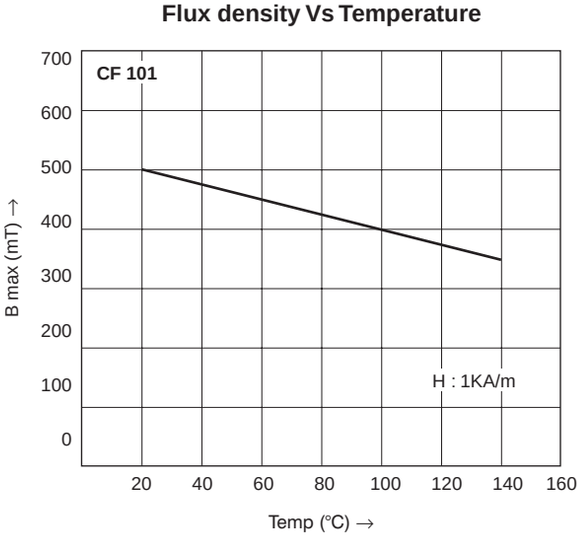
Flux density Vs Temperature

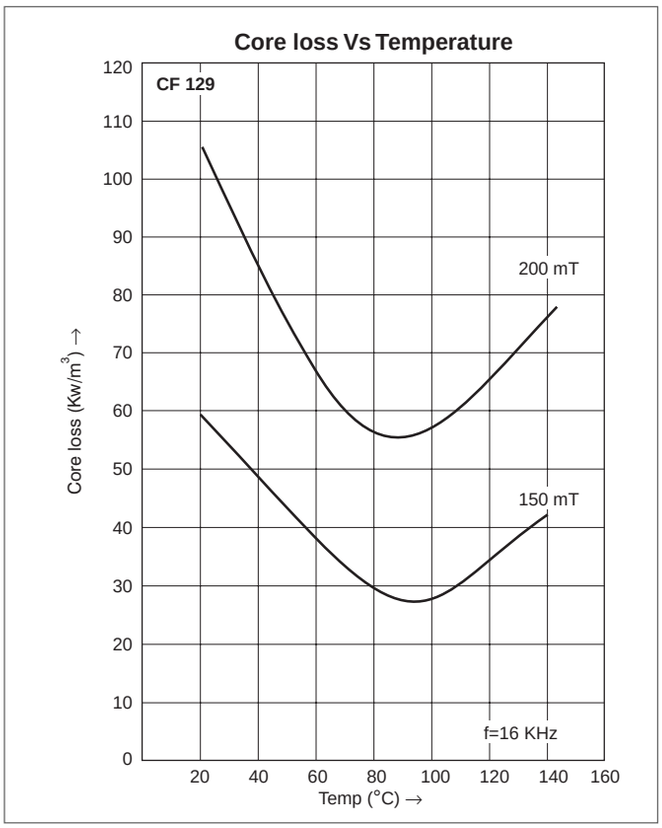


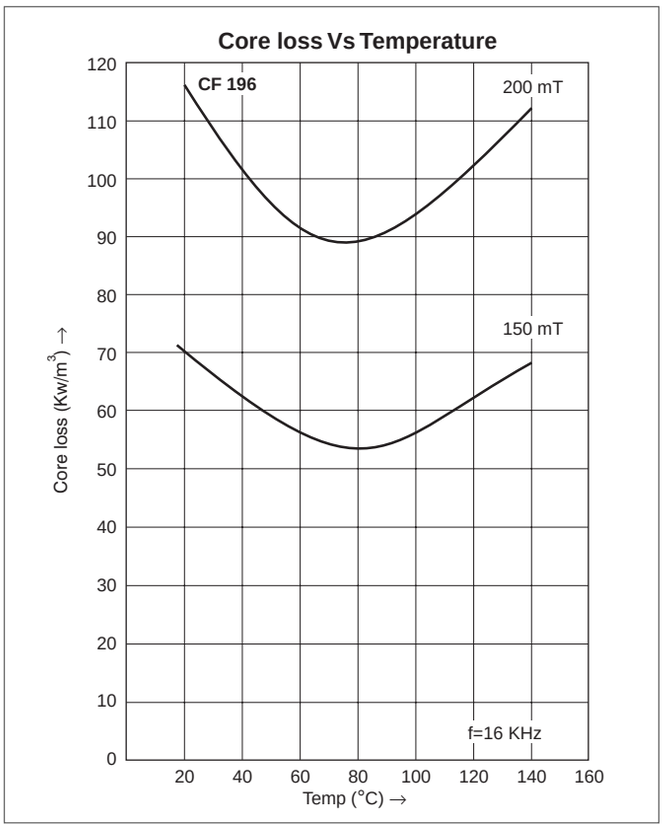
Flux density Vs Temperature

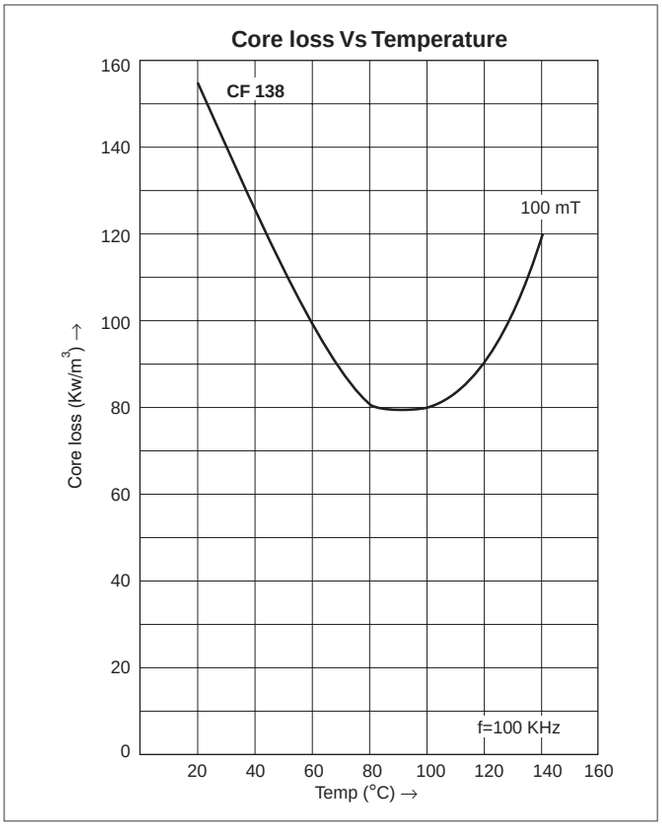


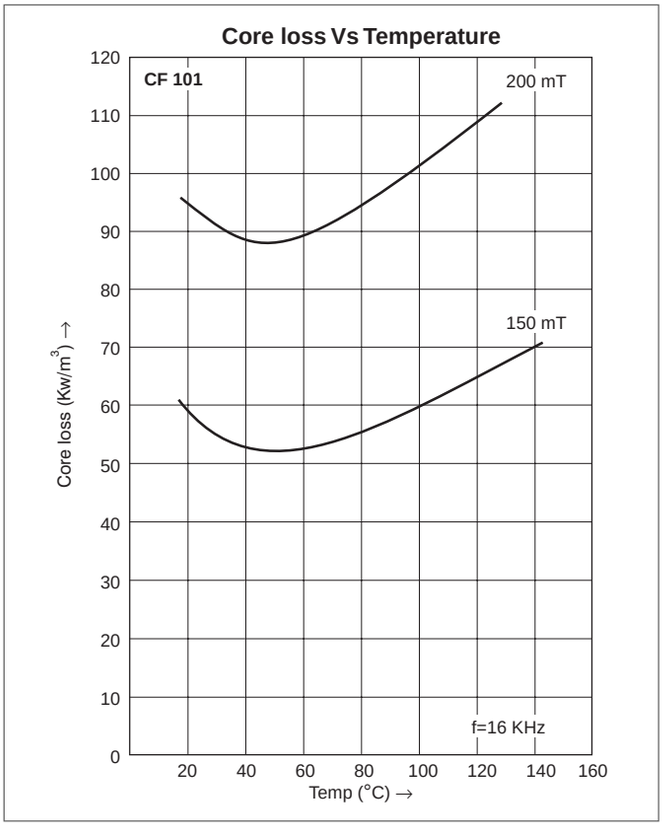
Flux density Vs Temperature



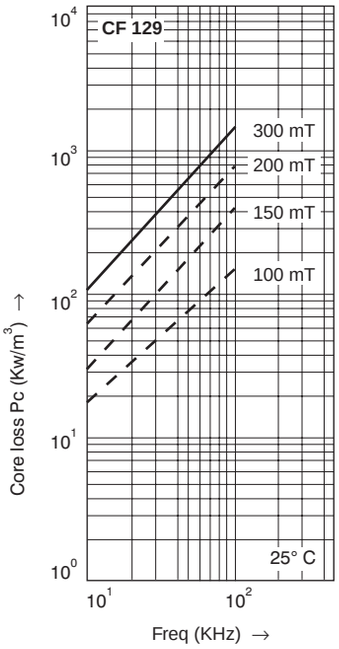

Core loss Vs Temperature
CF 129
200 mT
150 mT
f=16 KHz
Core loss (Kw/m3) →
Temp (°C) →
0
10
20
30
40
50
60
70
80
90
100
110
120
20
40
60
80
100
120
140
160


Core loss Vs Temperature
CF 196
200 mT
150 mT
f=16 KHz
Core loss (Kw/m3) →
Temp (°C) →
0
10
20
30
40
50
60
70
80
90
100
110
120
20
40
60
80
100
120
140
160

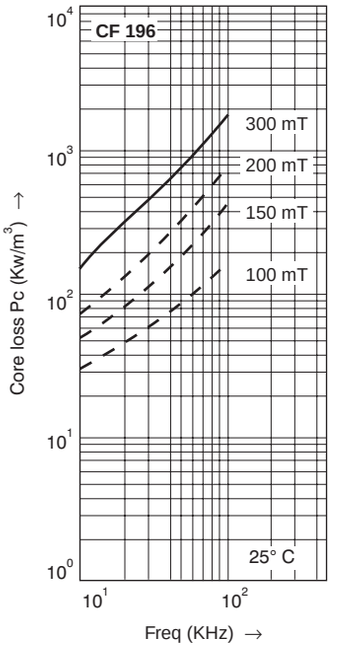

Core loss Vs Temperature
CF 138
100 mT
f=100 KHz
Core loss (Kw/m3) →
Temp (°C) →
0
20
40
60
80
100
120
140
160
20
40
60
80
100
120
140
160


Core loss Vs Temperature
CF 101
200 mT
150 mT
f=16 KHz
Core loss (Kw/m3) →
Temp (°C) →
0
10
20
30
40
50
60
70
80
90
100
110
120
20
40
60
80
100
120
140
160

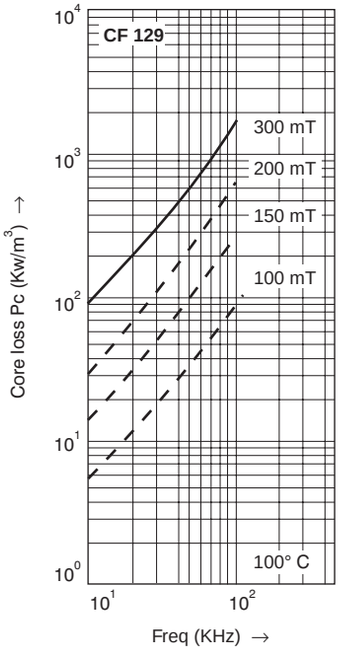
Core loss Vs Frequency



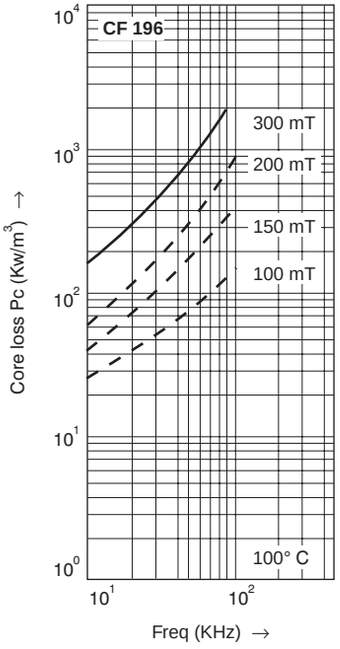
Core loss Vs Frequency



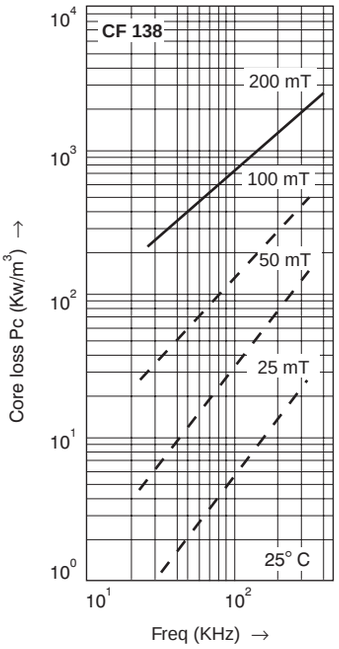
Core loss Vs Frequency



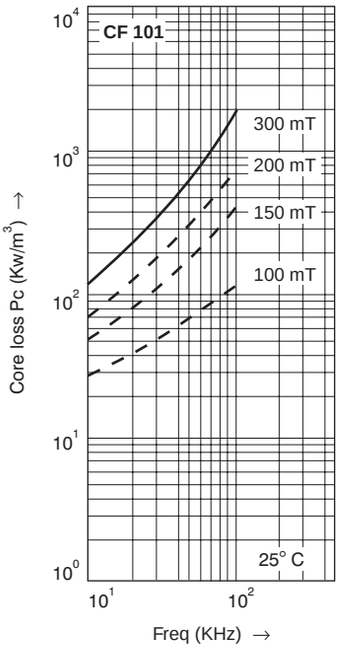
Core loss Vs Frequency



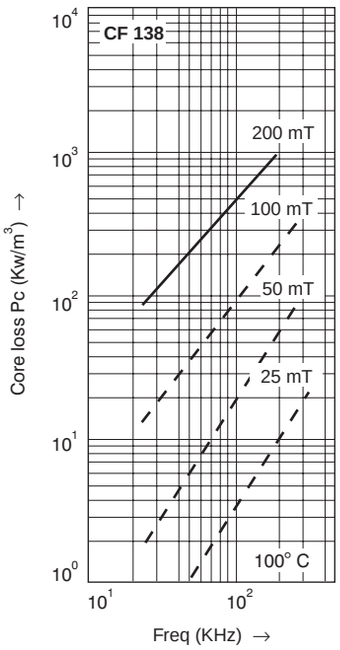
Core loss Vs Frequency



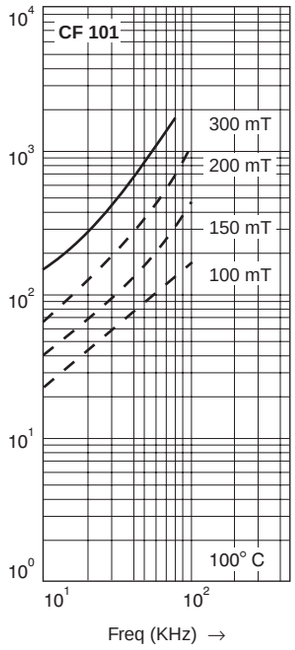
Core loss Vs Frequency



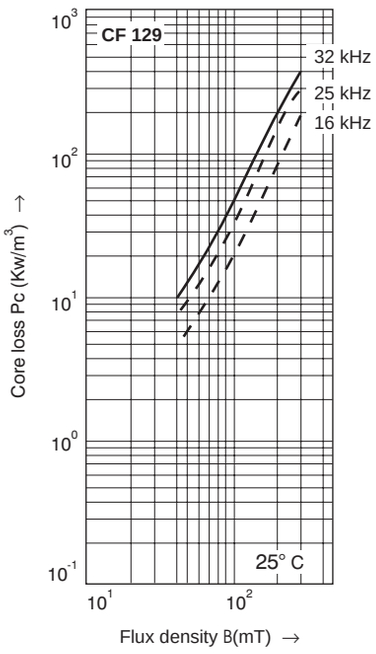
Core loss Vs Frequency



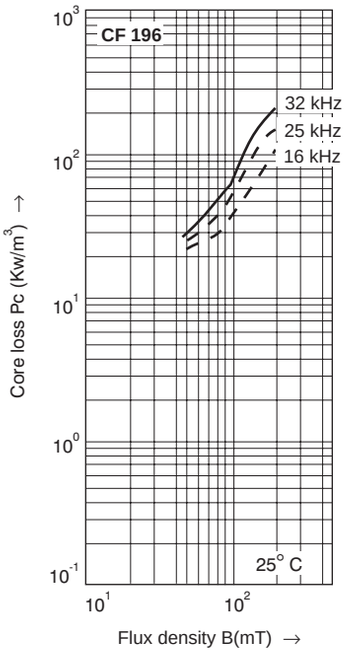
Core loss Vs Frequency



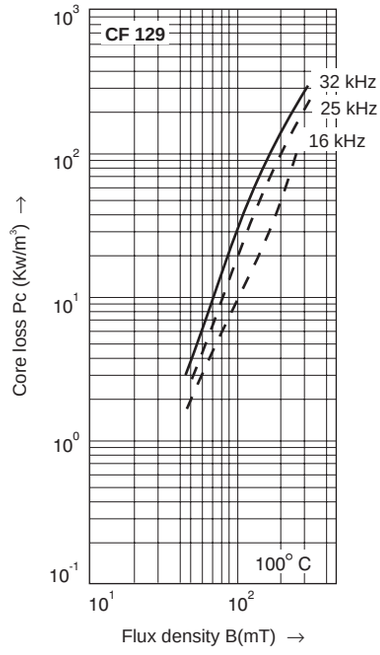
Core loss Vs Flux density



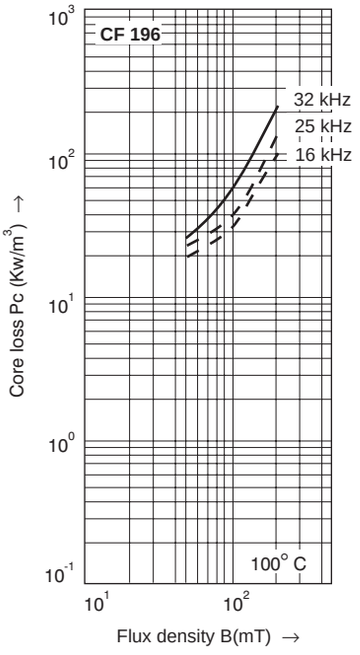
Core loss Vs Flux density



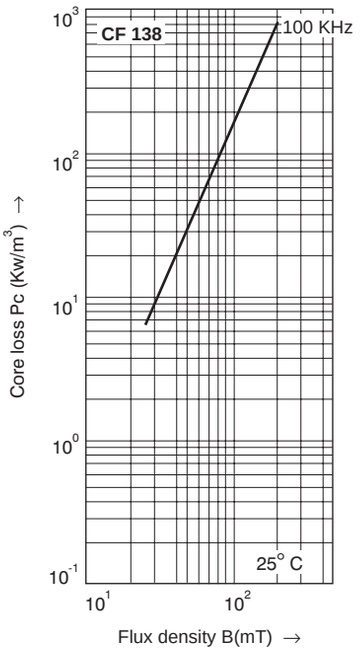
Core loss Vs Flux density



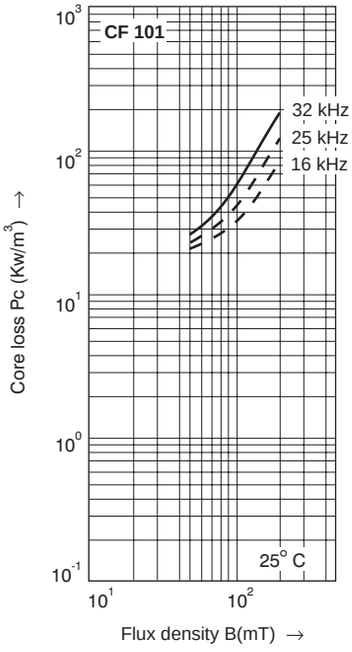
Core loss Vs Flux density



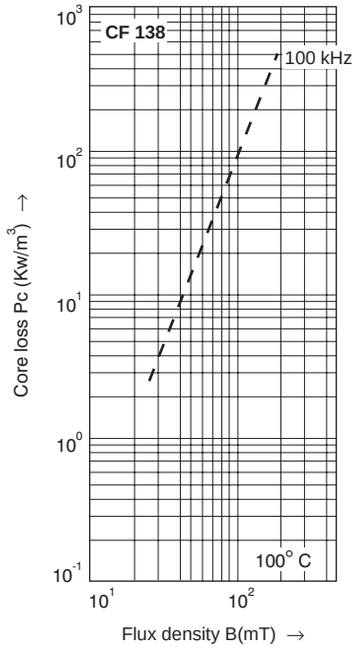
Core loss Vs Flux density



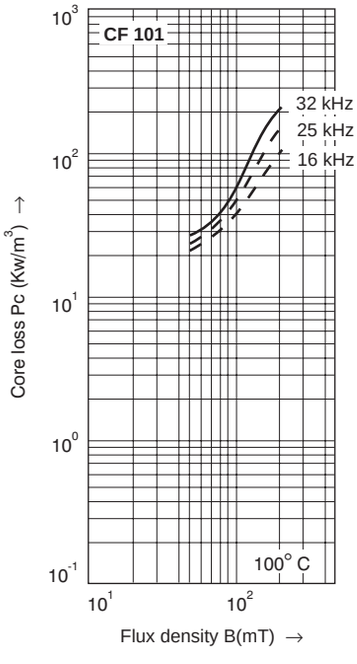
Core loss Vs Flux density



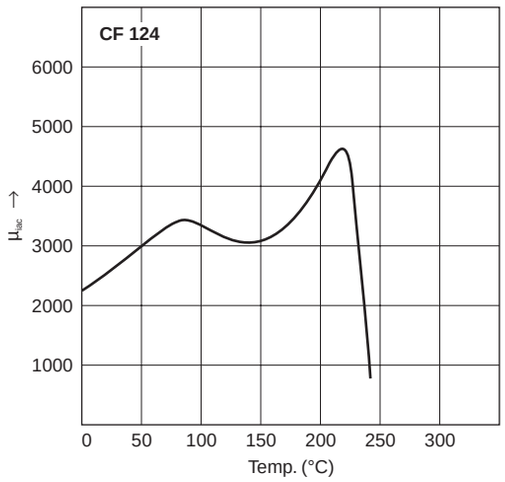
Core loss Vs Flux density



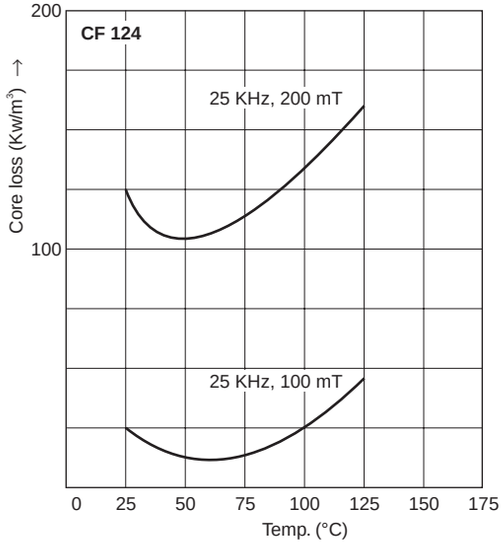
Core loss Vs Flux density



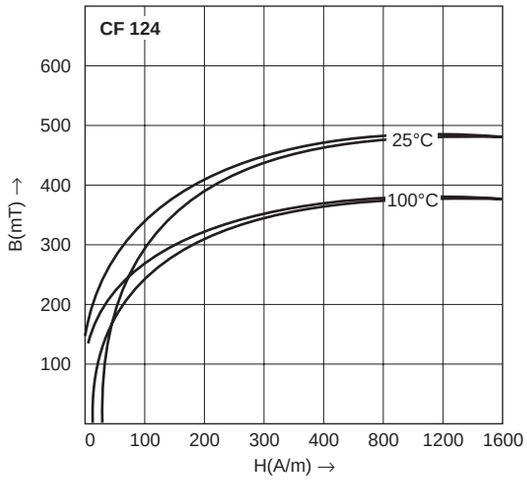
Initial Permeability Vs Temperature



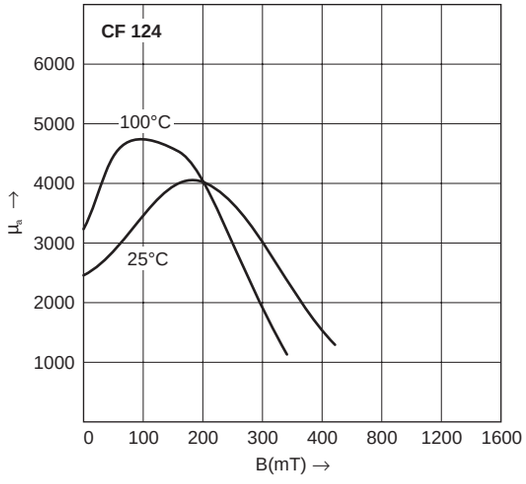
Core loss Vs Temperature



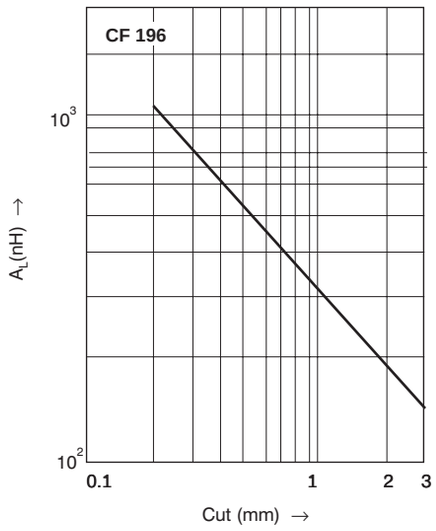
B-H As a Function of Temperature



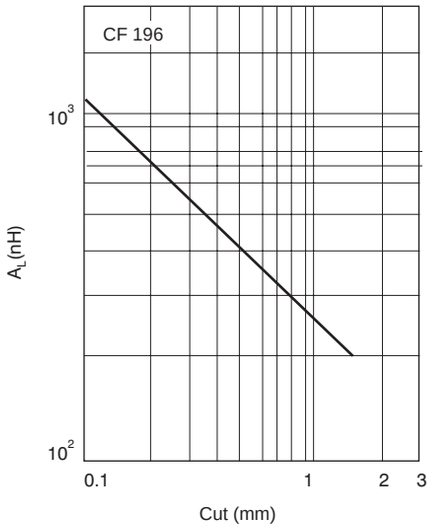
Amplitude Permeability as a Function of Flux Density



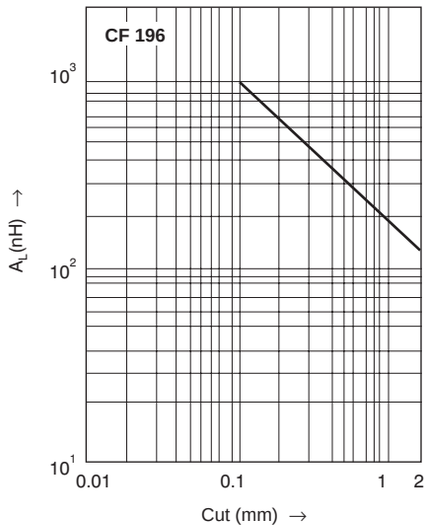
EE 4220



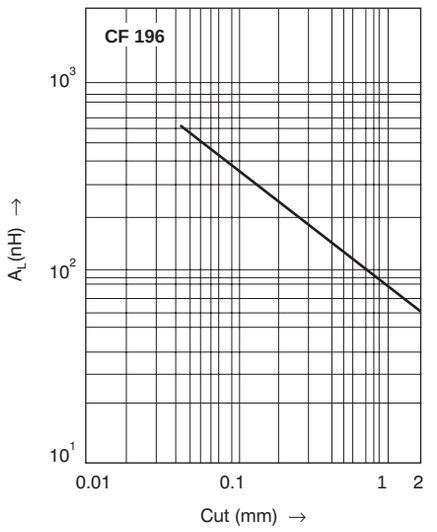
EE 4215



EE 4012

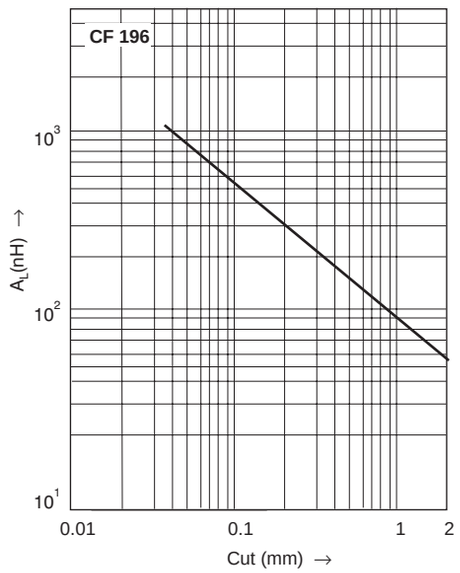


EE 3007

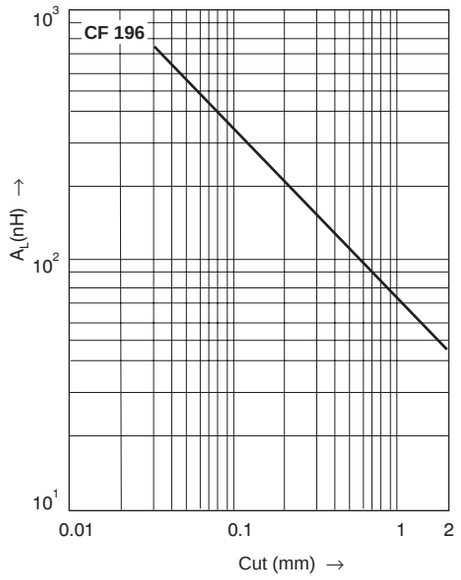


A_L Vs AIR GAP

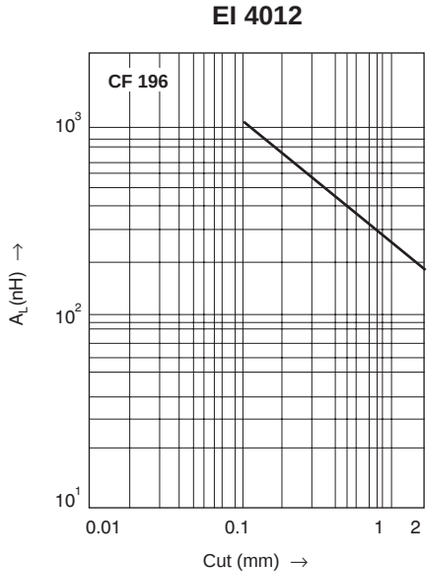
EE 2507



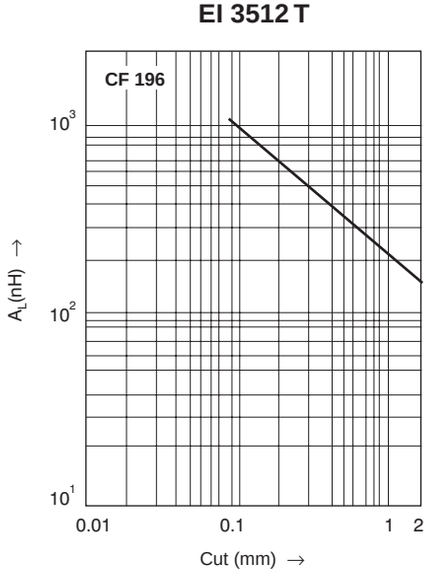
EE 2005S



EI 4012

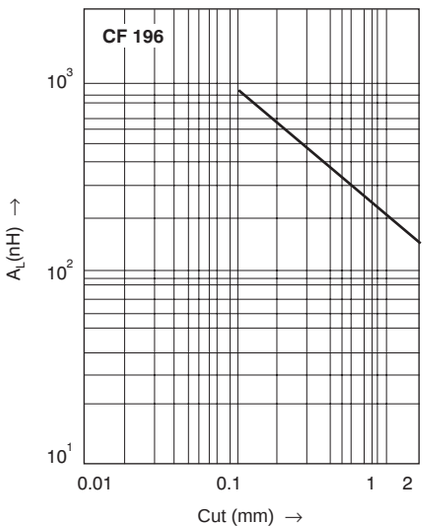


EI 3512 T

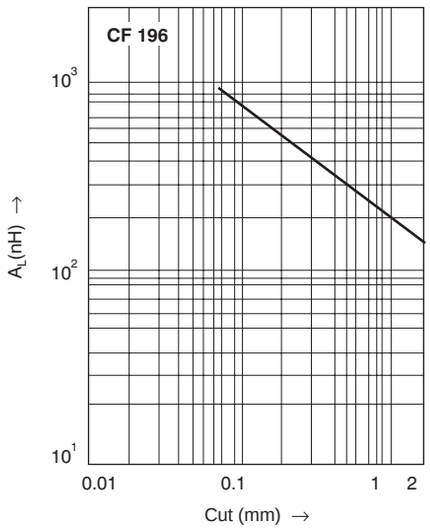


A_L Vs AIR GAP

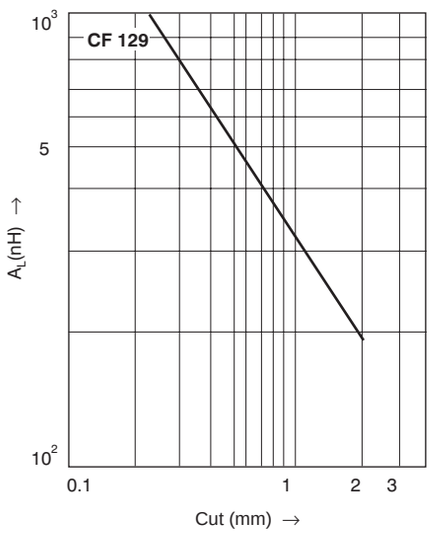
EI 3313



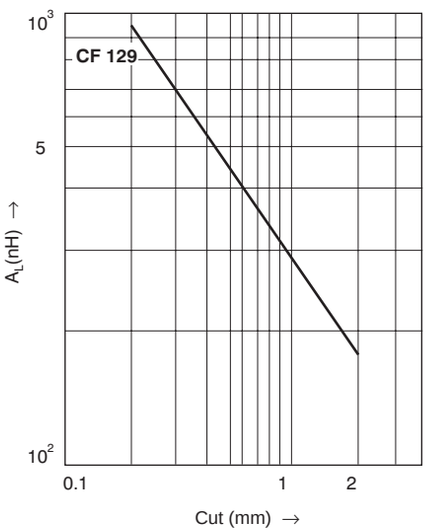
EI 3011



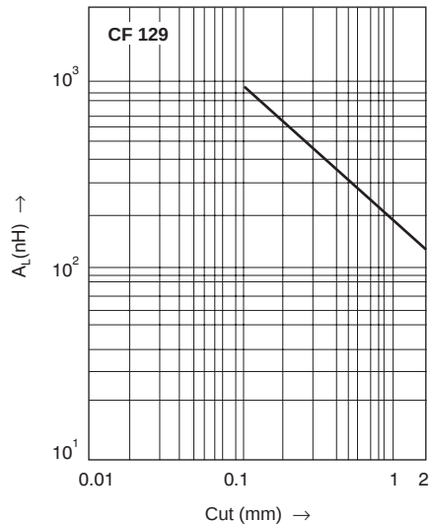
ETD 4917



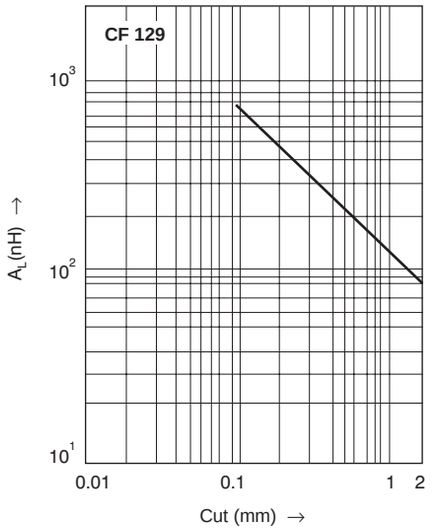
ETD 4415



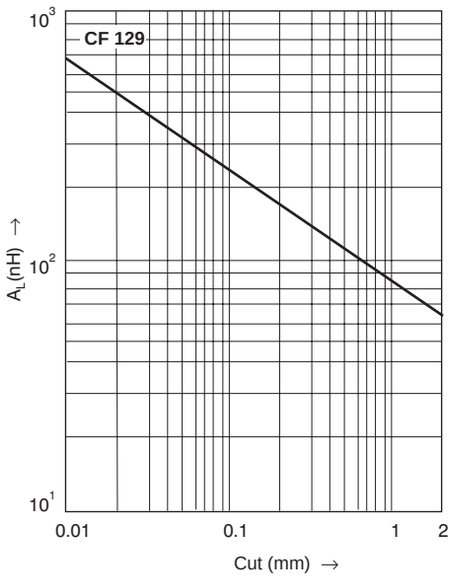
ETD 3913



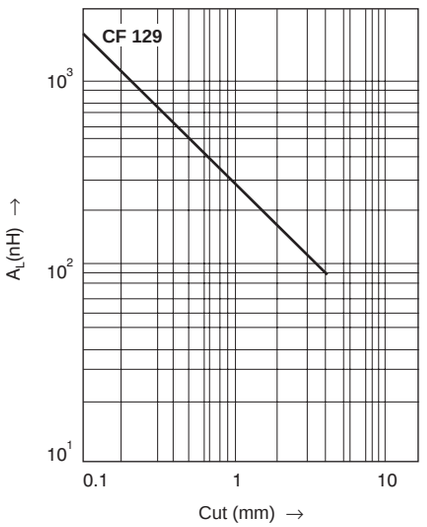
ETD 3411



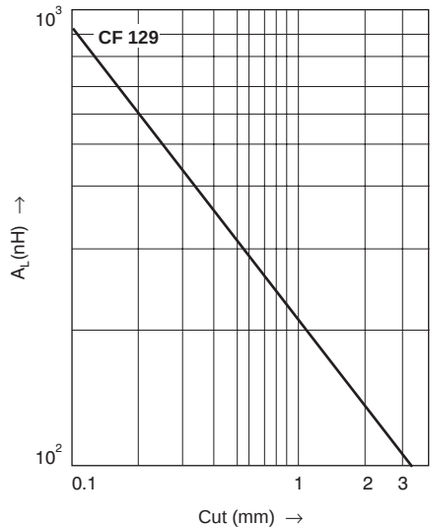
ETD 2910



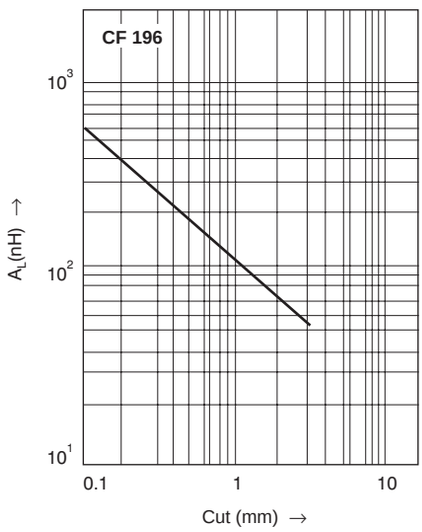
EC 4215



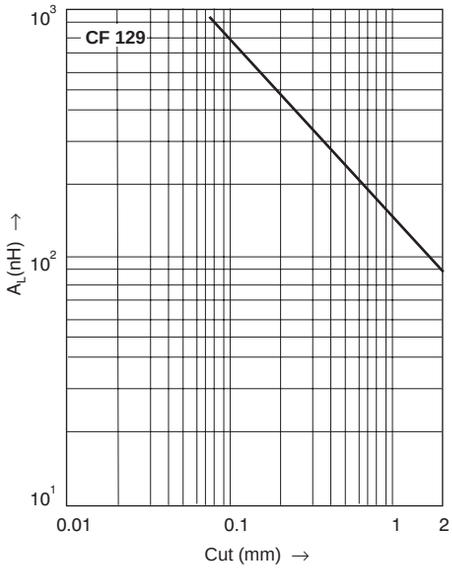
EC 4013L



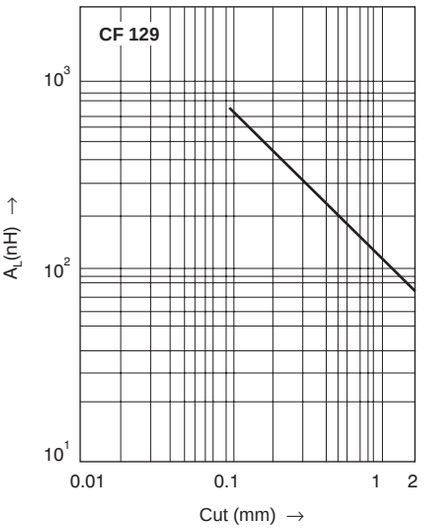
EC 3510



EER 3511

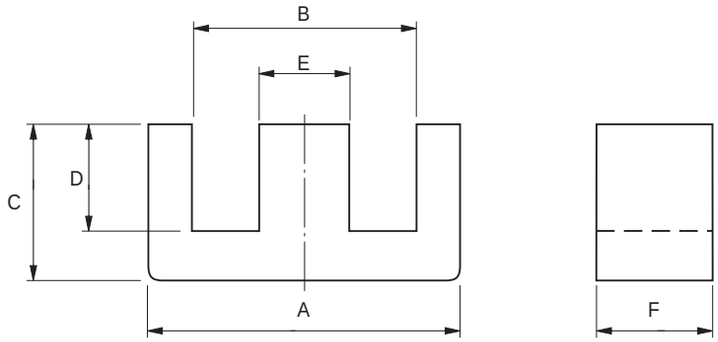


EER 2811



GEOMETRYWISE POWER LOSS

TYPE	GEOMETRY	CF 196 16 kHz, 200mT, 100°C (Watts)	CF 138 100 kHz, 200mT, 100°C (Watts)
EE CORES	EE 6527	10.80	51.00
	EE 5521	5.90	27.50
	EE 4220	3.20	15.25
	EE 4215	2.40	11.50
	EE 3007	0.60	2.50
	EE 2507	0.45	2.00
	EE 2005S	0.20	1.00
	EE 1605	0.10	0.50
ETD CORES	ETD 5922	7.10	33.50
	ETD 5419	4.90	23.00
	ETD 4917	3.30	15.60
	ETD 4415	2.50	11.60
	ETD 3913	1.60	7.50
	ETD 3411	1.05	5.00
	ETD 2910	0.75	3.50
EER CORES	EER 3511	1.50	7.00
	EER 2811	0.90	4.00
EFF, EFC CORES	EFF 3009	0.65	3.05
	EFF 2509	0.46	2.15
	EFF 1505	0.07	0.33
	EFC 2508	0.40	2.15



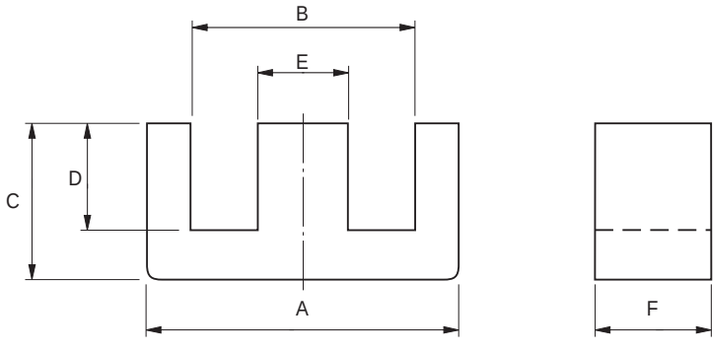
TYPE	DIMENSIONS (mm)					
	A	B	C	D	E	F
EE 6527	66.5 $^{}_{-2.7}$	44.2 $^{+1.8}_{}$	32.5 ±0.3	22.2 $^{+0.7}_{}$	20.0 $^{}_{-0.7}$	27.4 $^{}_{-0.8}$
EE 6513	66.5 $^{}_{-2.7}$	44.2 $^{+1.8}_{}$	32.5 ±0.3	22.2 $^{+0.7}_{}$	20.0 $^{}_{-0.7}$	13.7 $^{}_{-0.6}$
EE 5525	55.0 $^{+1.2}_{-0.9}$	37.5 $^{+1.2}_{}$	27.8 $^{}_{-0.6}$	18.5 $^{+0.8}_{}$	17.2 $^{}_{-0.5}$	25.0 $^{}_{-0.6}$
EE 5521	55.0 $^{+1.2}_{-0.9}$	37.5 $^{+1.2}_{}$	27.8 $^{}_{-0.6}$	18.5 $^{+0.8}_{}$	17.2 $^{}_{-0.5}$	21.0 $^{}_{-0.6}$
EE 4716	47.15 ±0.5	31.6 min.	19.7 ±0.13	12.1 min.	15.65 ±0.2	15.65 ±0.2
EE 4220	42.0 $^{+1.0}_{-0.7}$	29.5 $^{+1.2}_{}$	21.2 $^{}_{-0.4}$	14.8 $^{+0.7}_{}$	12.2 $^{}_{-0.5}$	20.0 $^{}_{-0.8}$
EE 4215	42.0 $^{+1.0}_{-0.7}$	29.5 $^{+1.2}_{}$	21.2 $^{}_{-0.4}$	14.8 $^{+0.7}_{}$	12.2 $^{}_{-0.5}$	15.2 $^{}_{-0.5}$
EE 4112	40.7 ±0.7	28.55 min.	16.4 ±0.2	10.55 ±0.2	12.4 ±0.3	12.4 ±0.3
EE 4012	41.0 $^{+0.7}_{-0.5}$	28.5 $^{+0.7}_{}$	17.4 $^{+0.5}_{}$	10.25 $^{+0.25}_{}$	12.0 $^{}_{-0.7}$	12.0 $^{}_{-0.7}$
EE 3512	35.0 $^{+0.8}_{-0.5}$	25.0 $^{+0.8}_{}$	14.65 $^{+0.55}_{-0.55}$	9.0 $^{+0.3}_{}$	10.3 $^{}_{-0.6}$	12.0 $^{}_{-0.6}$
EE 3512A	34.3 ±0.7	26.0 ±0.5	14.1 ±0.2	9.8 ±0.2	9.3 ±0.2	12.7 ±0.25
EE 3213	31.9 ±1.0	22.77 ±0.77	14.0 ±0.4	9.65 ±0.25	8.9 ±0.25	12.7 ±0.3
EE 3007	30.0 $^{+0.8}_{-0.6}$	19.5 $^{+0.8}_{}$	15.2 $^{}_{-0.4}$	9.7 $^{+0.6}_{}$	7.2 $^{}_{-0.5}$	7.3 $^{}_{-0.5}$
EE 2811	28.2 ±0.4	19.2 ±0.4	10.6 ±0.3	6.6 ±0.2	7.1 ±0.4	10.7 ±0.3
EE 2532	25.3 $^{+0.5}_{-0.3}$	19.3 $^{+0.4}_{-0.2}$	15.9 ±0.2	12.7 ±0.3	6.5 $^{+0.3}_{-0.25}$	7.0 $^{}_{-0.5}$

*Air gapping done on order.

MAGNETIC PARAMETERS

Le — Magnetic Path Length
Ae — Cross Sectional Area
Amin — Minimum Area of Cross Section
Ve — Effective Volume

EFFECTIVE PARAMETERS				WEIGHT	AL(nH) $^{+30\%}_{-20\%}$				
Le(mm)	Ae(mm^2)	Amin(mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF138	CF101	CF195
147	532	531	78200	400	7500	7800	8100	–	–
147	266	263	39100	186	3750	3900	4050	5400	–
120	422	419	50640	252	7250	7600	7950	–	–
120	354	351	42500	219	6000	6200	6400	8700	–
89.4	236.8	233	21169	103	5550	5700	5850	7800	–
97	240	229	23300	114	5000	5400	5800	7500	–
97	181	175	17600	85	3900	4000	4100	5500	–
77.5	146.6	142	11369	57	3900	4100	4300	5600	–
79	153	136	12100	60	3900	4000	4100	–	–
67.3	120	117	8090	41	3400	3500	3600	5300	–
69	113	105	7797	41	3400	3550	3700	4900	–
66.4	113.2	110.5	7516	39	3300	3450	3600	–	–
67	60	49	4000	22	1800	1850	1900	–	–
50.7	84.6	76	4290	23.5	3450	3600	3750	4950	6800
73.5	42	42	3087	16	1180	1230	1280	1700	2350



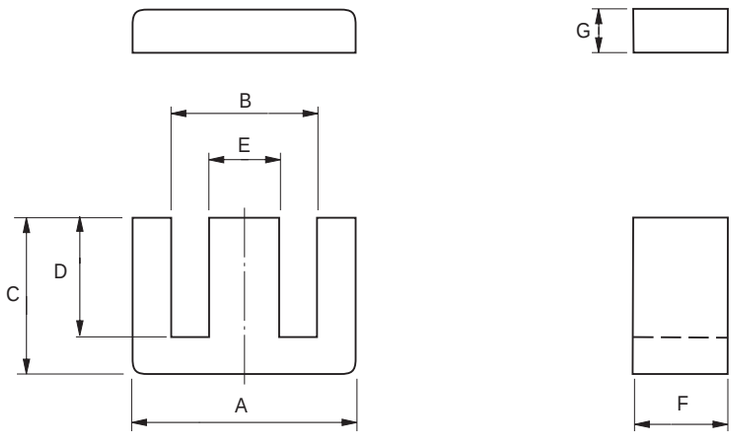
TYPE	DIMENSIONS (mm)					
	A	B	C	D	E	F
EE 2511	25.0 $^{+0.8}_{-0.7}$	17.5 $^{+0.8}$	12.8 $_{-0.5}$	8.7 $^{+0.5}$	7.5 $_{-0.5}$	11.0 ±0.3
EE 2507	25.0 $^{+0.8}_{-0.7}$	17.5 $^{+0.8}$	12.8 $_{-0.5}$	8.7 $^{+0.5}$	7.5 $_{-0.5}$	7.5 $_{-0.6}$
EE 2506M	25.45 ±0.65	19.2 ±0.4	9.78 $_{-0.15}$	6.78 $_{-0.3}$	6.3 ±0.2	6.25 ±0.25
EE 2506	25.4 ±0.7	19.6 ±0.6	9.5 ±0.2	6.5 ±0.2	6.3 ±0.25	6.3 ±0.25
EE 2105	20.6 ±0.5	16.4 ±0.4	8.5 ±0.2	6.2 ±0.2	4.8 ±0.2	4.8 ±0.2
EE 2011S	20.4 $_{-0.8}$	14.1 $^{+0.8}$	10.1 $_{-0.4}$	7.0 $^{+0.4}$	5.9 $_{-0.4}$	11.0 ±0.25
EE 2005S	20.4 $_{-0.8}$	14.1 $^{+0.8}$	10.1 $_{-0.4}$	7.0 $^{+0.4}$	5.9 $_{-0.4}$	5.9 $_{-0.5}$
EE 2005K	20.0 $^{+0.7}_{-0.4}$	12.8 $^{+0.7}_{-0.4}$	10.2 $_{-0.4}$	6.3 $^{+0.5}$	5.2 $_{-0.4}$	5.3 $_{-0.4}$
EE 1905S	19.0 ±0.3	14.5 ±0.3	7.9 ±0.2	5.6 ±0.15	4.7 $_{-0.5}$	5.2 $_{-0.4}$
EE 1905	19.3 ±0.3	14.0 ±0.3	7.9 ±0.2	5.5 $_{-0.2}$	5.2 $_{-0.5}$	5.2 $_{-0.5}$
EEL1905	19.0 ±0.3	14.0 ±0.3	13.55 ±0.2	11.3 ±0.3	4.85 ±0.25	4.85 ±0.2
EE 1605	16.0 $^{+0.7}_{-0.5}$	11.3 $^{+0.6}$	8.2 $_{-0.3}$	5.7 $^{+0.4}$	4.7 $_{-0.3}$	4.7 $_{-0.4}$
EE 1306	12.65 ±0.45	9.2 ±0.3	6.5 $_{-0.2}$	4.5 $^{+0.3}$	3.7 $_{-0.3}$	6.3 $_{-0.3}$
EE 1304	12.65 ±0.45	9.2 ±0.3	6.5 $_{-0.2}$	4.5 $^{+0.3}$	3.7 $_{-0.3}$	3.7 $_{-0.3}$
EE 1011	10.2 ±0.3	7.8 ±0.3	5.55 ±0.15	4.15 ±0.15	2.4 ±0.2	5.0 $_{-0.3}$

*Air gapping done on order.

MAGNETIC PARAMETERS

Le — Magnetic Path Length
Ae — Cross Sectional Area
Amin — Minimum Area of Cross Section
Ve — Effective Volume

EFFECTIVE PARAMETERS				WEIGHT	AL(nH) +30% −20%				
Le(mm)	Ae(mm^2)	Amin(mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF138	CF101	CF195
57.5	84.7	78.7	4870	23	2800	2900	3000	–	–
57.5	52.5	51.5	3020	15	1700	1800	1900	–	3200
49.2	38.8	38.4	1910	10	1400	1500	1600	–	–
48	40	39.7	1950	10	1500	1600	1700	2200	3050
43.4	21.6	20.2	937	5	850	900	950	1100	–
44.9	65.22	62.7	2928	14.5	2750	2850	2950	3950	5350
44.9	33.5	31.9	1500	7.4	1350	1400	1450	–	2750
43	31	25.5	1340	7.5	1250	1300	1350	–	2600
39.3	22.7	22.2	891	4.5	1000	1050	1100	–	2000
38	25	24.5	950	4.7	1150	1200	1250	–	2050
61.7	23.4	23.4	1443	7	750	800	850	1100	1550
37.6	20.1	19.4	754	4	950	1000	1050	1450	1850
29.6	22.4	22.4	663	3.3	1250	1350	1450	2050	2250
29.6	13	12.4	384	2	750	800	850	–	1300
25.4	12	11.6	305	2	800	850	900	1300	–



TYPE	DIMENSIONS (mm)						
	A	B	C	D	E	F	G
EI 4012	40.0 ±0.5	27.2 $^{+1.0}$	27.0 $^{+0.5}$	20.0 $^{+0.5}$	12.0 $_{-0.7}$	12.0 $_{-0.7}$	7.5 ±0.3
EI 3512T	35.0 $^{+0.8}_{-0.5}$	25.0 $^{+0.8}$	23.8 $^{+0.7}$	18.0 $^{+0.6}$	10.3 $_{-0.6}$	12.0 $_{-0.6}$	5.5 ±0.2
EI 3313	33.0 ±0.5	23.2 $^{+0.8}$	23.3 ±0.3	19.05 ±0.3	9.7 ±0.3	12.7 ±0.3	5.0 ±0.2
EI 3011	30.0 $^{+0.7}_{-0.2}$	20.0 $^{+0.7}$	21.0 $^{+0.6}$	16.0 $^{+0.6}$	11.0 $_{-0.7}$	11.0 $_{-0.7}$	5.5 ±0.2
EI 2811	28.0 ±0.4	18.6 $^{+0.8}$	17.3 ±0.3	12.8 ±0.2	7.5 $_{-0.8}$	11.0 $_{-0.6}$	3.5 ±0.2

*Air gapping done on order.

MAGNETIC PARAMETERS

Le — Magnetic Path Length
Ae — Cross Sectional Area
Amin — Minimum Area of Cross Section
Ve — Effective Volume

EFFECTIVE PARAMETERS				WEIGHT	AL(nH) $^{+30\%}_{-20\%}$			
Le(mm)	Ae(mm^2)	Amin(mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF101	CF195
76.8	148	136	11400	59	3650	3800	5200	–
67.3	120	117	8090	41	3400	3500	–	–
66.9	118.1	108	7901	40	3400	3500	4750	–
58.5	110.4	106.5	6458	33	3600	3700	–	–
49.5	84.4	76	4170	23	3300	3400	4600	6950

FIG. 1

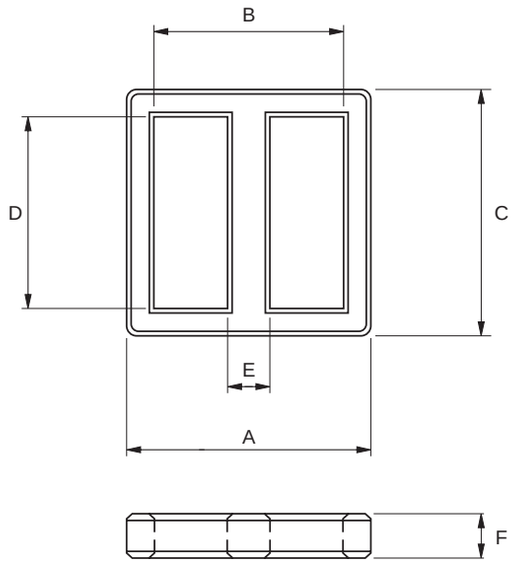
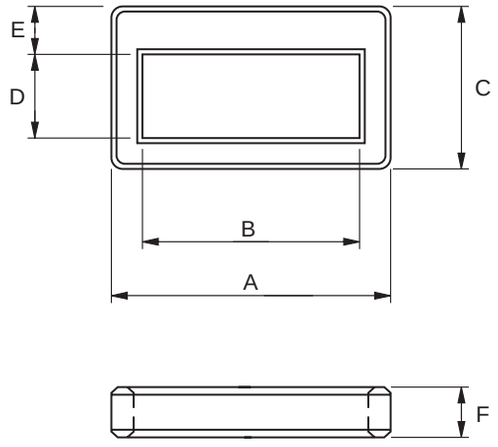


FIG. 2



TYPE	FIG.	DIMENSIONS (mm)					
		A	B	C	D	E	F
ET 3535	1	35.3 ±0.6	26.8 min.	35.3 ±0.6	26.8 min.	7.4 ±0.25	7.4 ±0.25
ET 2828	1	28.4 ±0.5	22.2 min.	28.4 ±0.5	22.2 min.	5.0 ±0.3	5.0 ±0.3
ET 2424	1	24.2 ±0.5	19.0 min.	24.2 ±0.5	19.0 min.	4.0 ±0.2	4.0 ±0.3
UT 20	2	20.6 ±0.3	16.0 ±0.3	14.1 ±0.25	7.5 ±0.15	4.1 ±0.2	4.6 ±0.2

MAGNETIC PARAMETERS

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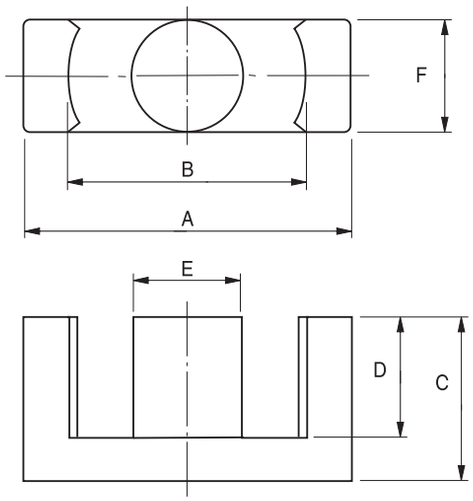
EFFECTIVE PARAMETERS			WEIGHT	AL(nH) $^{+30\%}_{-20\%}$	
Le(mm)	Ae(mm^2)	Ve(mm^3)	(gms/pair)	CF195	CF197
86.9	57.1	4961	26	4100	5750
70	27	1972	10	2400	3400
60	18	1098	5.6	1900	2650
53	13	688	4	1540	2150



TYPE	DIMENSIONS (mm)					
	A	B	C	D	E	F
ETD 5922	59.8 ±1.4	44.7 ±1.1	31.0 ±0.2	22.45 ±0.45	21.65 ±0.45	21.65 ±0.45
ETD 5419	54.5 ±1.3	41.2 ±1.1	27.6 ±0.2	20.2 ±0.4	18.9 ±0.4	18.9 ±0.4
ETD 4917	48.5 $^{+1.3}_{-0.9}$	36.1 $^{+1.8}$	24.9 $_{-0.4}$	18.5 ±0.3	16.7 $_{-0.8}$	16.7 $_{-0.8}$
ETD 4415	43.8 $^{+1.2}_{-0.8}$	32.5 $^{+1.6}$	22.5 $_{-0.4}$	16.1 min.	15.2 $_{-0.8}$	15.2 $_{-0.8}$
ETD 3913B	38.9 $^{+1.1}_{-0.7}$	29.3 $^{+1.6}$	17.8 ±0.2	12.6 ±0.4	12.8 $_{-0.6}$	12.8 $_{-0.6}$
ETD 3913	38.9 $^{+1.1}_{-0.7}$	29.3 $^{+1.6}$	20.0 $_{-0.4}$	14.2 min.	12.8 $_{-0.6}$	12.8 $_{-0.6}$
ETD 3411D	34.21 ±0.79	26.31 ±0.69	17.3 ±0.2	12.09 ±0.28	10.8 ±0.23	10.8 ±0.3
ETD 3411A	34.0 $^{+1.0}_{-0.6}$	25.6 $^{+1.4}$	13.0 ±0.13	7.8 ±0.13	10.8 ±0.23	10.8 ±0.23
ETD 3411	34.0 $^{+1.0}_{-0.6}$	25.6 $^{+1.4}$	17.5 $_{-0.4}$	11.8 min.	11.1 $_{-0.6}$	11.1 $_{-0.6}$
ETD 2910E	30.6 $_{-1.6}$	22.0 $^{+1.4}$	19.8 ±0.2	15.0 ±0.3	9.8 $_{-0.6}$	9.8 $_{-0.6}$
ETD 2910	30.6 $_{-1.6}$	22.0 $^{+1.4}$	16.0 $_{-0.4}$	10.7 $^{+0.6}$	9.8 $_{-0.6}$	9.8 $_{-0.6}$

*Air gapping done on order.

MAGNETIC PARAMETERS

Le — Magnetic Path Length
Ae — Cross Sectional Area
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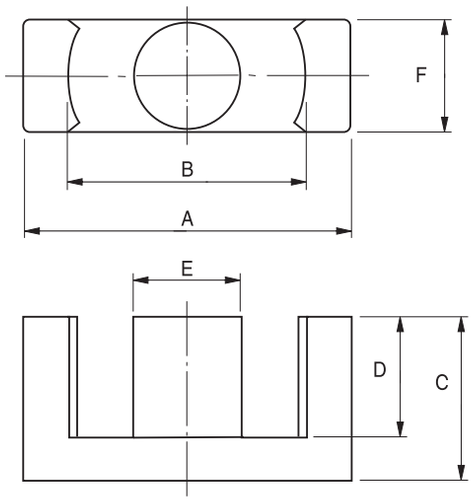
Ve — Effective Volume

EFFECTIVE PARAMETERS				WEIGHT	AL(nH) $^{+30\%}_{-20\%}$		
Le(mm)	Ae(mm^2)	Amin(mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF138
139	368	368	51200	260	5450	5700	5950
127	280	280	35500	192	4550	4750	4850
114	211	209	24000	120	3800	3950	4100
103	173	172	17800	90	3450	3600	3750
84	125	123	10500	52	3100	3200	3300
92.2	125	123	11500	60	2750	2850	2950
78.6	97.1	91.6	7640	40	2400	2500	2600
63	98	92	6174	30.5	3250	3350	3450
78.6	97.1	91.6	7640	39	2400	2500	2600
86.7	75.5	71	6545	34	1800	1900	2000
71	76	71	5377	28	2150	2250	2350



TYPE	DIMENSIONS (mm)					
	A	B	C	D	E	F
EER 4518A	45.0 ±0.9	33.8 ±0.8	17.5 ±0.2	10.95 ±0.25	17.6 ±0.4	17.6 ±0.4
EER 4320	42.8 ±0.6	32.8 ±0.5	21.4 ±0.2	15.5 ±0.2	17.3 ±0.25	19.6 ±0.3
EER 4217	42.15 ±0.65	30.3 ±0.5	25.0 ±0.15	17.5 ±0.15	17.3 ±0.25	17.3 ±0.25
EER 3913	39.0 ±1.4	28.6 $^{+1.0}$	22.2 ±0.2	17.0 ±0.25	12.8 ±0.2	12.8 ±0.2
EER 3511	35.0 ±0.5	25.6 $^{+1.0}$	22.5 ±0.3	16.5 ±0.3	11.3 ±0.3	11.3 ±0.3
EER 2811A	28.5 $^{+0.6}_{-0.5}$	21.2 min.	14.0 ±0.2	9.65 ±0.25	9.9 ±0.25	11.4 ±0.25
EER 2811B	28.5 $^{+0.6}_{-0.5}$	21.2 min.	9.4 ±0.2	6.2 ±0.15	9.9 ±0.25	11.4 ±0.25
EER 2811	28.5 $^{+0.6}_{-0.5}$	21.2 min.	16.9 ±0.25	12.5 $^{+0.3}_{-0.25}$	9.9 ±0.25	11.4 ±0.25

*Air gapping done on order.

MAGNETIC PARAMETERS

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EFFECTIVE PARAMETERS				WEIGHT	AL(nH) $^{+30\%}_{-20\%}$		
Le(mm)	Ae(mm^2)	Amin(mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF138
81.2	232.7	226.1	18889	96	5900	6150	6400
98.3	233	231	22904	114	4950	5150	5350
107.5	240	235	25800	130	4600	4800	5000
101.6	131	129	13310	69	2650	2750	2850
97.3	111	100	10800	55	2450	2600	2750
64	82	77	5255	27	2650	2750	2900
50.8	78.9	77	4010	19	3200	3300	3400
75.5	83	77	6270	34	2200	2300	2400

FIG. 1

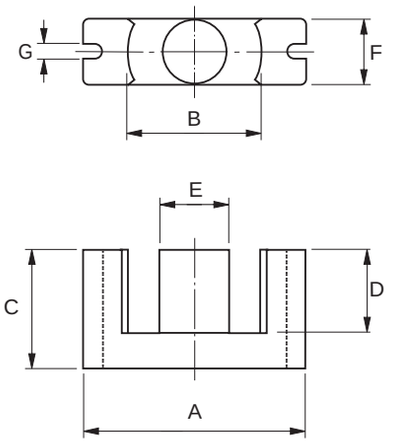


FIG. 2

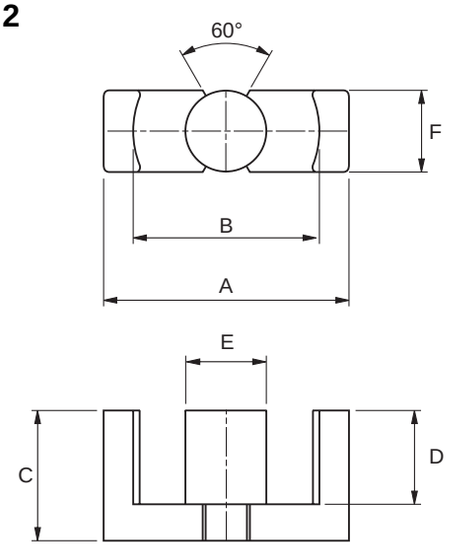
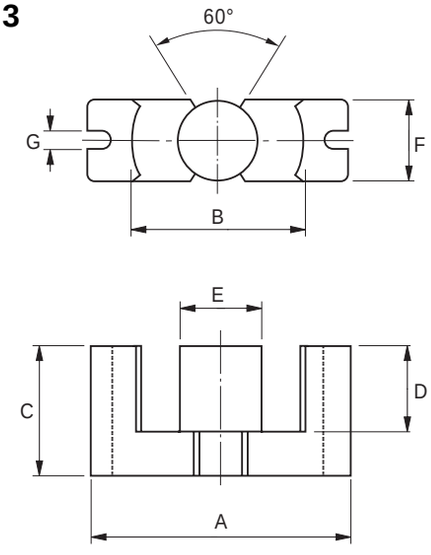


FIG. 3



TYPE	FIG.	DIMENSIONS (mm)						
		A	B	C	D	E	F	G
EC 7017	1	70.0 ±1.7	44.5 ±1.2	34.5 ±0.3	22.75 ±0.45	16.4 ±0.4	16.4 ±0.4	4.75 ±0.25
EC 4215	2	42.0 ±0.6	29.4 min.	22.4 ±0.2	15.4 ±0.3	15.5 ±0.2	15.5 ±0.25	–
EC 4112	3	40.6 ±1.0	26.3 $^{+1.5}$	19.35 $^{+0.3}$	13.5 $^{+0.8}$	11.9 $_{-0.6}$	11.9 $_{-0.6}$	3.0 ±0.5
EC 4013L	2	40.0 ±0.4	29.6 min.	24.0 ±0.2	17.0 ±0.25	13.25 ±0.25	13.4 ±0.2	–
EC 4013	2	40.0 ±0.4	29.6 min.	22.32 ±0.2	15.75 ±0.2	13.25 ±0.25	13.4 ±0.2	–
EC 3510	1	34.5 ±0.8	22.75 ±0.55	17.3 ±0.15	11.9 $^{+0.7}$	9.8 $_{-0.6}$	9.8 $_{-0.6}$	2.75 ±0.25

*Air gapping done on order.

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EFFECTIVE PARAMETERS				WEIGHT	AL(nH) $^{+30\%}_{-20\%}$		
Le(mm)	Ae(mm^2)	Amin(mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF138
144	279	211	40176	252	4000	4200	4400
99.1	200	189	19820	103	4200	4350	4550
89.3	121	106	10805	56	2800	2900	3000
105	147	138	15435	79	2900	3100	3300
102	147	138	14994	73.5	3000	3100	3200
77.4	84.3	71	6525	36	2100	2200	2300

FIG. 1

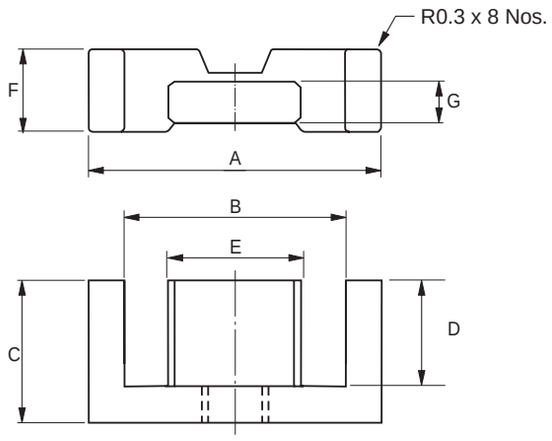
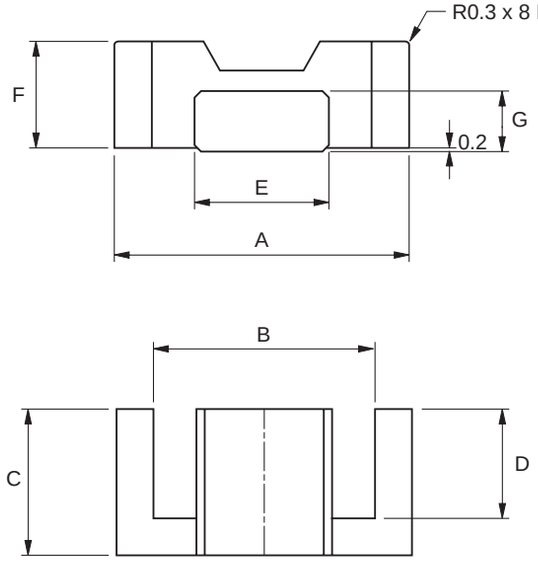


FIG. 2



TYPE	FIG.	DIMENSIONS (mm)						
		A	B	C	D	E	F	G
EFF 3009	1	30.0 ±0.8	22.4 ±0.75	15.0 ±0.15	11.2 ±0.3	14.6 ±0.25	9.1 ±0.2	4.9 ±0.15
EFF 2509	1	25.0 ±0.65	18.7 ±0.6	12.5 ±0.15	9.3 ±0.25	11.4 ±0.2	9.1 ±0.2	5.2 ±0.15
EFF 2007	1	20.0 ±0.55	15.4 ±0.5	10.0 ±0.15	7.7 ±0.25	8.9 ±0.2	6.65 ±0.15	3.6 ±0.15
EFF 1505	2	15.0 ±0.4	11.0 ±0.35	7.5 ±0.15	5.5 ±0.25	5.3 ±0.15	4.65 ±0.15	2.4 ±0.1

*Air gapping done on order.

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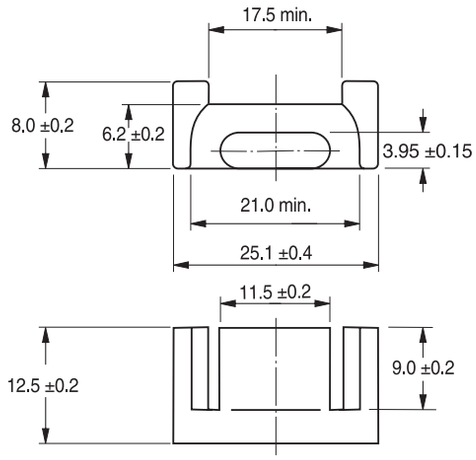
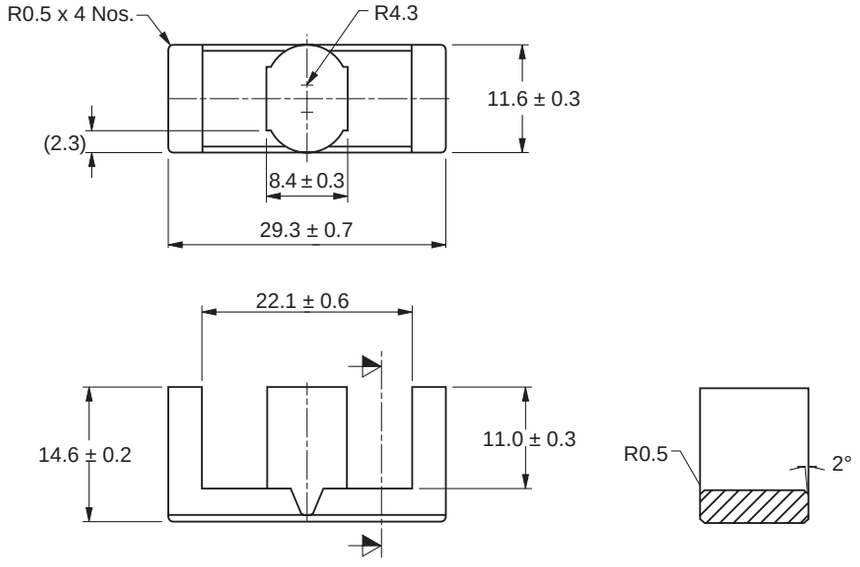
EFFECTIVE PARAMETERS				WEIGHT	AL(nH) +30% −20%		
Le(mm)	Ae(mm^2)	Amin(mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF138
68	69	69	4692	22.5	1900	2000	2100
57	58	55	3300	16	1950	2000	2050
47	31	29	1460	7	1250	1300	1350
34	15	12.2	510	2.8	740	775	800

EFC 2508



(All dim's in mm)

EED 2911

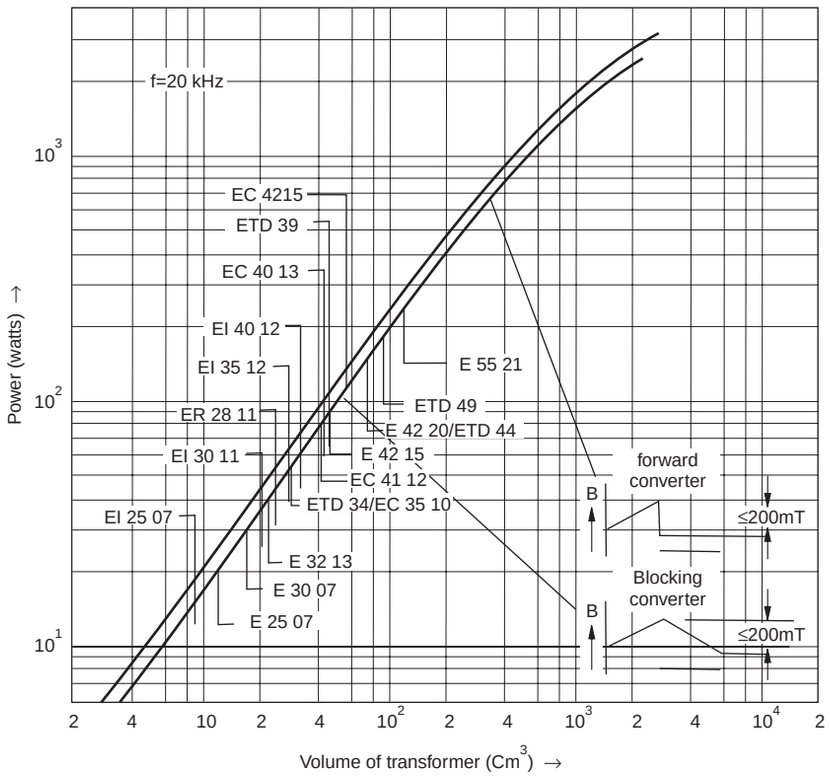


(All dim's in mm)

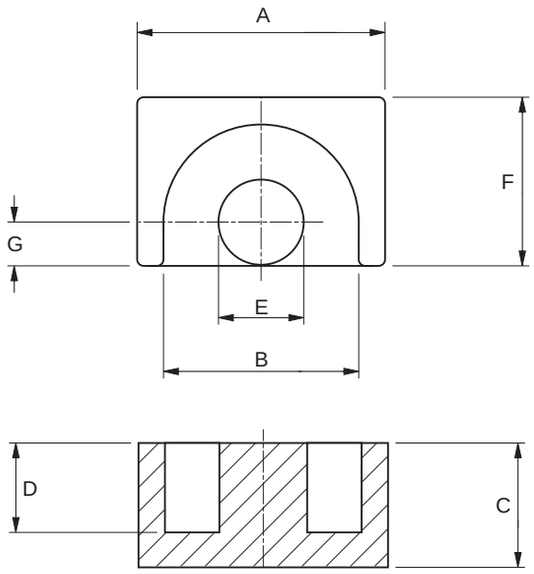
TYPE	EFFECTIVE PARAMETERS				WEIGHT	AL(nH) +30% −20%		
	Le(mm)	Ae(mm²)	Amin (mm²)	Ve(mm³)	(gms/pair)	CF129	CF196	CF138
EFC 2508	59.2	46.4	43	2748	13.5	1550	1650	1750
EED 2911	69.5	83	82.1	5770	29	2450	2550	2650

*Air gapping done on order.

The power handling capacity of various sizes of cores in CF 196 has been given below. These values corresponds to operating frequency of 20 KHz, a room temperature of 25°C and temperature rise of $\Delta T=25^{o}C$.



NOTE :
The transformer volume is the volume of both ferrite and winding but not pins.



TYPE	DIMENSIONS (mm)						
	A	B	C	D	E	F	G
EP 13	12.5 ±0.3	10.0 ±0.3	6.5 ±0.15	4.65 ±0.15	4.35 ±0.15	8.8 ±0.2	2.36 ±0.13
EP 10	11.5 ±0.3	9.4 ±0.2	5.1 ±0.15	3.75 ±0.15	3.3 ±0.15	7.6 ±0.2	1.8 ±0.13
EP 7	9.2 ±0.2	7.4 ±0.2	3.75 ±0.15	2.65 ±0.15	3.3 ±0.15	6.35 ±0.15	1.7 ±0.1

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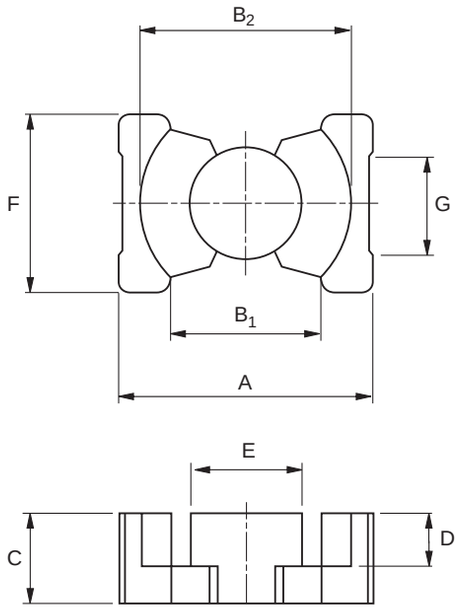
EFFECTIVE PARAMETERS				WEIGHT	AL(nH) +30% −20%				
Le(mm)	Ae(mm^2)	Amin (mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF138	CF101	CF195
24.5	19.5	14.9	478	4.8	1300	1380	1450	2050	3500
19.6	11.3	8.55	221	2.8	950	1000	1050	1150	2250
15.7	10.3	8.55	162	1.4	1050	1100	1150	1240	2400



TYPE	DIMENSIONS (mm)							
	A	B_1	B_2	C	D	E	F	G
PQ 2625*	27.3 ±0.46	15.5 min.	22.5 ±0.46	12.35 ±0.15	8.05 ±0.15	12.0 ±0.2	19.0 ±0.45	10.5 min.
PQ 2020	21.3 ±0.4	12.0 min.	18.0 ±0.4	10.1 ±0.13	7.15 ±0.15	8.8 ±0.2	14.0 ±0.4	7.9 min.

*Under development

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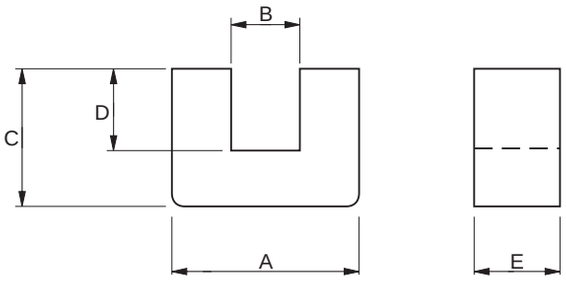
EFFECTIVE PARAMETERS				WEIGHT	AL(nH) $^{+30\%}_{-20\%}$		
Le(mm)	Ae(mm^2)	Amin(mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF138
54.3	120	108	6530	32	4100	4300	4500
45.7	62.6	59.1	2850	14	2500	2650	2800



TYPE	DIMENSIONS (mm)				
	A	B	C	D	E
UU 100	101.6 ±2.0	49.0 min.	57.1 ±0.4	31.7 ±0.4	25.2 ±0.7
UU 100A	101.6 ±2.0	49.0 min.	57.1 ±0.4	31.7 ±0.4	12.7 ±0.38
UU 9316	93.0 ±1.8	37.0 ±1.2	76.0 ±0.5	48.0 ±0.8	16.0 ±0.6
UU 4628	46.8 ±0.7	17.5 min.	39.5 ±0.25	25.5 ±0.75	28.0 ±0.8
UU 2537	24.5 ±0.7	9.9 ±0.3	18.4 ±0.5	10.85 ±0.25	7.55 ±0.25
UU 2332	23.0 ±0.6	8.0 ±0.3	15.7 ±0.3	8.5 ±0.25	7.55 ±0.25
UU 2130A	21.0 ±0.6	6.3 ±0.3	15.8 ±0.25	8.75 ±0.25	7.5 ±0.3
UU 2130	21.0 ±0.6	6.3 ±0.3	15.3 ±0.5	8.25 ±0.25	7.5 ±0.3
UU 2036	20.0 ±0.4	8.0 $^{+0.4}$	18.0 $^{+0.3}_{-0.2}$	12.0 ±0.2	6.0 ±0.2
UU 1622	16.0 ±0.3	7.0 ±0.3	11.0 ±0.2	7.0 ±0.15	6.0 ±0.15
UU 1620	16.0 ±0.2	7.0 ±0.3	10.6 ±0.2	6.0 ±0.15	6.0 ±0.15
UU 1522	15.2 ±0.7	5.2 ±0.3	11.1 ±0.5	6.1 ±0.35	6.45 ±0.25
UU 1116	10.5 ±0.2	5.3 $^{+0.2}$	7.9 ±0.2	5.3 ±0.15	5.0 ±0.15
UU 1016	10.1 ±0.2	4.3 ±0.2	8.2 ±0.2	5.2 ±0.2	2.9 ±0.2

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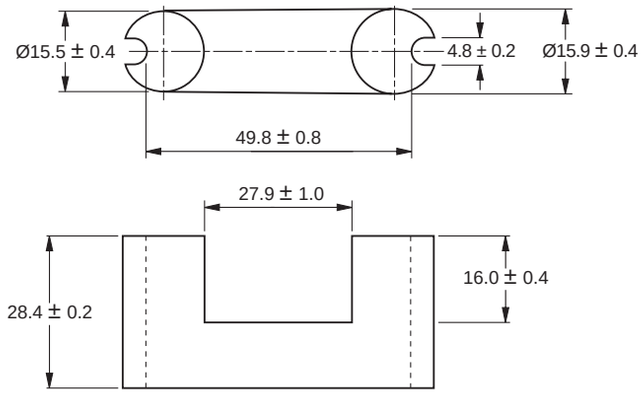
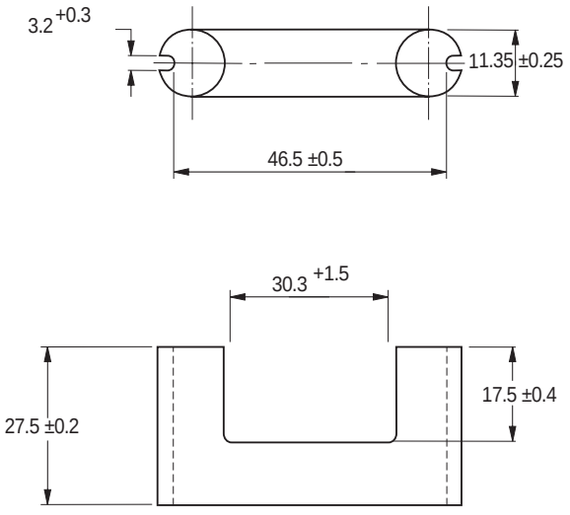
EFFECTIVE PARAMETERS			WEIGHT	AL(nH) $^{+30\%}_{-20\%}$			
Le(mm)	Ae(mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF101	CF195
300.0	620.0	186000	1000	4250	4450	6150	–
308.0	321.0	98868	494	2150	2250	–	–
354.0	448.0	158576	780	2600	2700	3700	–
182.8	397.7	72699	360	4500	4700	6450	–
86.9	57.0	4955	25	1200	1250	–	2550
74.0	61.0	4514	25	1700	1800	2450	3350
70.2	54.3	3814	19	1450	1550	2100	3150
68.0	55.0	3740	19	1550	1600	2000	–
82.8	36.0	2980	15	–	–	–	1900
55.2	25.8	1422	7.5	850	900	1200	1950
52.0	27.0	1404	7.6	–	–	1320	2200
48.0	32.0	1536	9	1250	1300	1650	2500
40.0	13.0	520	2.8	600	650	900	1300
38.4	8.6	330	1.7	425	450	600	900

UU 5756



(All dim's in mm)

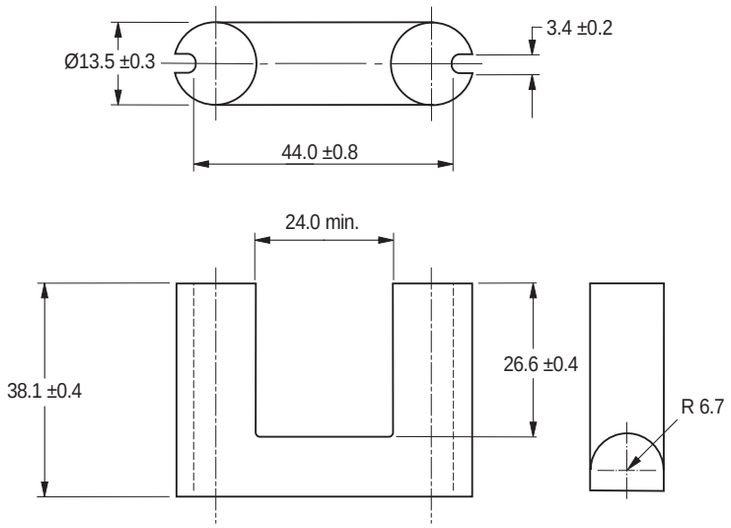
UU 5255



(All dim's in mm)

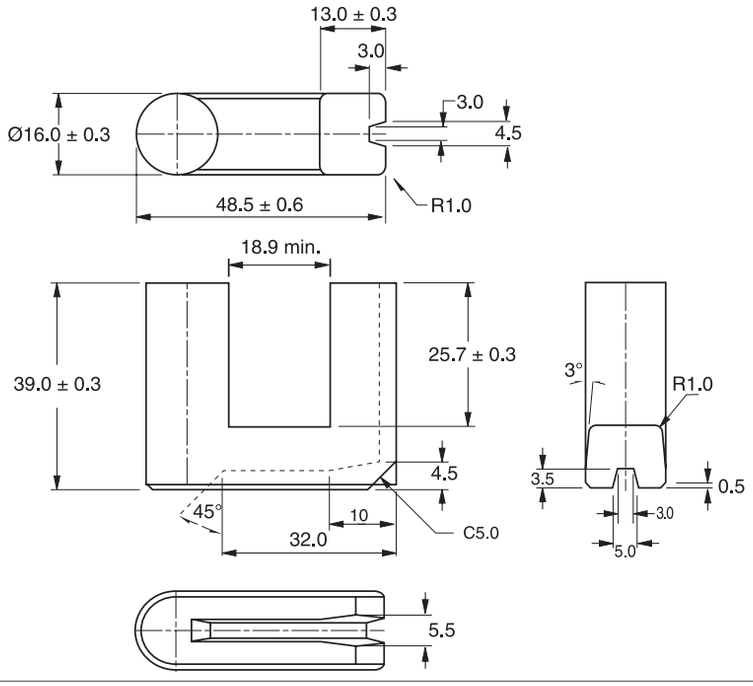
TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%	
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196
UU 5756	163	171	27900	140	2150	2350
UU 5255	165	95	15700	80	1200	1300

UU 5076



(All dim's in mm)

UU 4978

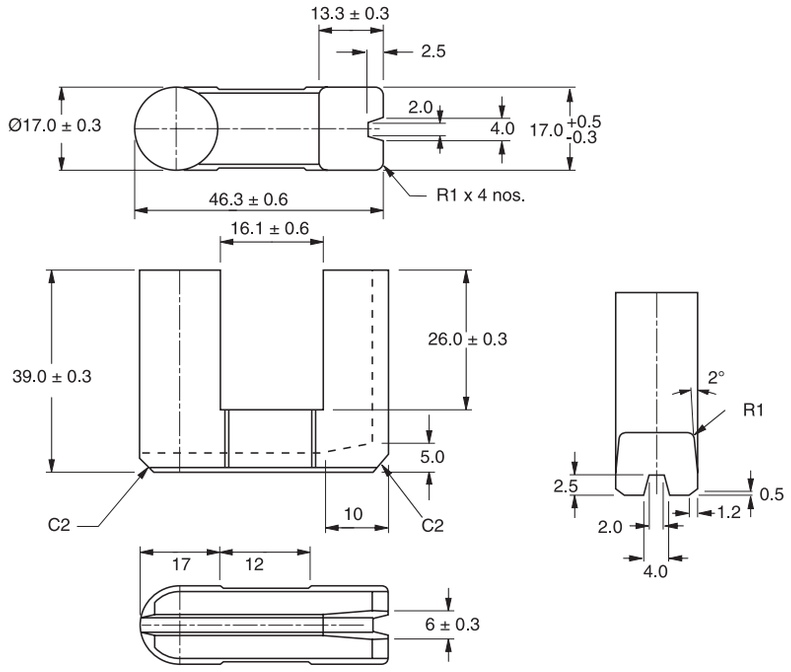


Groove Tolerance ± 0.2

(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%		
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196	CF101
UU 5076	193.5	132	25542	133	1400	1450	–
UU 4978	184.4	200	36880	91	2250	2350	3200

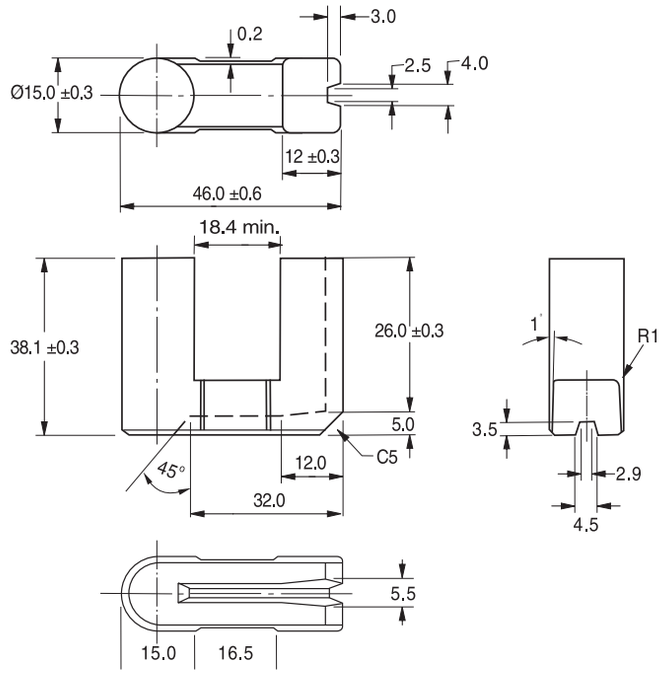
UU 4678



Groove Tolerance ± 0.2

(All dim's in mm)

UU 4676

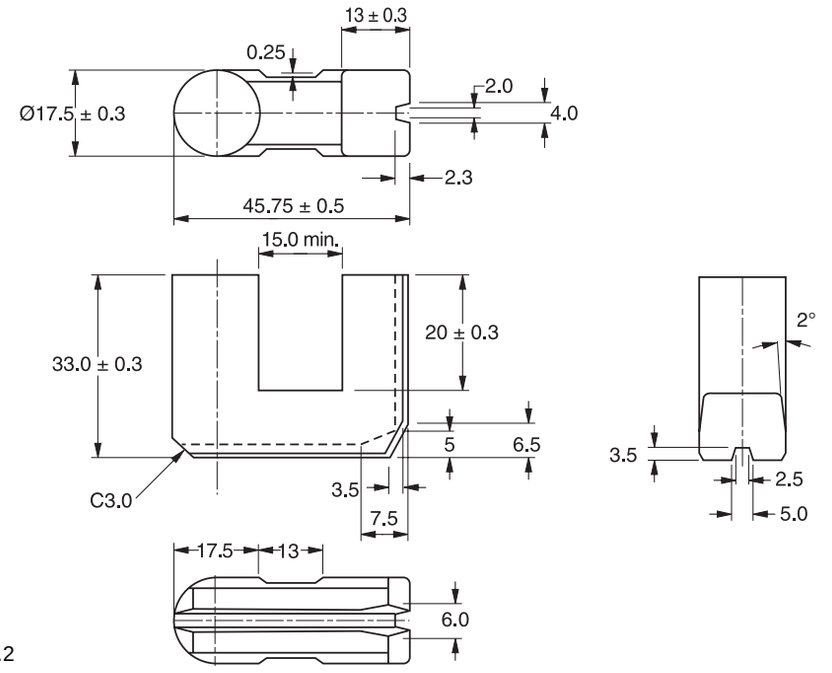


Groove Tolerance ± 0.2

(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%	
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196
UU 4678	180.3	219.8	39627	193	2500	2600
UU 4676	182	174	31670	152	1950	2050

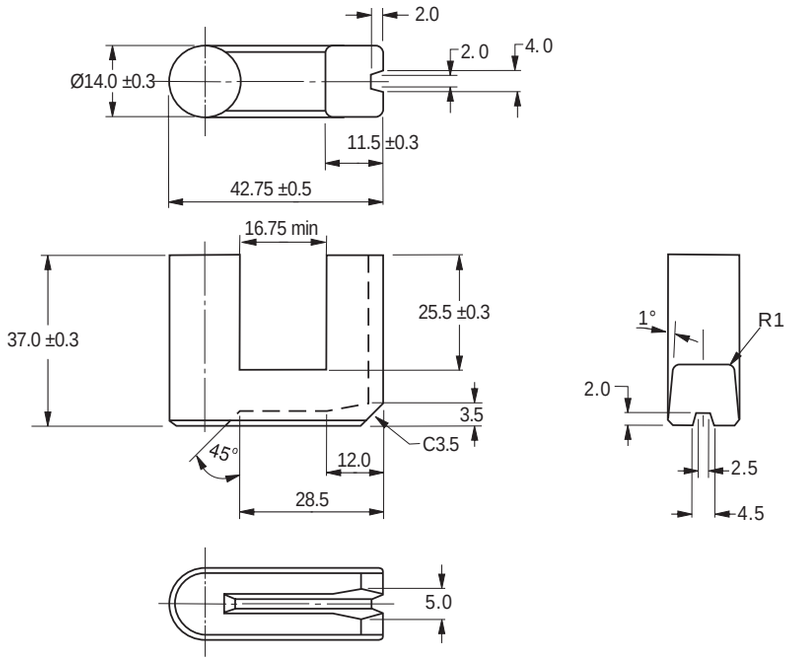
UU 4566



Groove Tolerance ± 0.2

(All dim's in mm)

UU 4374

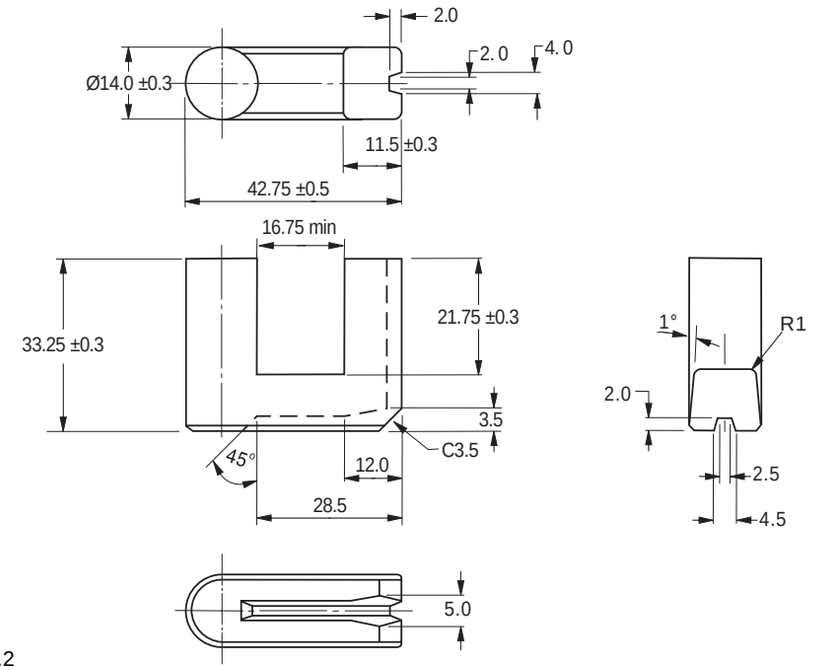


Groove Tolerance ± 0.2

(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%	
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196
UU 4566	154	222.4	34247	173	3000	3100
UU 4374	173	154	26642	132	1850	1900

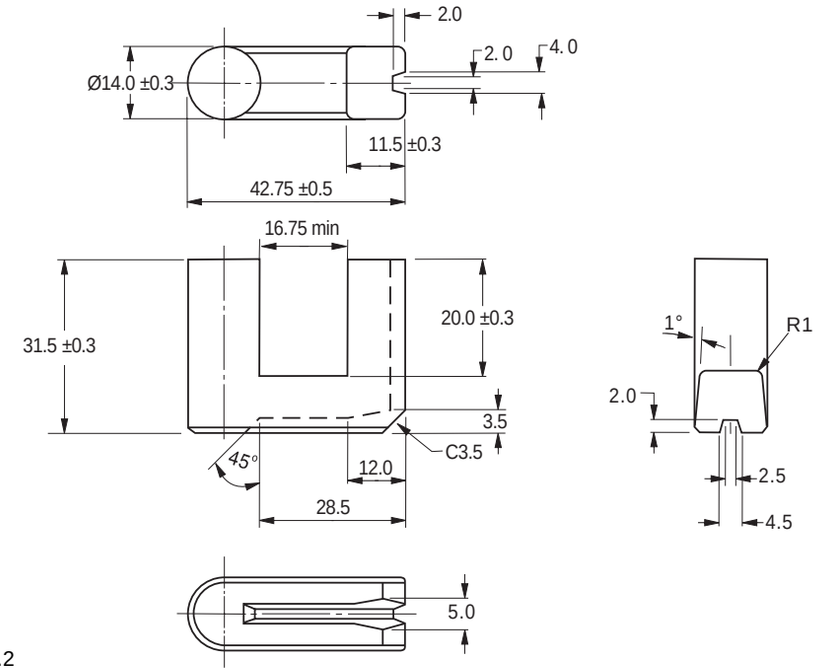
UU 4366



Groove Tolerance ± 0.2

(All dim's in mm)

UU 4363

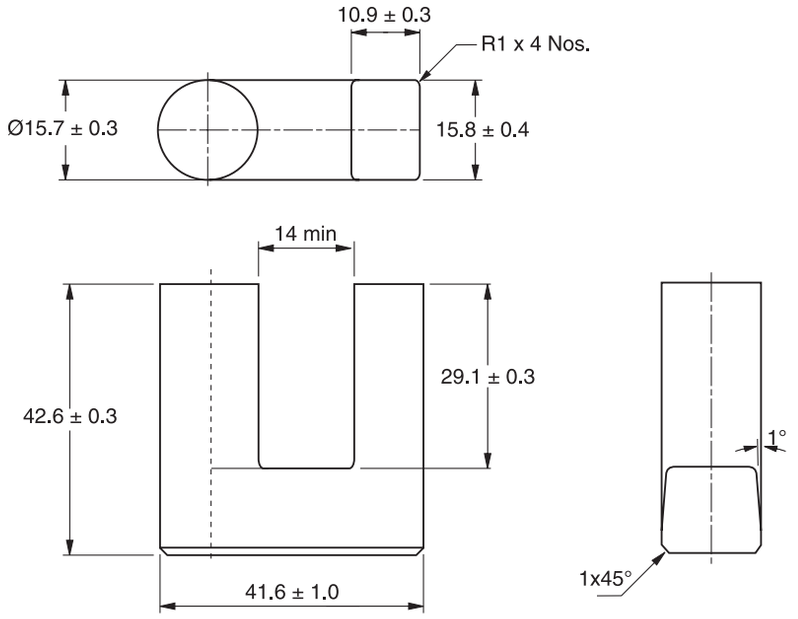


Groove Tolerance ± 0.2

(All dim's in mm)

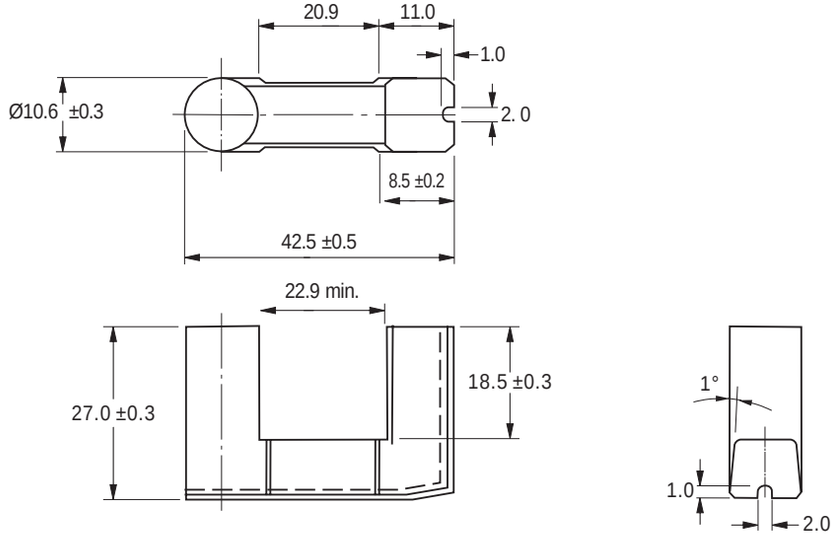
TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%		
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196	CF138
UU 4366	159.6	154	24580	123	2000	2100	–
UU 4363	151.3	152.6	23090	119	2100	2200	–

UU 4285



(All dim's in mm)

UU 4254

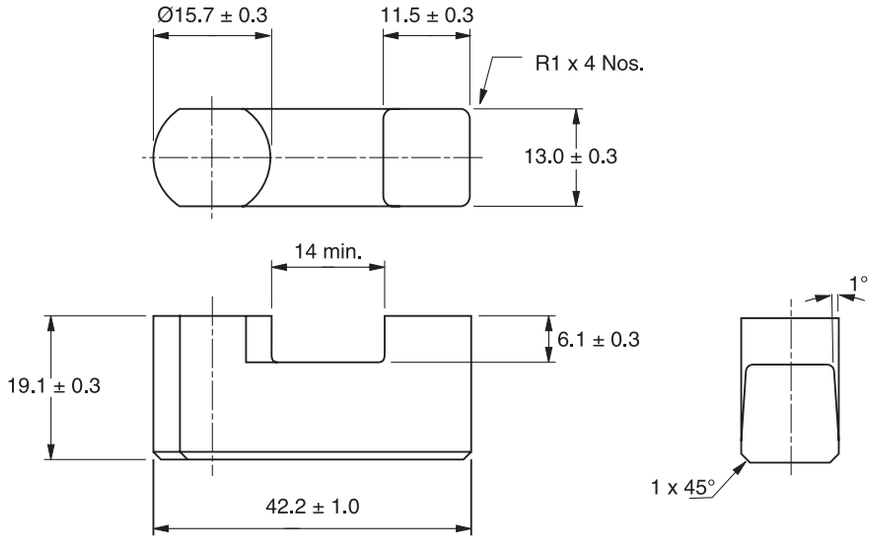


Groove Tolerance ± 0.2

(All dim's in mm)

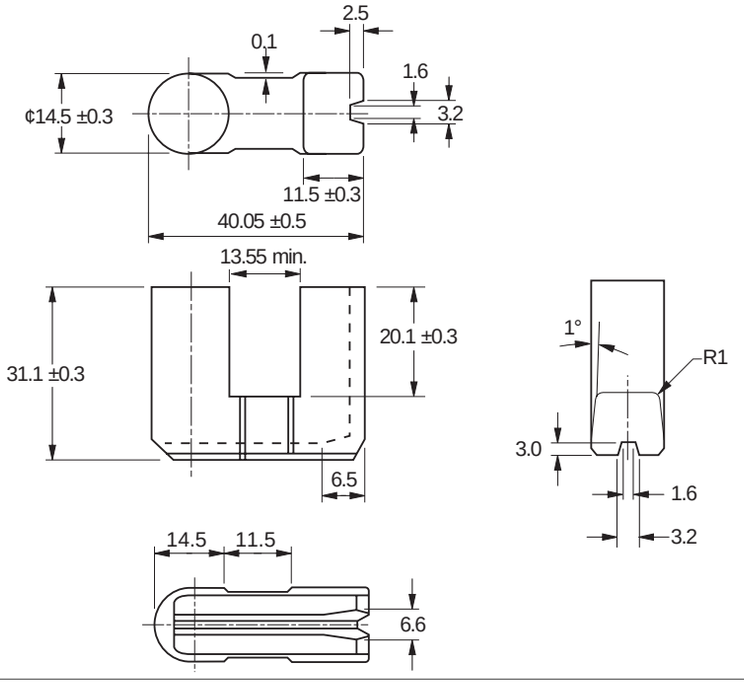
TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% –20%			
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196	CF138	CF101
UU 4285	172	140	24250	178	1700	1750	1800	–
UU 4254	148.9	88.9	13237	63	1250	1300	–	1900

UU 4238



(All dim's in mm)

UU 4062

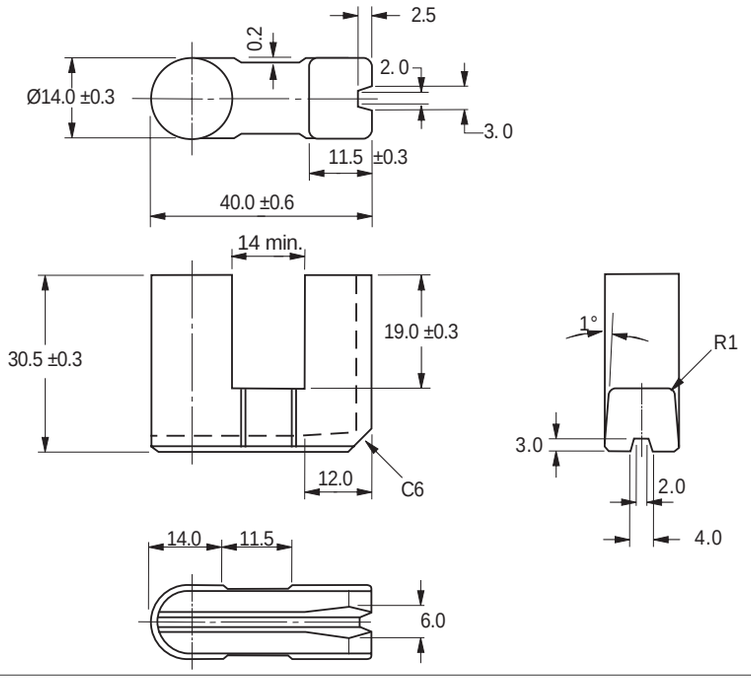


Groove Tolerance ± 0.2

(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%		
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196	CF138
UU 4238	140	172	24250	83	2550	2650	2750
UU 4062	146.2	158.5	23170	114	2250	2350	–

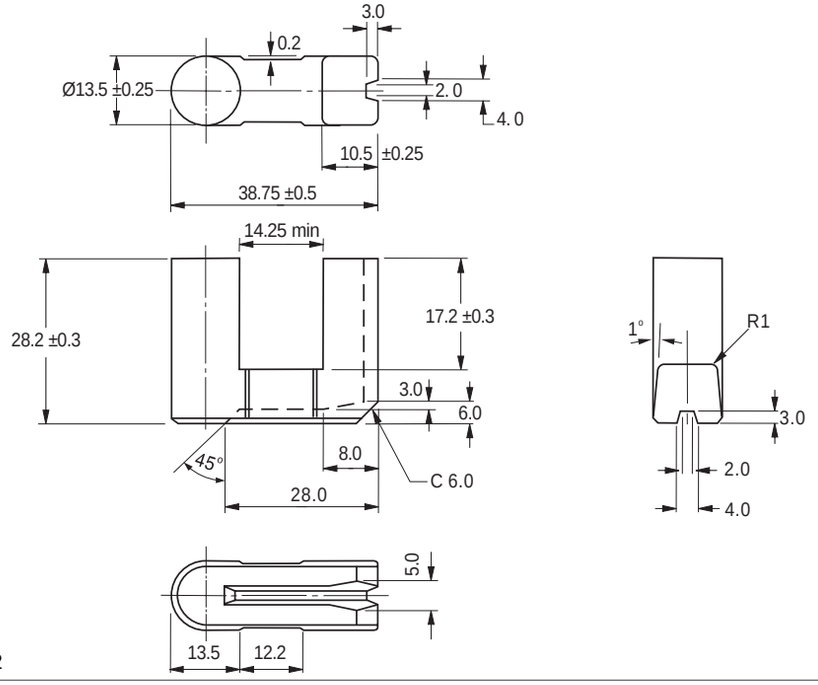
UU 4061



Groove Tolerance ± 0.2

(All dim's in mm)

UU 3956

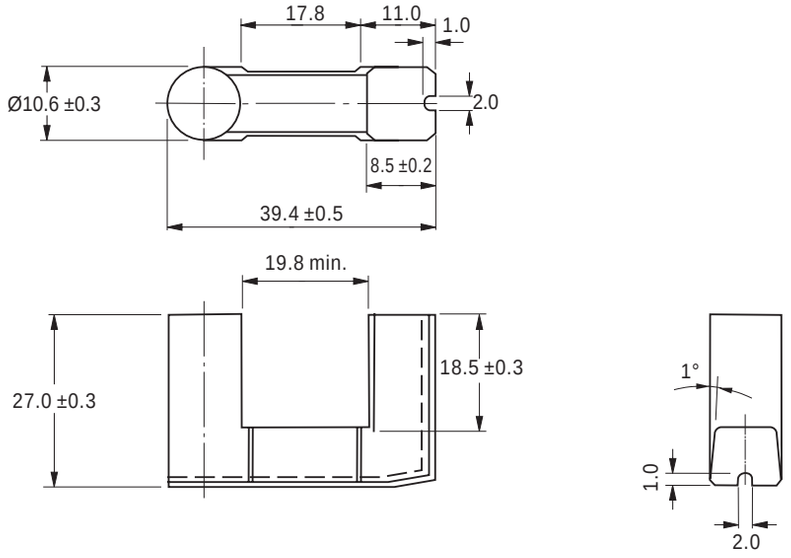


Groove Tolerance ± 0.2

(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%	
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196
UU4061	141.1	153.4	21644	108	2250	2350
UU3956	133.7	138.5	18517	92	2150	2250

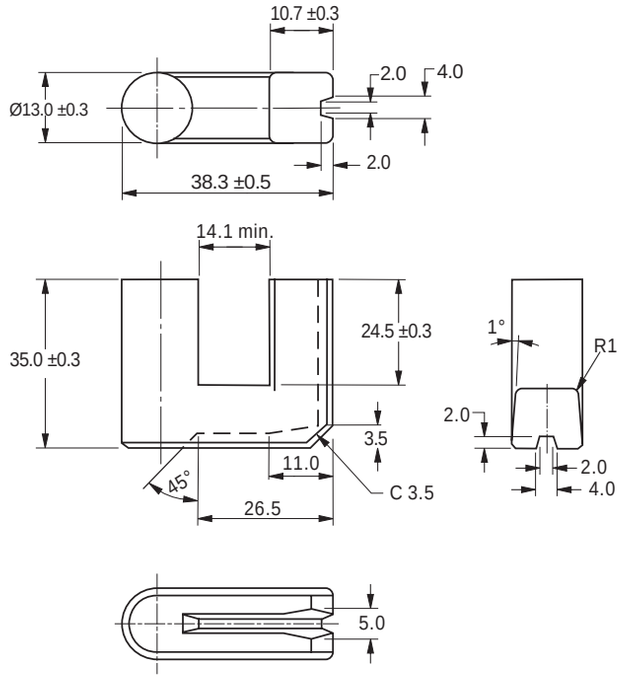
UU 3954



Groove Tolerance ± 0.2

(All dim's in mm)

UU 3870M

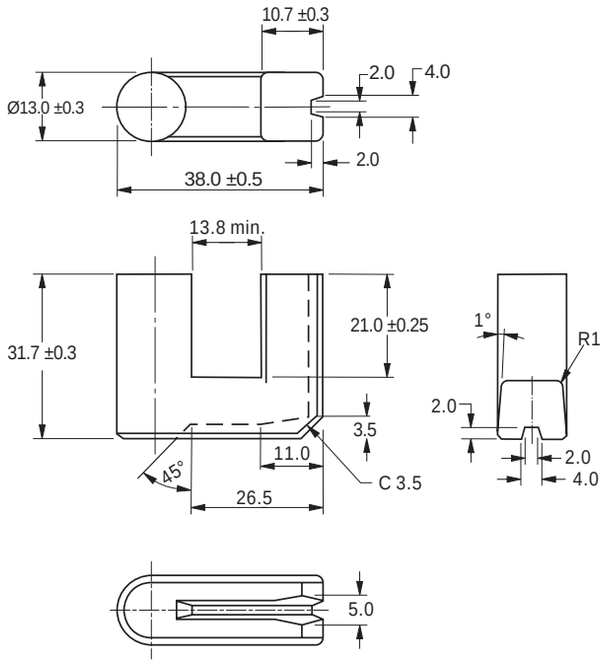


Groove Tolerance ± 0.2

(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%		
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196	CF138
UU 3954	143	88	12580	61	1250	1350	–
UU 3870M	162.2	130.9	21236	104	1650	1750	1850

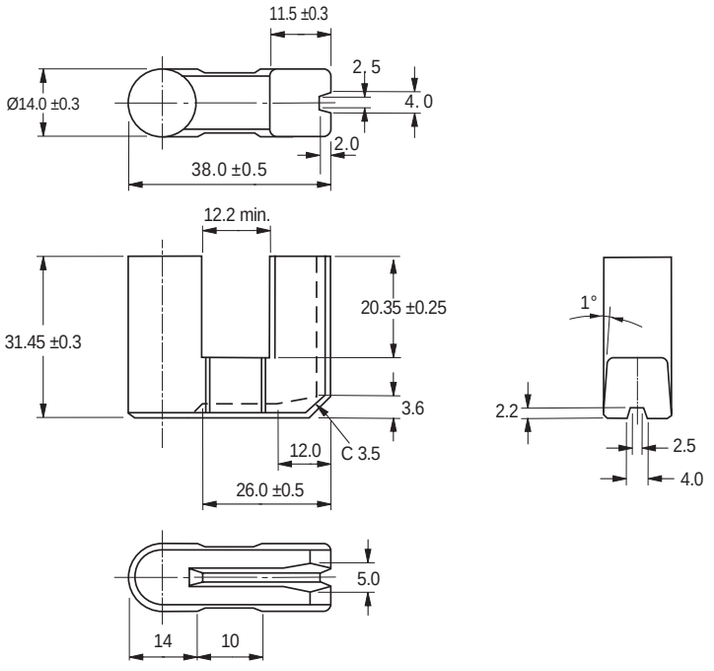
UU 3863M



Groove Tolerance ± 0.2

(All dim's in mm)

UU 3863

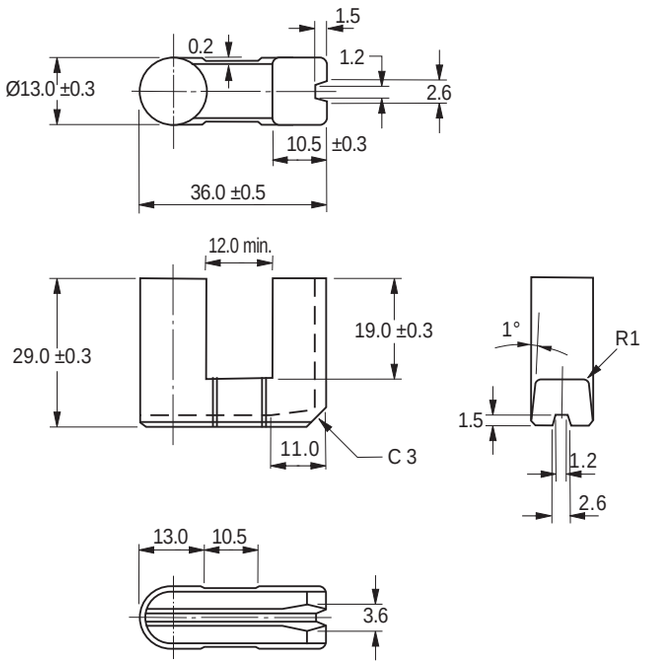


Groove Tolerance ± 0.2

(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%	
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196
UU 3863M	148	132	19540	97	1850	1950
UU 3863	143.3	149.8	21470	111	2150	2250

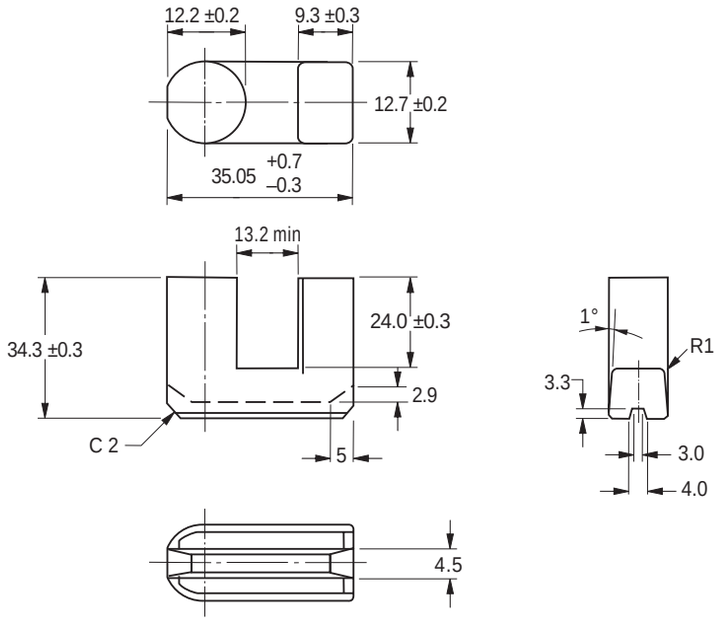
UU 3658



Groove Tolerance ± 0.2

(All dim's in mm)

UU 3569

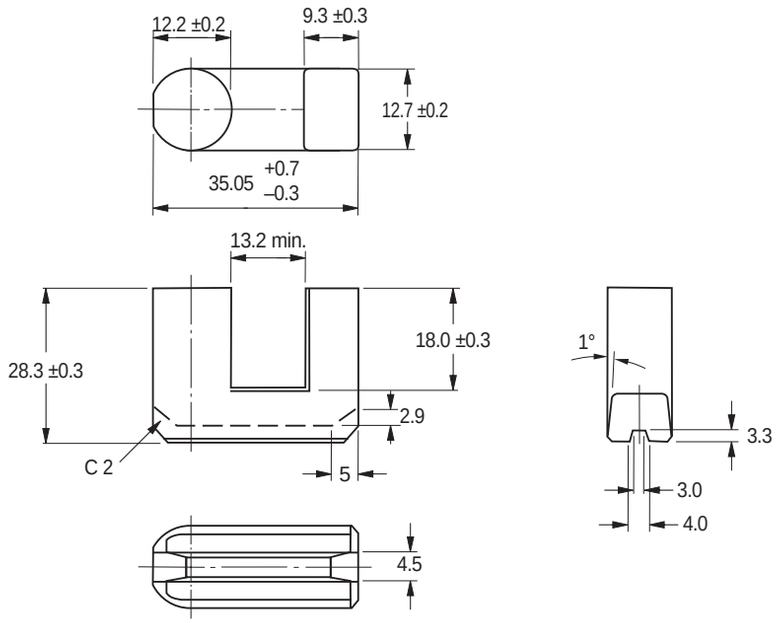


Groove Tolerance ± 0.2

(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% –20%	
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196
UU 3658	134	127.7	17112	88	1950	2050
UU 3569	156.3	120	18760	95	1550	1650

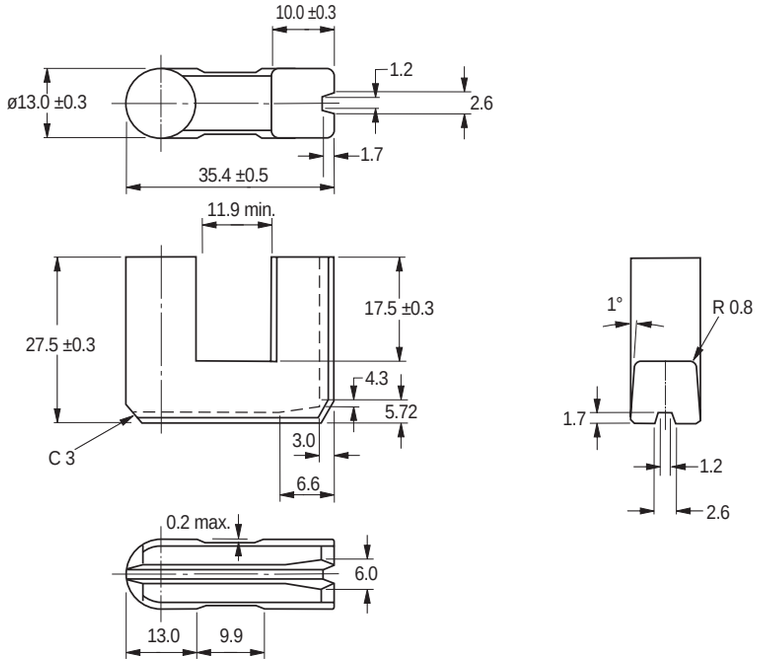
UU 3556



Groove Tolerance ± 0.2

(All dim's in mm)

UU 3555

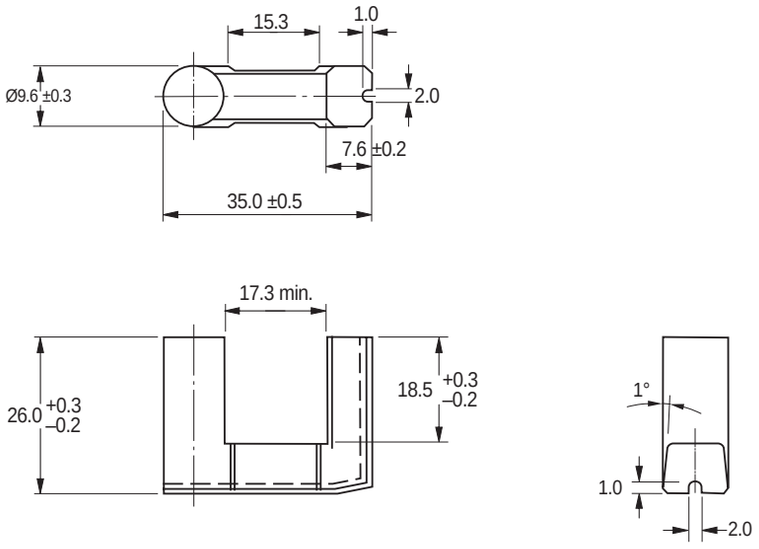


Groove Tolerance ± 0.2

(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% –20%	
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196
UU 3556	132	120	15840	79	1850	1950
UU 3555	128.6	126.7	16293	80	2050	2150

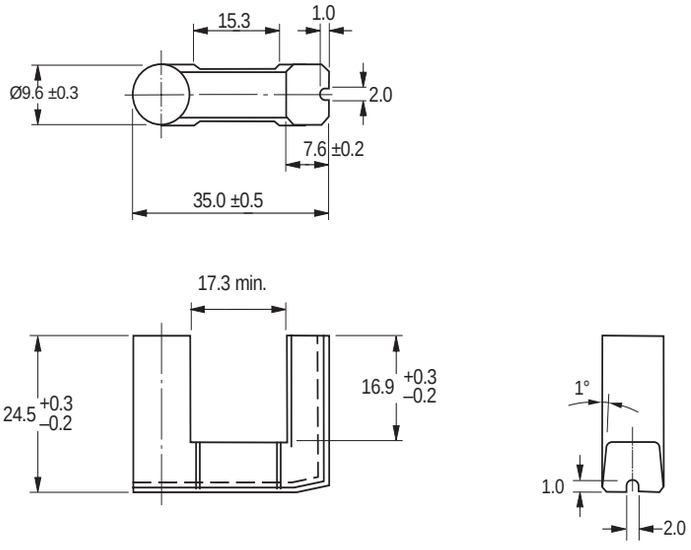
UU 3552



Groove Tolerance ± 0.2

(All dim's in mm)

UU 3549

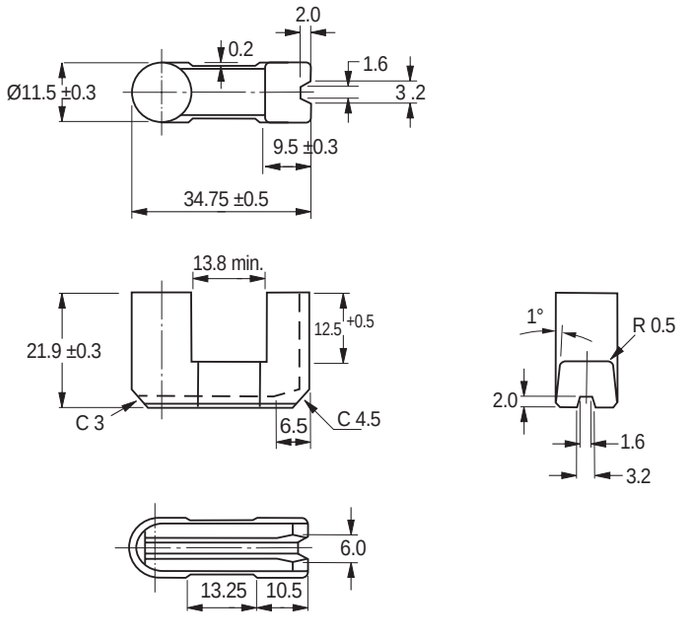


Groove Tolerance ± 0.2

(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% –20%		
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196	CF101
UU 3552	135.2	73	9870	47	1100	1150	1600
UU 3549	128.1	73	9350	45	1200	1250	1700

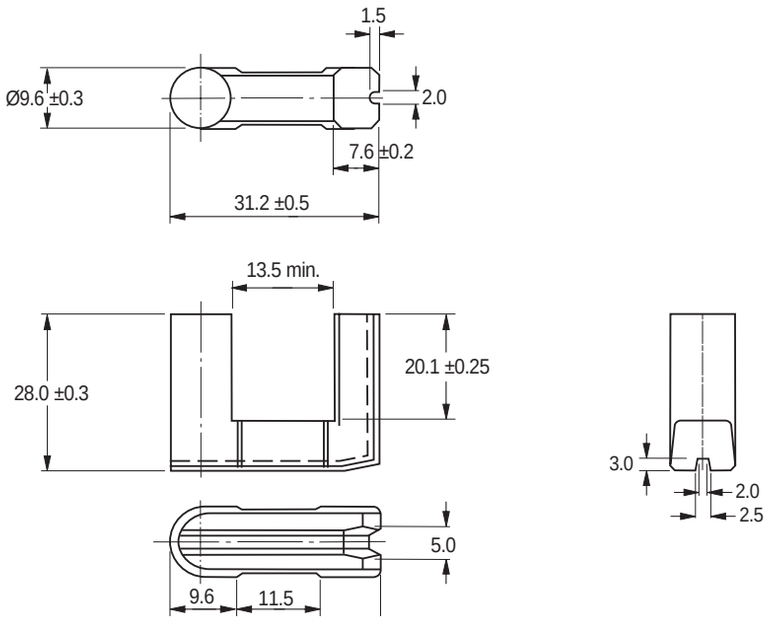
UU 3544



Groove Tolerance ± 0.2

(All dim's in mm)

UU 3156

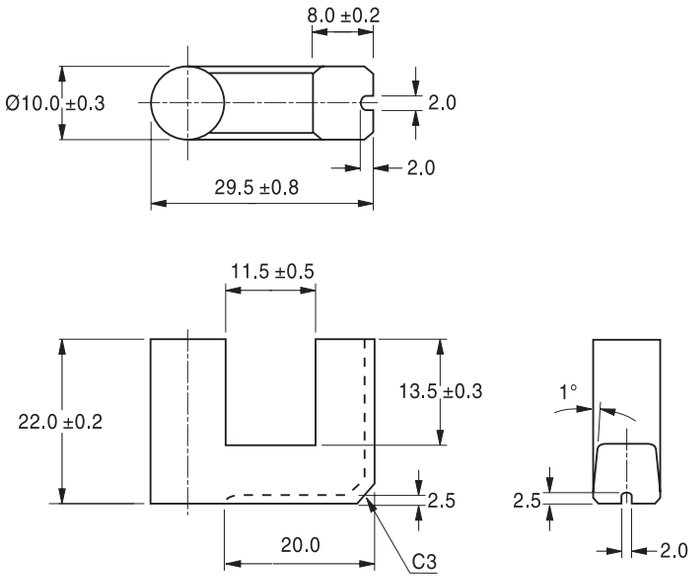


Groove Tolerance ± 0.2

(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%		
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196	CF101
UU 3544	108	101.6	10973	55	1950	2050	–
UU 3156	133.2	73.5	9804	45	1150	1200	1700

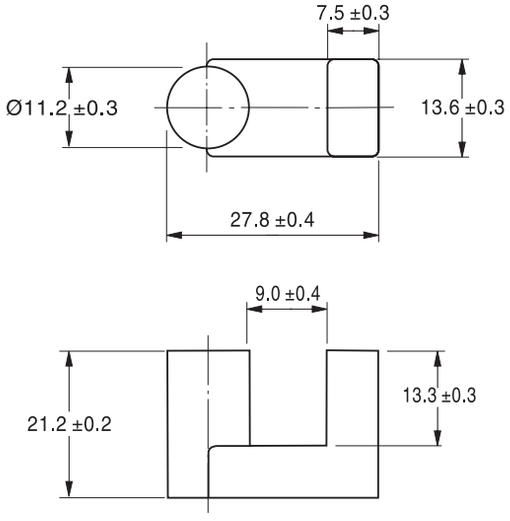
UU 2944



Groove Tolerance ± 0.2

(All dim's in mm)

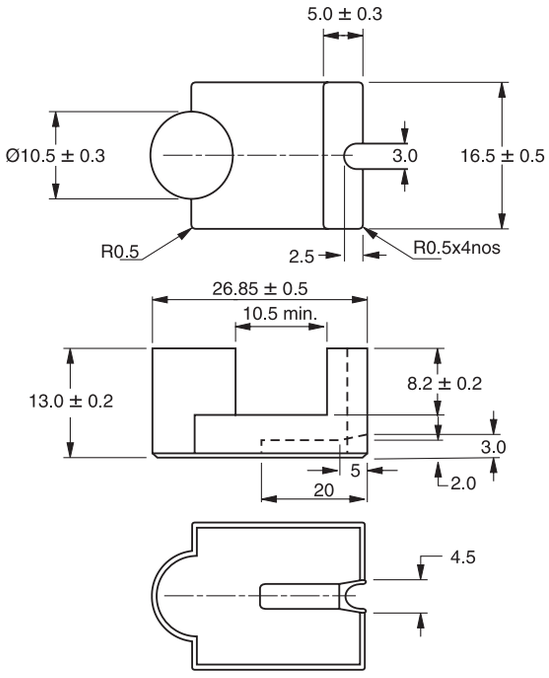
UU 2840



(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%	
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196
UU 2944	104	80	8320	42	1600	1650
UU 2840	99.8	105	10413	54	2150	2250

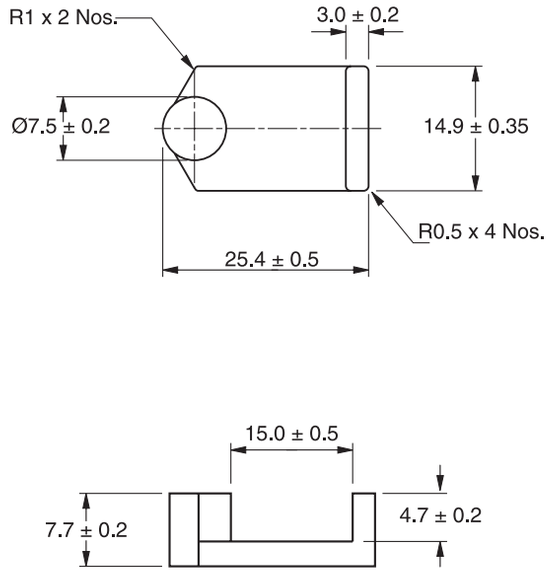
UU 2726



Groove Tolerance ± 0.2

(All dim's in mm)

UU 2515



(All dim's in mm)

TYPE	EFFECTIVE PARAMETERS			WEIGHT	AL(nH) +30% −20%	
	Le(mm)	Ae(mm²)	Ve(mm³)	(gms/pair)	CF129	CF196
UU 2726	75.3	77.9	5866	31	2150	2250
UU 2515	66.3	40.45	2682	14	1300	1350

FIG. 1

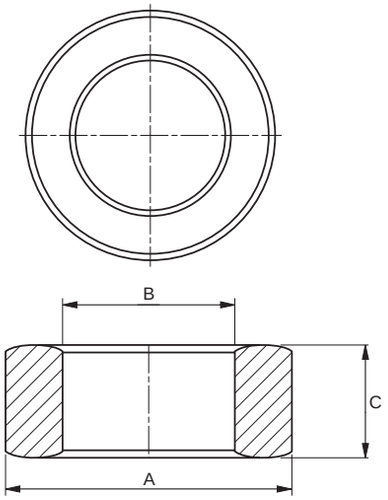
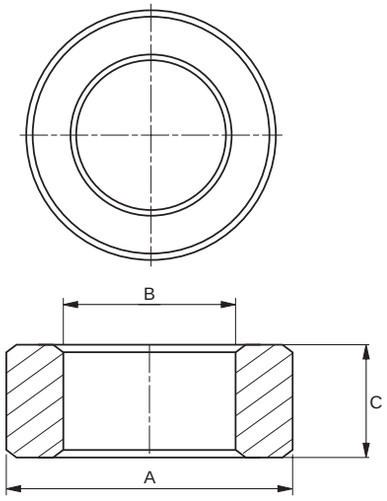


FIG. 2



TYPE	FIG.	DIMENSIONS (mm)		
		A	B	C
T 8530	1	85.0 ±1.5	62.0 ±1.5	30.0 ±1.0
T 8520	1	85.0 ±1.5	62.0 ±1.5	20.0 ±1.0
T 6325	1	63.0 ±1.3	38.0 ±0.8	25.0 ±0.5
T 6313	1	63.0 ±1.3	38.0 ±0.8	12.7 ±0.3
T 5818	2	58.3 ±1.0	40.8 ±0.8	17.6 ±0.5
T 4919	2	49.0 ±1.0	31.8 ±0.7	19.0 ±0.5
T 3816	2	38.1 ±0.7	25.4 ±0.5	15.8 ±0.4
T 3813	2	38.1 ±0.5	25.4 ±0.5	12.7 ±0.2
T 3615	2	36.0 ±0.7	23.0 ±0.5	15.0 ±0.4
T 3115	2	31.5 ±1.0	19.0 ±0.6	15.0 ±0.4
T 3113	2	31.0 $^{+0.8}_{-0.5}$	19.0 ±0.6	13.0 ±0.5
T 3112	2	31.5 ±1.0	19.0 ±0.6	12.5 ±0.4
T 2915	2	29.6 ±0.7	18.4 ±0.6	14.9 ±0.4
T 2615	2	26.0 ±0.55	14.5 ±0.35	15.0 ±0.3
T 2610	2	26.0 ±0.55	14.5 ±0.35	10.0 ±0.3
T 2515	2	25.0 ±0.5	15.05 ±0.5	15.0 ±0.5
T 2513	2	25.0 ±0.5	15.05 ±0.5	13.0 ±0.5

*Coated Toroids available on order.

MAGNETIC PARAMETERS

Le — Magnetic Path Length
Ae — Cross Sectional Area
Ve — Effective Volume

EFFECTIVE PARAMETERS			WEIGHT	AL(nH) $^{+30\%}_{-20\%}$			
Le(mm)	Ae(mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF101	CF195
227	342	77710	360	3600	3800	5700	9300
230	228	52620	240	2350	2450	3700	6210
152	306	46528	236	4800	5050	7400	12600
152.8	155.4	23636	122	2450	2550	3850	6400
152.4	146.3	22296	110	2300	2400	3600	6000
123	161	19796	100	3100	3300	4950	8200
97	77.5	7525	39	1900	2000	3000	5000
97	97	9419	47.5	2400	2500	3750	6250
89.6	96	8597	43	2550	2650	4050	6650
76.0	93.8	7129	35	2950	3100	4650	7700
75.7	77.4	5855	32.5	2450	2550	3850	6850
76.0	76.5	5814	29	2400	2500	3800	6300
72.6	81.9	5947	29	2700	2850	4250	7100
60.1	83.8	5042	25	3300	3500	5250	8750
63.6	57.5	3657	16	2150	2250	3400	5700
61.5	74.6	4587	24	2900	3050	4550	7600
62.3	65.4	4074	19	2500	2600	3950	6600

FIG. 1

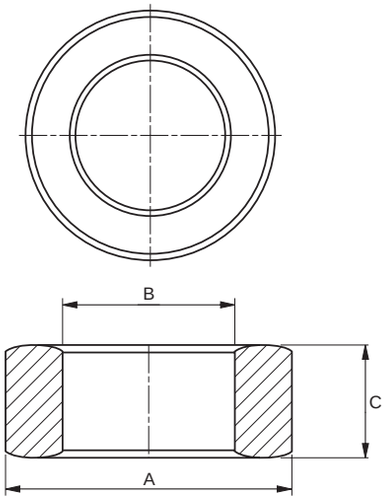
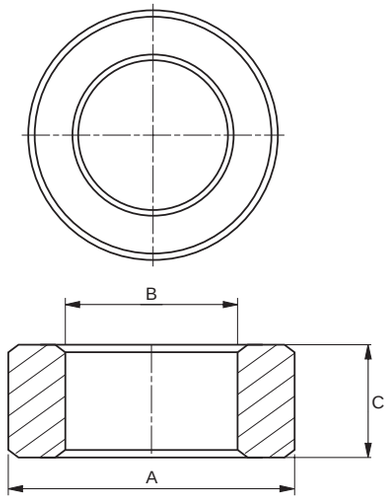


FIG. 2



TYPE	FIG.	DIMENSIONS (mm)		
		A	B	C
T 2512	2	25.0 ±0.5	15.05 ±0.5	12.0 ±0.5
T 2510	2	25.0 ±0.5	15.05 ±0.5	10.0 ±0.5
T 2212	2	22.1 ±0.25	13.7 ±0.25	12.7 ±0.25
T 2208	2	22.1 ±0.25	13.7 ±0.25	8.0 ±0.25
T 2206	2	22.1 ±0.25	13.7 ±0.25	6.35 ±0.25
T 2106	2	21.0 $^{}_{-0.5}$	13.0 ±0.5	6.0 $^{}_{-0.5}$
T 2010	2	20.0 ±0.4	10.0 ±0.25	10.0 ±0.4
T 1807	2	17.5 ±0.5	11.05 ±0.3	7.0 ±0.2
T 1606	2	16.0 ±0.4	9.6 ±0.3	6.3 ±0.2
T 1605	2	16.0 ±0.4	9.6 ±0.3	5.0 ±0.2
T 1405	2	14.0 ±0.3	9.0 ±0.2	4.9 ±0.2
T 1306A	2	12.9 ±0.25	7.9 ±0.2	6.2 ±0.2
T 1305	2	13.0 ±0.4	7.0 ±0.3	5.0 ±0.3
T 1303	2	13.0 ±0.4	7.0 ±0.3	3.2 ±0.2
T 1004	2	10.0 ±0.3	6.0 ±0.2	4.0 ±0.3
T 0903	1	9.53 ±0.3	4.75 ±0.2	3.18 ±0.2

*Coated Toroids available on order.

MAGNETIC PARAMETERS

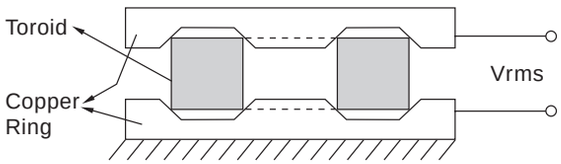
Le — Magnetic Path Length
Ae — Cross Sectional Area
Ve — Effective Volume

EFFECTIVE PARAMETERS			WEIGHT	AL(nH) $^{+30\%}_{-20\%}$			
Le(mm)	Ae(mm^2)	Ve(mm^3)	(gms/pair)	CF129	CF196	CF101	CF195
62.3	58.2	3626	18.5	2250	2400	3523	6000
61.5	49.7	3056	15	1950	2050	3500	5000
54.15	53.34	2888	14	2350	2450	3050	6200
54.15	34.8	1884	9	1500	1600	2400	4000
54.15	26.17	1417	7	1150	1200	1800	3000
51.4	23.5	1207	6	1100	1150	1700	2800
43.6	48	2092	11.5	2650	2750	4150	6900
44.2	20.6	910	5	1100	1200	1750	2900
38.7	20	770	4	1250	1300	1950	3200
38.5	15.7	603	3.3	975	1025	1550	2600
35	12.1	422	2	840	880	1325	2150
31.4	15.2	477	2.2	1150	1200	1825	3050
30.9	14.6	451	2.1	1150	1200	1800	3000
29.5	9.3	274	1.2	750	800	1200	1950
25.1	8	200	1	750	800	1200	2000
20.7	7.3	151	0.85	840	880	1300	2200

DIELECTRIC STRENGTH TEST OF COATED TOROIDS

A copper ring is pressed to the top and bottom of the Toroid and specified RMS voltage is applied as shown in figure :

CORE SIZE	Vrms
≤ T10	1 KV
> T10 – T20	1.5 KV
> T21	2 KV



Thickness of coat 0.2 to 0.3 mm depending on core size.

EE, EI, EC, EER, ETD, EFF, EFC, UU CORES (UNGAPPED)

C	F	X	X	X	Y	Y	Y	Y	Y	Y	Y
MATERIAL					CORE SIZE						

EXAMPLE :

FOR CF 196 ETD 4415

C	F	1	9	6	E	T	D	4	4	1	5

FOR CF 195 EE 2005 S

C	F	1	9	5	E	E	2	0	0	5	S

FOR CF 101 UU 1116

C	F	1	0	1	U	U	1	1	1	6	

EE, EI, EC, EER, ETD, EFF, EFC CORES (GAPPED)

C	F	X	X	X	E	Y	Y	Y	Y	Y	Y	A	L	Z	Z	Z
MATERIAL					CORE SIZE							AL VALUE				

EXAMPLE :

FOR CF 129 EC 4215 AL 190

C	F	1	2	9	E	C	4	2	1	5		A	L	1	9	0

FOR CF 129 ETD 4917 AL 230

C	F	1	2	9	E	T	D	4	9	1	7	A	L	2	3	0

TOROIDS

C	F	X	X	X	T	Y	Y	Y	Y	C
MATERIAL					CORE SIZE					ADD FOR COATED TOROIDS

EXAMPLE :

FOR CF 195 T 2512

C	F	1	9	5	T	2	5	1	2	

FOR CF 196 T 1305 COATED

C	F	1	9	6	T	1	3	0	5	C

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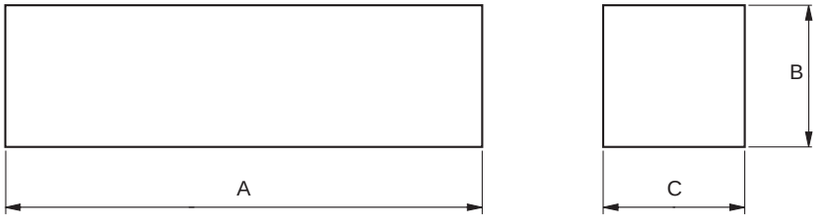

TYPE	DIMENSIONS (mm)			Weight
	A	B	C	(gms/piece)
I 100	101.6 ±2.0	25.4 ±0.8	25.4 ± 0.8	320
I 9328	93.0 ±1.8	50.0 ±0.9	28.0 ±0.5	635
I 9318	93.0 ±1.8	50.0 ±0.9	18.0 ±0.5	405
I 9330	93.0 ±1.8	27.5 ±0.5	30.0 ±0.6	370
I 9316	93.0 ±1.8	27.5 ±0.5	16.0 ±0.6	200
I 8330	81.0 ±1.2	30.0 ±1.0	28.0 ±1.1	330
I 6025	60.0 ±0.5	30.0 ±0.5	25.0 ±0.5	230