

Filter Inductors

Toroid



FEATURES

- Choice of encapsulated (TE) or dipped (TD) styles
- TD style combines low cost with excellent performance in commercial applications
- High Q and wide selection of Q versus frequency ranges in one small package.
- Large number of standard inductance values



RoHS
COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS (Applies to Core Only)

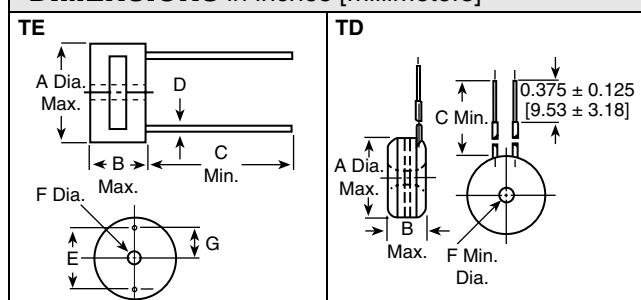
MODEL			TC CODE	TEMPERATURE COEFFICIENT	TEMPERATURE RANGE	TC AVAILABILITY		
TE-3 TD-3	TE-4 TD-4	TE-5 TD-5				Q0	Q3	Q4
X	X	X	TA	0 ± 1%	- 55 °C to + 125 °C		X	X
X	X	X	TD	0 ± 0.1%	0 °C to + 55 °C		X	X
X	X	X	TL*	+ 40 to + 110 ppm/°C + 85 to + 185 ppm/°C	- 55 °C to + 25 °C + 25 °C to + 85 °C			X
X	X	X	TM	0 ± 0.25 %	- 6 5°C to + 125 °C		X	X
X	X	X	TR	50 ppm/°C (Typical)	- 65 °C to + 125 °C	X		
X	X	X	TW	0 ± 0.25 %	- 55 °C to + 85 °C		X	X

* Inverse of typical Temperature Coefficient of polystyrene capacitor.

INDUCTANCE RANGE

TC CODE	TE-3 TD-3	TE-4 TD-4	TE-5 TD-5
Q0	50 µH to 15 mH	150 µH to 20 mH	1 mH to 100 mH
Q3	500 µH to 1 H	1 mH to 2 H	5 mH to 2 H
Q4	1 mH to 4 H	2 mH to 5 H	10 mH to 5 H

DIMENSIONS in inches [millimeters]



MODEL	A	B	C	D	E	F	G
TE-3	0.685 [17.40]	0.385 [9.78]	1.0 [25.40]	0.025 [0.635]	0.500 [12.70]	0.093 [2.36]	0.250 [6.35]
TD-3	0.685 [17.40]	0.320 [8.13]	3.0 [76.20]	-	-	0.125 [3.18]	-
TE-4	1.06 [26.92]	0.500 [12.70]	1.0 [25.40]	0.032 [0.813]	0.900 [22.86]	0.120 [3.05]	0.450 [11.43]
TD-4	1.06 [26.92]	0.437 [11.10]	4.0 [101.60]	-	-	0.220 [5.59]	-
TE-5	1.33 [33.78]	0.735 [18.67]	1.0 [25.40]	0.032 [0.813]	1.0 [25.40]	0.144 [3.66]	0.500 [12.70]
TD-5	1.32 [33.53]	0.688 [17.48]	6.0 [152.40]	-	-	0.220 [5.59]	-

ELECTRICAL SPECIFICATIONS

Tolerance:

TE-3, TD-3 = ± 1 % > 2 mH, ± 2 % 154 µH to 2 mH, ± 5 % < 150 µH
TE-4, TD-4 = ± 1 % > 2 mH, ± 2 % < 2 mH
TE-5, TD-5 = ± 1 % > 2mH, ± 2% < 2mH

Insulation Resistance: 1000 Megohm minimum

Dielectric Strength: 1000 V minimum (TE)
500 V minimum (TD)

MECHANICAL SPECIFICATIONS

Terminal Strength: 2 pounds pull test (TE)

Vibration: Per MIL-T-27 (TE)

Shock: Per MIL-T-27 (TE)

Weight:

TE-3 = 5.1 grams, TD-3 = 4.9 grams typical
TE-4 = 20 grams, TD-4 = 17 grams typical
TE-5 = 53 grams, TD-5 = 52 grams typical

MATERIAL SPECIFICATIONS

Coating: Vinyl (TD), non-flammable, abrasion and moisture resistant. Resists most cleaning agents (Consult factory for chemicals which may be used)

Standard Terminals: Tinned copper (TE)
Stranded, tinned copper, Teflon insulated (TD)

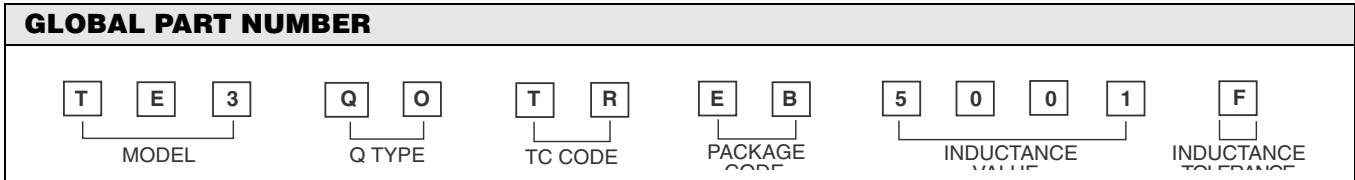
Encapsulant: Epoxy (TE)

Gauge:

TE-3 = 22 AWG, TD-3 = 26 AWG
TE-4 = 20 AWG, TD-4 = 24 AWG
TE-5 = 20 AWG, TD-5 = 24 AWG



DESCRIPTION						
TE-3	Q0	TR	5 mH	± 1 %	EB	e2
MODEL	Q TYPE	TC CODE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC LEAD (Pb)-FREE STANDARD



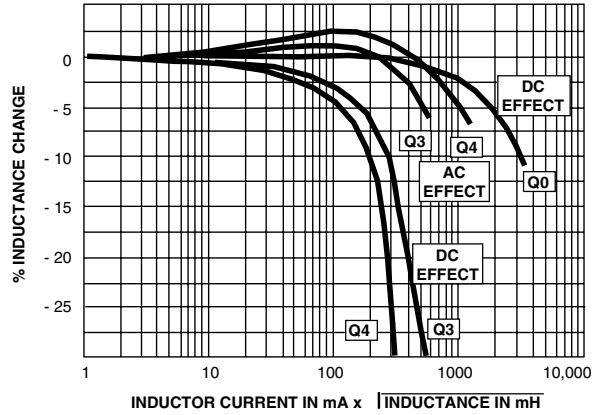
DC RESISTANCE AND SELF-RESONANT FREQUENCIES (Typical Values)							
MODEL	INDUCTANCE	DCR (Ohms)			SELF-RESONANT FREQUENCY (MHz)		
		Q0	Q3	Q4	Q0	Q3	Q4
TE-3, TD-3	50.0 µH	0.68	-	-	7.6	-	-
TE-3, TD-3	100.0 µH	1.0	-	-	5.1	-	-
TE-3, TD-3	332.0 µH	3.3	-	-	2.9	-	-
TE-3, TD-3	1.0 mH	6.9	1.5	0.82	1.4	1.1	1.0
TE-3, TD-3	3.32 mH	24.0	4.1	2.3	0.79	0.57	0.55
TE-3, TD-3	10.0 mH	84.0	14.0	5.9	0.40	0.29	0.25
TE-3, TD-3	15.0 mH	106.0	17.0	9.1	0.34	0.24	0.21
TE-3, TD-3	33.2 mH	-	40.0	18.0	-	0.14	0.12
TE-3, TD-3	100.0 mH	-	138.0	58.0	-	0.08	0.077
TE-3, TD-3	332.0 mH	-	555.0	220.0	-	0.04	0.038
TE-3, TD-3	1.0 H	-	1500.0	670.0	-	0.021	0.019
TE-3, TD-3	4.0 H	-	-	2700.0	-	-	0.009
TE-4, TD-4	150.0 µH	0.54	-	-	2.6	-	-
TE-4, TD-4	1.0 mH	2.8	0.7	-	1.0	0.75	-
TE-4, TD-4	2.0 mH	5.5	1.4	0.78	0.64	0.54	0.45
TE-4, TD-4	10.0 mH	27.0	4.9	2.5	0.24	0.21	0.18
TE-4, TD-4	20.0 mH	54.0	9.6	5.0	0.18	0.15	0.13
TE-4, TD-4	100.0 mH	-	56.0	23.0	-	0.059	0.051
TE-4, TD-4	1.0 H	-	570.0	260.0	-	0.016	0.014
TE-4, TD-4	2.0 H	-	1200.0	520.0	-	0.013	0.011
TE-5, TD-5	1.0 mH	1.8	-	-	0.80	-	-
TE-5, TD-5	3.32 mH	5.2	-	-	0.44	-	-
TE-5, TD-5	5.0 mH	6.5	1.8	-	0.33	0.32	-
TE-5, TD-5	10.0 mH	13.0	2.4	1.7	0.21	0.20	0.15
TE-5, TD-5	33.2 mH	49.0	8.8	3.9	0.12	0.11	0.086
TE-5, TD-5	100.0 mH	133.0	27.0	11.0	0.061	0.057	0.044
TE-5, TD-5	332.0 mH	-	80.0	44.0	-	0.032	0.024
TE-5, TD-5	1.0 H	-	222.0	121.0	-	0.016	0.012
TE-5, TD-5	2.0 H	-	475.0	217.0	-	0.012	0.008

STANDARD INDUCTANCE VALUE													
The following standardization chart is offered for your design and ordering convenience. Each value listed is within one percent of the preceding and succeeding values shown. All decade multiples of these values, within the range shown for each model in the chart, are Vishay Dale standard values. (Example: For a TE-3, 200 µH, 20 mH and 200 mH are all decade multiples of 2.00 and are all standard values.)	1.00	1.21	1.47	1.78	2.15	2.61	3.09	3.74	4.42	5.23	6.19	7.32	8.66
	1.02	1.24	1.50	1.82	2.21	2.67	3.16	3.83	4.53	5.36	6.34	7.50	8.87
	1.05	1.27	1.54	1.87	2.26	2.74	3.24	3.92	4.64	5.49	6.49	7.68	9.00
	1.07	1.30	1.58	1.91	2.32	2.80	3.32	4.00	4.75	5.62	6.65	7.87	9.09
	1.10	1.33	1.62	1.96	2.37	2.87	3.40	4.02	4.87	5.76	6.81	8.00	9.31
	1.13	1.37	1.65	2.00	2.43	2.94	3.48	4.12	4.99	5.90	6.98	8.06	9.53
	1.15	1.40	1.69	2.05	2.49	3.00	3.57	4.22	5.00	6.00	7.00	8.25	9.76
	1.18	1.43	1.74	2.10	2.55	3.01	3.65	4.32	5.11	6.04	7.15	8.45	

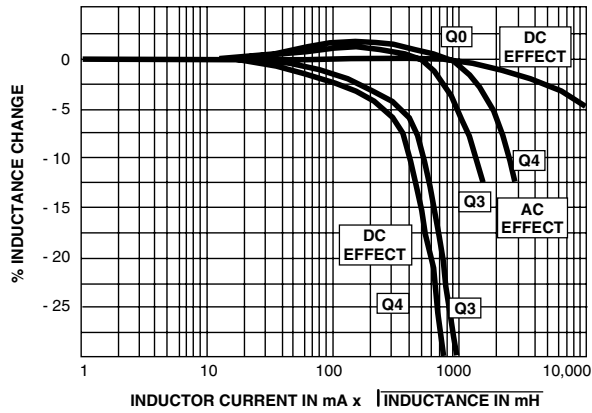


PERFORMANCE GRAPHS: INDUCTANCE VS DC BIAS, INDUCTANCE VS AC EXCITATION

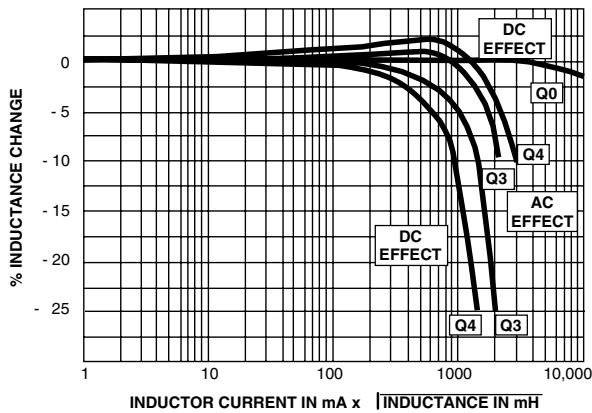
TE-3, TD-3



TE-4, TD-4

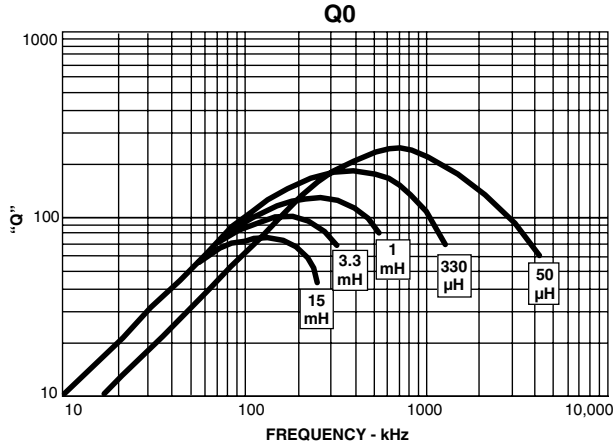


TE-5, TD-5

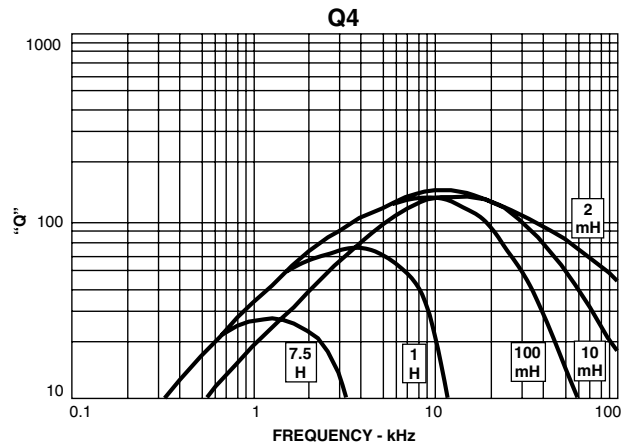
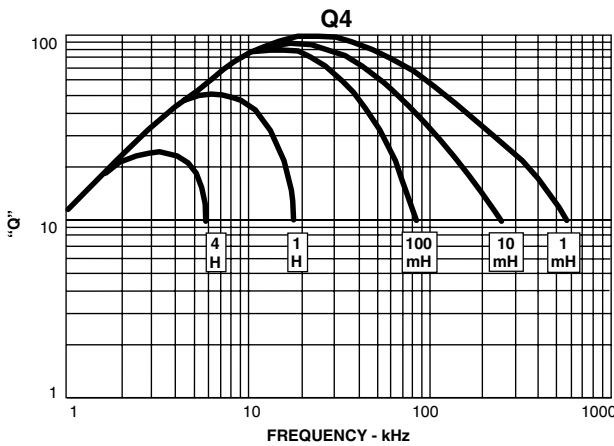
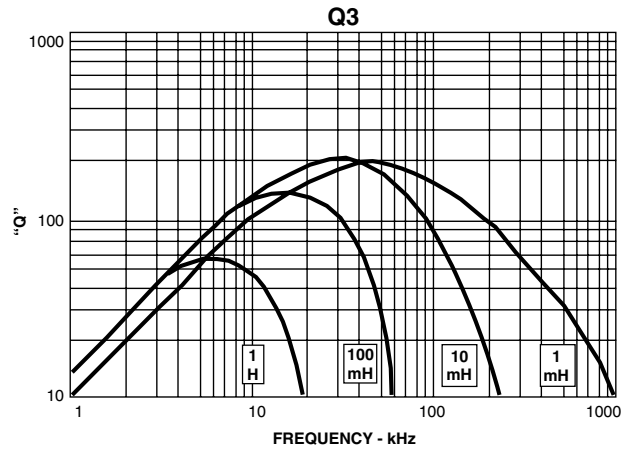
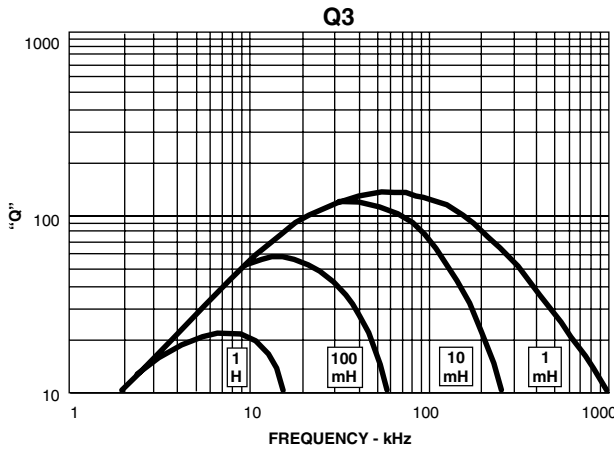
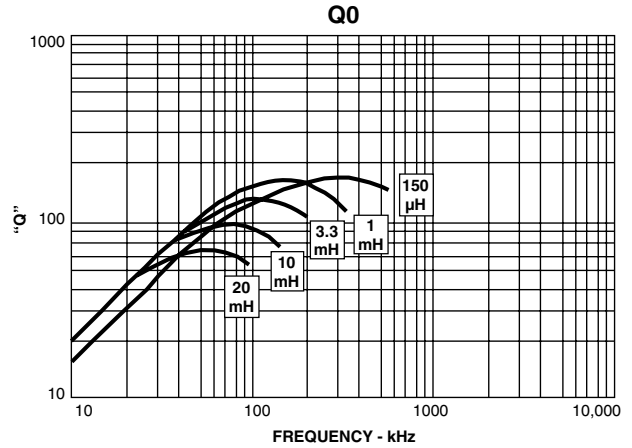


PERFORMANCE GRAPHS: TYPICAL Q VS FREQUENCY

TE-3, TD-3



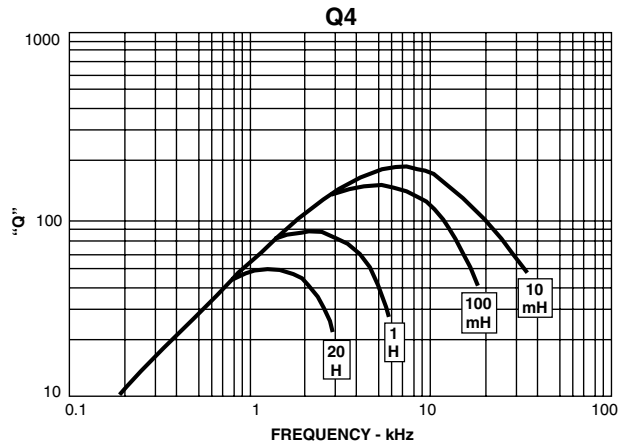
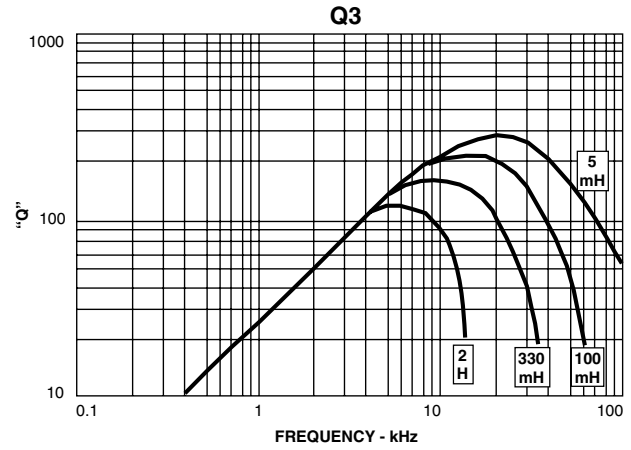
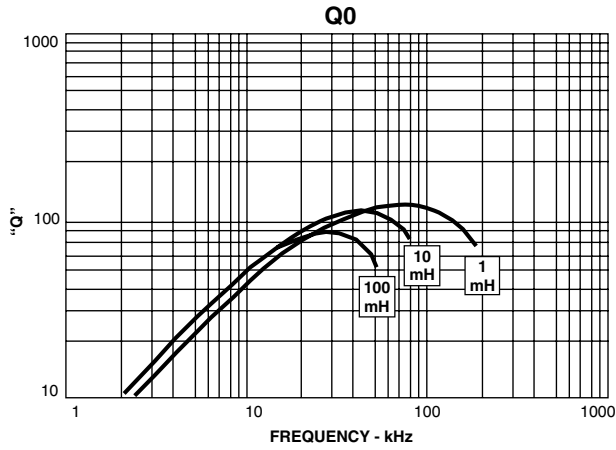
TE-4, TD-4





PERFORMANCE GRAPHS: TYPICAL Q VS FREQUENCY

TE-5, TD-5



MARKING

- Vishay Dale
- Model
- Q type
- TC code
- Inductance value
- Inductance tolerance
- Date code



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