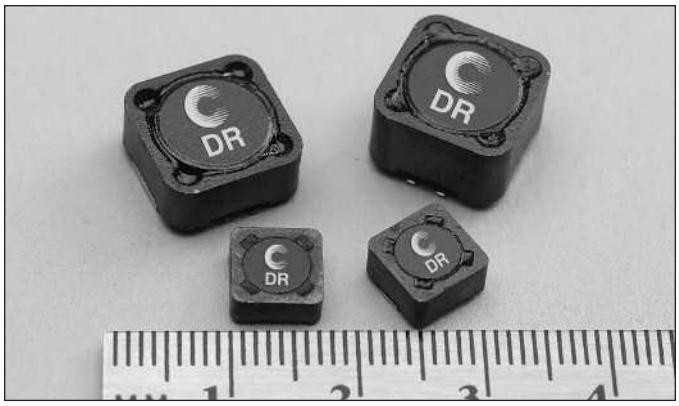
DR Series

High Power Density, High Efficiency, Shielded Inductors



Description

- 125°C maximum total operating temperature
- Four sizes of shielded drum core inductors
- Inductance range from 0.33µH to 1000µH
- Current range up to 56 amps peak
- Magnetic shielding
- Secure mounting
- Ferrite core material

RoHS 2002/95/EC

Applications

- Computer, DVD players, and portable power devices
- LCD panels
- DC-DC converters
- Buck, boost, forward, and resonant converters
- Noise filtering and filter chokes

Environmental Data

- Storage temperature range: -40°C to +125°C
- Operating temperature range: -40°C to +125°C (range is application specific)
- Solder reflow temperature: +260°C max. for 10 seconds max.

Packaging

- Supplied in tape and reel packaging, 1350 (DR73), 1100 (DR74), 600 (DR125), and 350 (DR127) per reel

Part Number	Rated Inductance (µH)	OCL[1] +/-20% (µH)	I_{rms}[2] Amps	I_{sat}[3] Amps Peak	DCR[4] (Ω) Typ.	Volt-µSec[5] Typ.
DR73-R33-R	0.33	0.306	6.21	14.4	0.0073	1.98
DR73-1R0-R	1.00	0.992	5.28	7.97	0.0102	3.56
DR73-1R5-R	1.50	1.482	4.67	6.52	0.0130	4.36
DR73-2R2-R	2.20	2.070	4.15	5.52	0.0165	5.15
DR73-3R3-R	3.30	3.540	3.31	4.22	0.0259	6.73
DR73-4R7-R	4.70	4.422	3.09	3.78	0.0297	7.52
DR73-6R8-R	6.80	6.480	2.55	3.12	0.0435	9.11
DR73-8R2-R	8.20	8.930	2.19	2.66	0.0592	10.7
DR73-100-R	10.0	10.30	2.08	2.47	0.0656	11.5
DR73-150-R	15.0	15.01	1.83	2.05	0.0844	13.9
DR73-220-R	22.0	22.65	1.62	1.67	0.107	17.0
DR73-330-R	33.0	34.41	1.31	1.35	0.166	21.0
DR73-470-R	47.0	48.62	1.08	1.14	0.241	24.9
DR73-680-R	68.0	68.91	0.89	0.96	0.358	29.7
DR73-820-R	82.0	80.37	0.86	0.89	0.384	32.1
DR73-101-R	100	101.4	0.73	0.79	0.527	36.0
DR73-151-R	150	150.9	0.58	0.65	0.851	44.0
DR73-221-R	220	223.3	0.52	0.53	1.05	53.5
DR73-331-R	330	325.5	0.42	0.44	1.59	64.5
DR73-471-R	470	465.8	0.35	0.37	2.36	77.2
DR73-681-R	680	676.5	0.29	0.31	3.47	93.1
DR73-821-R	820	821.7	0.27	0.28	3.93	103
DR73-102-R	1000	995.0	0.26	0.25	4.34	113

(1) Open Circuit Inductance Test Parameters: 100kHz, 0.25V_{rms}, 0.0Adc.
(2) RMS current for an approximate ΔT of 40°C without core loss. It is recommended that the temperature of the part not exceed 125°C.
(3) Peak current for approximate 30% roll off at 20°C.
(4) DCR limits @ 20°C.
(5) Applied Volt-Time product (V-µS) across the inductor. This value represent the applied V-µS at 100kHz necessary to generate a core loss equal to 10% of the total losses for 40°C temperature rise.
6) Part number definition: DRxxx-yyy-R
DRxxx = product code and size,
-yyy = inductance value in µH,
R = decimal point. If no R is present, third character = # of zeros
-R suffix = RoHS compliant

Part Number	Rated Inductance (µH)	OCL[1] +/-20% (µH)	I_{rms}[2] Amps	I_{sat}[3] Amps Peak	DCR[4] (Ω) Typ.	Volt-µSec[5] Typ.
DR74-R33-R	0.33	0.294	6.26	18.4	0.0074	1.71
DR74-1R0-R	1.00	0.952	5.39	10.2	0.0099	3.08
DR74-1R5-R	1.50	1.422	4.94	8.35	0.0118	3.76
DR74-2R2-R	2.20	1.986	4.76	7.06	0.0126	4.45
DR74-3R3-R	3.30	3.396	3.94	5.40	0.0183	5.81
DR74-4R7-R	4.70	5.182	3.34	4.37	0.0254	7.18
DR74-6R8-R	6.80	7.344	2.60	3.67	0.0418	8.55
DR74-8R2-R	8.20	8.566	2.53	3.40	0.0441	9.23
DR74-100-R	10.0	9.882	2.41	3.17	0.0489	9.92
DR74-150-R	15.0	16.09	2.11	2.48	0.0637	12.7
DR74-220-R	22.0	21.73	1.75	2.13	0.0925	14.7
DR74-330-R	33.0	33.01	1.41	1.73	0.143	18.1
DR74-470-R	47.0	49.64	1.15	1.41	0.216	22.2
DR74-680-R	68.0	69.67	1.03	1.19	0.265	26.3
DR74-820-R	82.0	80.95	0.91	1.11	0.345	28.4
DR74-101-R	100	101.6	0.86	0.99	0.383	31.8
DR74-151-R	150	150.0	0.69	0.81	0.591	38.6
DR74-221-R	220	227.0	0.56	0.66	0.907	47.5
DR74-331-R	330	335.6	0.45	0.54	1.41	57.8
DR74-471-R	470	465.3	0.40	0.46	1.74	68.1
DR74-681-R	680	671.2	0.33	0.38	2.58	81.7
DR74-821-R	820	812.7	0.31	0.35	2.93	89.9
DR74-102-R	1000	1009	0.27	0.31	3.89	100
DR125-R47-R	0.47	0.456	17.6	33.0	0.0018	3.17
DR125-1R0-R	1.00	0.894	15.0	23.6	0.0024	4.43
DR125-1R5-R	1.50	1.478	13.8	18.3	0.0029	5.70
DR125-2R2-R	2.20	2.208	10.9	15.0	0.0045	6.97
DR125-3R3-R	3.30	3.084	9.26	12.7	0.0063	8.23
DR125-4R7-R	4.70	5.274	7.18	9.71	0.0105	10.8
DR125-6R8-R	6.80	6.588	6.64	8.68	0.0123	12.0
DR125-8R2-R	8.20	8.048	5.54	7.86	0.0176	13.3
DR125-100-R	10.0	9.654	5.35	7.17	0.0189	14.6
DR125-150-R	15.0	15.35	4.27	5.69	0.0298	18.4
DR125-180-R	18.0	17.70	3.81	5.32	0.0377	19.6
DR125-220-R	22.0	22.36	3.70	4.71	0.0396	22.2
DR125-330-R	33.0	33.74	3.28	3.84	0.0505	27.2
DR125-470-R	47.0	47.47	2.71	3.24	0.0740	32.3
DR125-560-R	56.0	55.24	2.31	3.00	0.102	34.8
DR125-680-R	68.0	67.91	2.22	2.70	0.101	38.6
DR125-820-R	82.0	86.89	2.05	2.39	0.128	43.7
DR125-101-R	100	102.7	1.78	2.20	0.170	47.5
DR125-151-R	150	151.1	1.48	1.81	0.248	57.6
DR125-221-R	220	216.8	1.19	1.51	0.384	69.0
DR125-331-R	330	332.6	1.06	1.22	0.482	85.5
DR125-471-R	470	473.1	0.87	1.02	0.718	102
DR125-681-R	680	679.8	0.70	0.85	1.10	122
DR125-821-R	820	828.0	0.60	0.77	1.49	135
DR125-102-R	1000	1008	0.57	0.70	1.69	149
DR125-472-R	4700	4720	0.268	0.32	7.53	322.4
DR125-124-R	120000	120630	0.060	0.069	150	1521

(1) Open Circuit Inductance Test Parameters: 100kHz, 0.25V_{rms}, 0.0Adc.
(2) RMS current for an approximate ΔT of 40°C without core loss. It is recommended that the temperature of the part not exceed 125°C.
(3) Peak current for approximate 30% roll off at 20°C.
(4) DCR limits @ 20°C.
(5) Applied Volt-Time product (V-µS) across the inductor. This value represent the applied V-µS at 100kHz necessary to generate a core loss equal to 10% of the total losses for 40°C temperature rise.
6) Part number definition: DRxxx-yyy-R
DRxxx = product code and size,
-yyy = inductance value in µH,
R = decimal point. If no R is present, third character = # of zeros
-R suffix = RoHS compliant

Part Number	Rated Inductance (µH)	OCL[1] +/-20% (µH)	I_{rms}[2] Amps	I_{sat}[3] Amps Peak	DCR[4] (Ω) Typ.	Volt-µSec[5] Typ.
DR127-R47-R	0.47	0.419	17.9	56.0	0.00195	3.50
DR127-1R0-R	1.00	0.821	15.5	40.0	0.00313	4.90
DR127-1R5-R	1.50	1.357	13.5	31.1	0.00341	6.30
DR127-2R2-R	2.20	2.027	12.5	25.5	0.00402	7.70
DR127-3R3-R	3.30	2.831	10.5	21.5	0.00567	9.10
DR127-4R7-R	4.70	4.841	8.25	16.5	0.00917	11.9
DR127-6R8-R	6.80	7.387	7.34	13.3	0.0116	14.7
DR127-8R2-R	8.20	8.861	6.32	12.2	0.0157	16.1
DR127-100-R	10.0	10.47	6.04	11.2	0.0172	17.5
DR127-150-R	15.0	14.09	5.03	9.66	0.0247	20.3
DR127-220-R	22.0	22.93	4.00	7.57	0.0391	25.9
DR127-330-R	33.0	33.92	3.23	6.22	0.0600	31.5
DR127-470-R	47.0	47.05	2.95	5.28	0.0719	37.1
DR127-680-R	68.0	66.48	2.44	4.44	0.105	44.1
DR127-820-R	82.0	79.75	2.09	4.06	0.143	48.3
DR127-101-R	100	99.31	1.96	3.64	0.163	53.9
DR127-151-R	150	144.9	1.59	3.01	0.247	65.1
DR127-221-R	220	221.5	1.29	2.43	0.376	80.5
DR127-331-R	330	323.6	1.04	2.01	0.574	97.3
DR127-471-R	470	467.1	0.85	1.68	0.861	117
DR127-681-R	680	676.7	0.76	1.39	1.08	141
DR127-821-R	820	818.1	0.65	1.27	1.47	155
DR127-102-R	1000	1005	0.61	1.14	1.66	172

(1) Open Circuit Inductance Test Parameters: 100kHz, 0.25V_{rms}, 0.0Adc.
(2) RMS current for an approximate ΔT of 40°C without core loss. It is recommended that the temperature of the part not exceed 125°C.
(3) Peak current for approximate 30% roll off at 20°C.
(4) DCR limits @ 20°C.
(5) Applied Volt-Time product (V-µS) across the inductor. This value represent the applied V-µS at 100kHz necessary to generate a core loss equal to 10% of the total losses for 40°C temperature rise.

6) Part number definition: DRxxx-yyy-R
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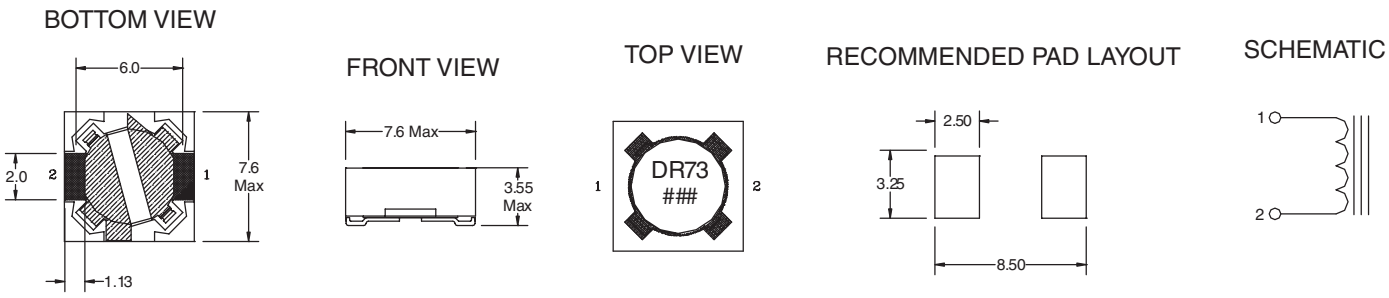
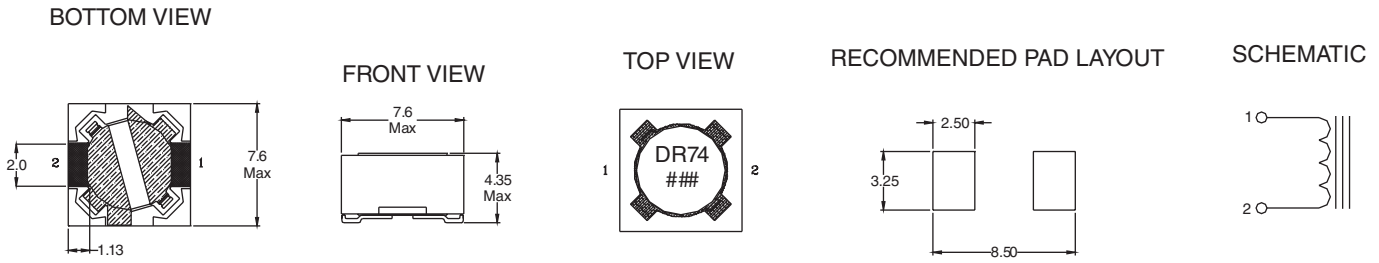
-yyy = inductance value in µH,
R = decimal point. If no R is present, third character = # of zeros
-R suffix = RoHS compliant

Dimensions - mm

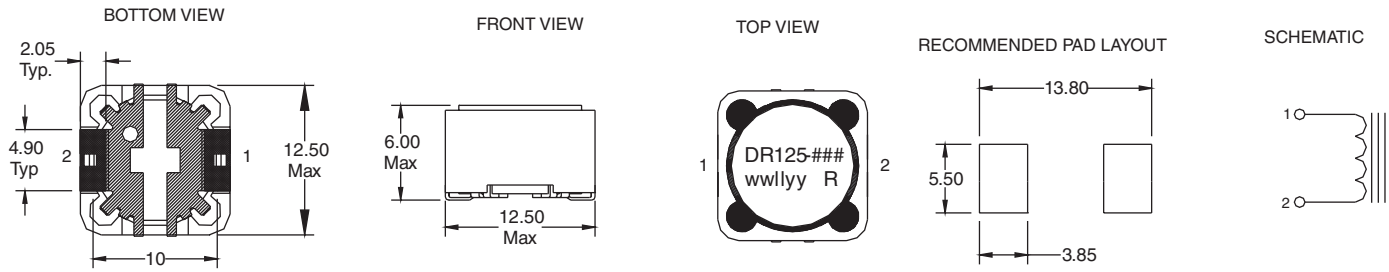
DR73 Series



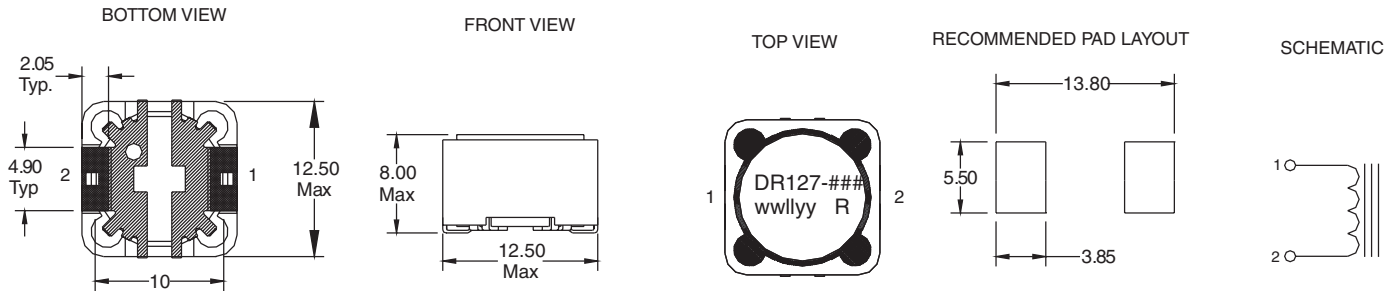
DR74 Series



DR125 Series



DR127 Series



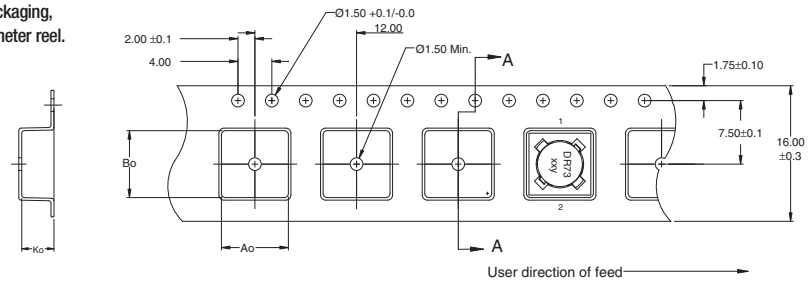
Dimensions in millimeters.

= Inductance value per family chart
wwllyy = (date code) R = revision level

Packaging Information

DR73 Series

Supplied in tape and reel packaging,
1350 parts per reel, 13" diameter reel.



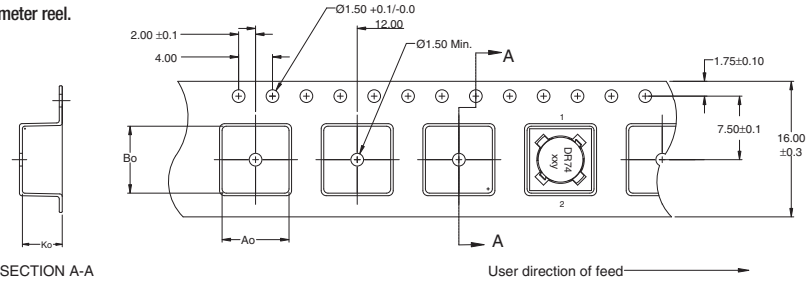
SECTION A-A

Ao=7.90mm
Bo=7.90mm
Ko=3.80mm

ACTUAL SIZE
DR73

DR74 Series

Supplied in tape and reel packaging,
1100 parts per reel, 13" diameter reel.



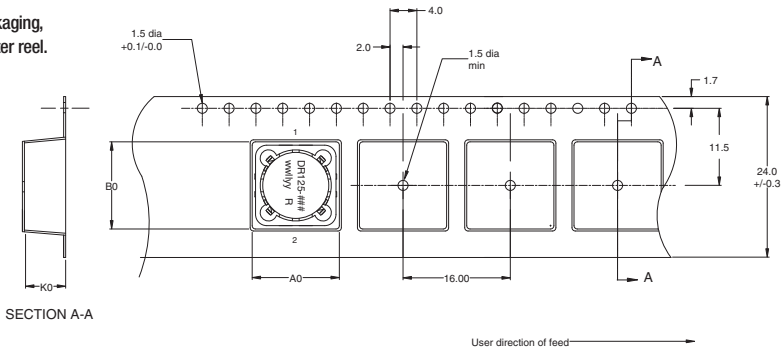
SECTION A-A

Ao=7.90mm
Bo=7.90mm
Ko=4.70mm

ACTUAL SIZE
DR74

DR125 Series

Supplied in tape and reel packaging,
600 parts per reel, 13" diameter reel.



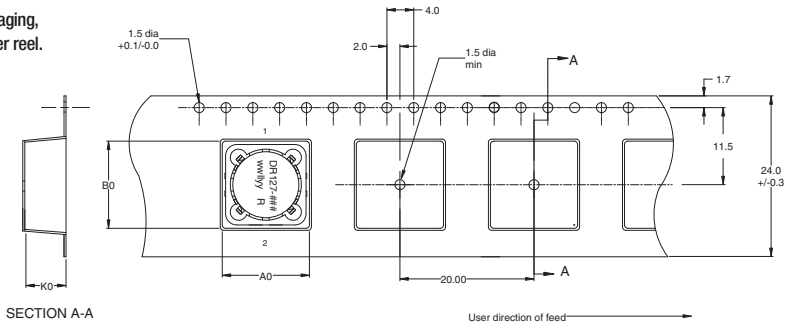
SECTION A-A

Ao=13.0mm
Bo=13.0mm
Ko=6.30mm

ACTUAL SIZE
DR125

DR127 Series

Supplied in tape and reel packaging,
350 parts per reel, 13" diameter reel.



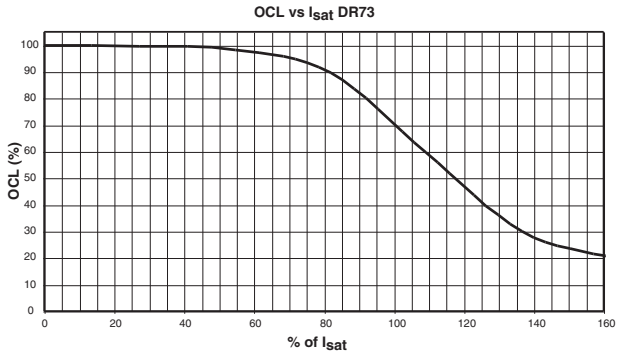
SECTION A-A

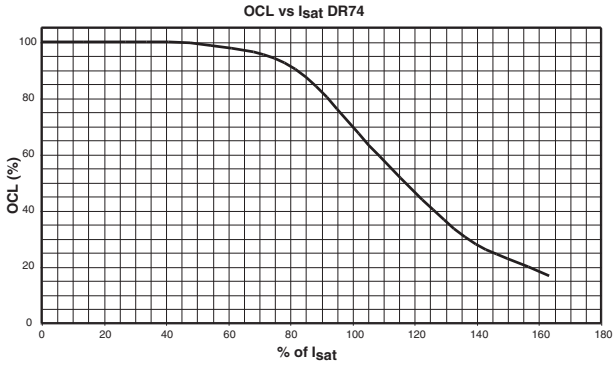
Ao=13.0mm
Bo=13.0mm
Ko=8.30mm

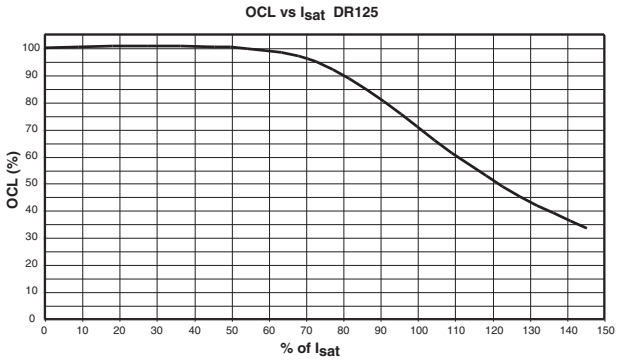
ACTUAL SIZE
DR127

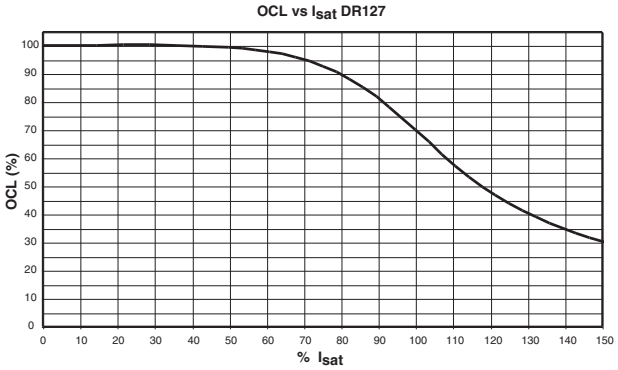
Dimensions are in millimeters.

Inductance Characteristics

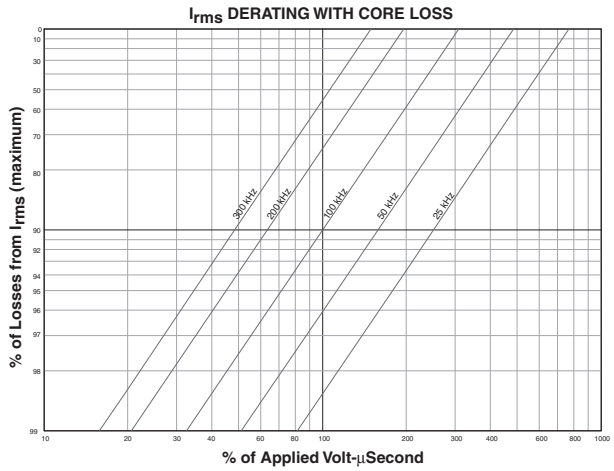








Core Loss



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