

## DIP Power Inductor /

### ◆ Feature

1. High current rating
2. High frequency range up to 1.0 MHz.
3. Very low DC resistance.
4. Shielded construction.
5. All lead-free. (RoHS)

### ◆ Application

1. Motherboards for laptop and desktop computers.
2. DC/DC converter in distributed power systems or VRM applications.
3. Inductor for general purpose use.



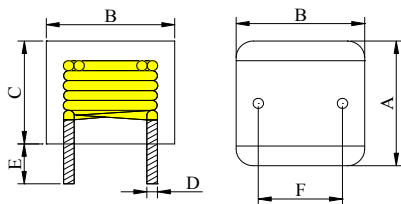
### ◆ Configurations

**KQ08 V C - 1R0 M**  
(1) (2) (3) (4) (5)

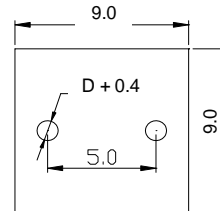
- (1) Series code
- (2) Pin location ( parallel for "V", diagonal for "X")
- (3) Material code
- (4) Inductance: 1R0 = 1.0  $\mu$ H
- (5) Inductance tolerance: M=  $\pm$ 20%

### ◆ KQ08VC Series:

Physical Dimension: [Unit: mm]



Recommended Layout: [Unit: mm]



P/N	L0	A	B	C	D	E	F	DCR (m $\Omega$ )		Heat Rating Current	Saturation Current
	Inductance							[Typical]	[Max]	Idc (Amp)	Isat (Amp)
	$\mu$ H $\pm$ 20%									Typical	Typical
KQ08VC-R00M	0.10MAX	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	0.43	0.52	N/A	N/A
KQ08VC-0R1M	0.10	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	0.90	1.10	29.0	50.0
KQ08VC-0R33M	0.33	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	1.20	1.45	24.5	38.0
KQ08VC-0R36M	0.36	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	1.20	1.45	24.5	30.0
KQ08VC-0R47M	0.47	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	2.00	2.40	19.0	30.0
KQ08VC-0R56M	0.56	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	2.00	2.40	19.0	28.0
KQ08VC-0R68M	0.68	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	3.00	3.60	15.5	25.0
KQ08VC-0R8M	0.80	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	3.50	4.10	15.5	23.0
KQ08VC-1R0M	1.00	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	3.50	4.10	14.5	21.0
KQ08VC-1R2M	1.20	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	3.50	4.10	14.5	21.0
KQ08VC-1R5M	1.50	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	5.80	7.00	11.5	18.0
KQ08VC-2R2M	2.20	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	7.50	9.00	10.0	16.0
KQ08VC-2R8M	2.80	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	8.50	10.20	9.5	15.0
KQ08VC-3R3M	3.30	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	9.00	11.00	9.2	14.0
KQ08VC-4R7M	4.70	$\pm$ 0.5	$\pm$ 0.5	[ Max ]	$\pm$ 0.2	$\pm$ 0.5	$\pm$ 0.4	12.00	14.50	8.0	12.0

# Test condition @ 200KHz, 0.1Vrms, 25°C ambient

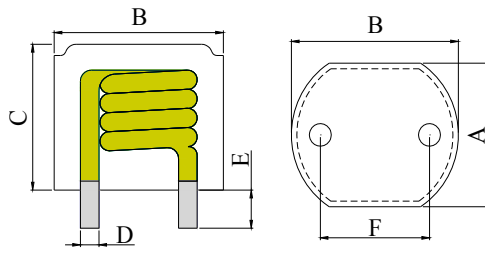
# Idc: DC current(A) that will cause an approximate  $\Delta$ T of 40°C

# Isat: DC current(A) that will cause Lo to drop approximately 20%

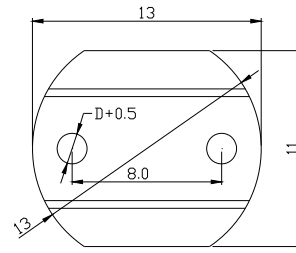
# Operating Temperature Range: -25°C to +125°C

## ◆ KQ10VC Series:

Physical Dimension: [Unit: mm]



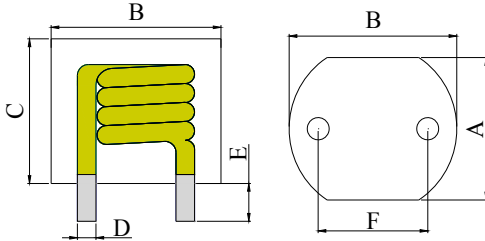
Recommended Layout: [Unit: mm]



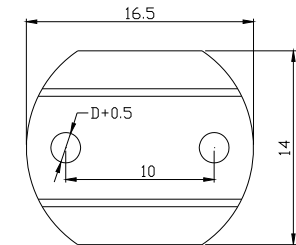
P/N	L0	A	B	C	D	E	F	DCR (mΩ)		Heat Rating	Saturation
	Inductance							[Typical]	[ Max ]	Current	Current
	$\mu\text{H} \pm 20\%$									Idc (Amp)	Isat (Amp)
	@0A									Typical	Typical
KQ10VC-0R22M	0.22	10.50	12.50	7.50	1.40	3.40	8.00	0.50	0.60	38.0	56.0
KQ10VC-0R25M	0.25	10.50	12.50	8.60	1.40	3.40	8.00	0.50	0.60	38.0	50.0
KQ10VC-0R27M	0.27	10.50	12.50	8.60	1.40	3.40	8.00	0.50	0.60	38.0	49.0
KQ10VC-0R3M	0.30	10.50	12.50	8.60	1.40	3.40	8.00	0.70	0.85	33.0	48.0
KQ10VC-0R33M	0.33	10.50	12.50	8.60	1.40	3.40	8.00	0.70	0.85	33.0	48.0
KQ10VC-0R39M	0.39	10.50	12.50	8.60	1.40	3.40	8.00	0.70	0.85	33.0	45.0
KQ10VC-0R47M	0.47	10.50	12.50	10.00	1.50	3.40	8.00	0.85	1.00	30.0	40.0
KQ10VC-0R56M	0.56	10.50	12.50	10.00	1.50	3.40	8.00	0.85	1.00	30.0	40.0
KQ10VC-0R68M	0.68	10.50	12.50	10.00	1.50	3.40	8.00	0.85	1.00	30.0	40.0
KQ10VC-0R8M	0.80	10.50	12.50	10.00	1.40	3.40	8.00	1.30	1.50	26.0	36.0
KQ10VC-1R0M	1.00	10.50	12.50	10.00	1.20	3.40	8.00	1.75	2.10	21.0	32.0
KQ10VC-1R2M	1.20	10.50	12.50	10.00	1.20	3.40	8.00	1.75	2.10	21.0	32.0
KQ10VC-1R5M	1.50	10.50	12.50	10.00	1.00	3.40	8.00	3.00	3.60	16.0	30.0
KQ10VC-2R0M	2.00	10.50	12.50	10.00	1.00	3.40	8.00	3.85	4.60	15.0	24.0
KQ10VC-2R2M	2.20	10.50	12.50	10.00	1.00	3.40	8.00	4.30	5.20	13.6	24.0
KQ10VC-2R8M	2.80	10.50	12.50	10.00	0.90	3.40	8.00	5.60	6.70	12.3	20.0
KQ10VC-3R3M	3.30	10.50	12.50	10.00	0.80	3.40	8.00	6.80	8.10	11.2	16.0
KQ10VC-4R7M	4.70	10.50	12.50	10.00	0.80	3.40	8.00	8.80	10.50	10.0	15.0

## ◆ KQ13VC Series:

Physical Dimension: [Unit: mm]



Recommended Layout: [Unit: mm]



P/N	L0	A	B	C	D	E	F	DCR (mΩ)		Heat Rating	Saturation
	Inductance							[Typical]	[ Max ]	Current	Current
	$\mu\text{H} \pm 20\%$									Idc (Amp)	Isat (Amp)
	@0A									Typical	Typical
KQ13VC-0R33M	0.33	13.00	15.50	9.50	1.70	3.40	10.00	0.60	0.70	37.0	60.0
KQ13VC-0R39M	0.39	13.00	15.50	9.50	1.70	3.40	10.00	0.60	0.70	37.0	54.0
KQ13VC-0R47M	0.47	13.00	15.50	9.50	1.70	3.40	10.00	0.65	0.75	36.0	50.0
KQ13VC-0R56M	0.56	13.00	15.50	9.50	1.70	3.40	10.00	0.65	0.75	36.0	50.0
KQ13VC-0R68M	0.68	13.00	15.50	11.00	1.70	3.40	10.00	0.78	0.94	34.0	48.0
KQ13VC-0R8M	0.80	13.00	15.50	11.00	1.70	3.40	10.00	0.86	1.00	32.0	45.0
KQ13VC-0R9M	0.90	13.00	15.50	11.00	1.70	3.40	10.00	0.86	1.00	32.0	45.0
KQ13VC-1R0M	1.00	13.00	15.50	11.00	1.50	3.40	10.00	1.15	1.40	27.0	40.0
KQ13VC-1R2M	1.20	13.00	15.50	11.00	1.50	3.40	10.00	1.20	1.45	26.0	40.0
KQ13VC-1R5M	1.50	13.00	15.50	11.00	1.50	3.40	10.00	1.50	1.80	23.5	35.0
KQ13VC-2R2M	2.20	13.00	15.50	11.00	1.30	3.40	10.00	2.10	2.50	20.0	32.0
KQ13VC-3R3M	3.30	13.00	15.50	11.00	1.20	3.40	10.00	3.10	3.70	16.5	30.0
KQ13VC-4R7M	4.70	13.00	15.50	11.00	1.00	3.40	10.00	6.00	7.20	12.0	24.0
KQ13VC-100M	10.00	13.00	15.50	11.00	1.00	3.40	10.00	10.00	12.00	9.0	12.0
KQ13VC-220M	22.00	13.00	15.50	11.00	0.80	3.40	10.00	20.00	24.00	6.5	9.5
KQ13VC-330M	33.00	13.00	15.50	11.00	0.65	3.40	10.00	36.00	43.00	5.0	8.0

# Test condition @ 200KHz, 0.1Vrms, 25°C ambient

# Idc: DC current(A) that will cause an approximate  $\Delta T$  of 40°C

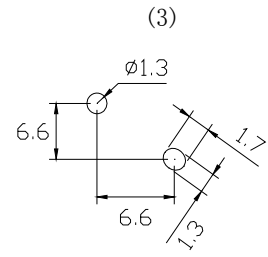
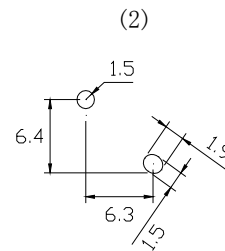
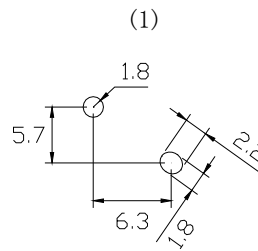
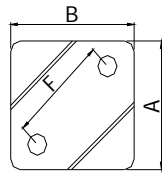
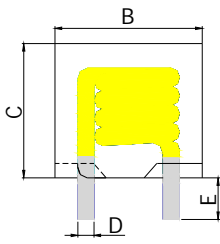
# Isat: DC current(A) that will cause Lo to drop approximately 20%

# Operating Temperature Range: -25°C to +125°C

## ◆ KQ11XC Series:

Physical Dimension: [Unit: mm]

Recommended Layout: [Unit: mm]

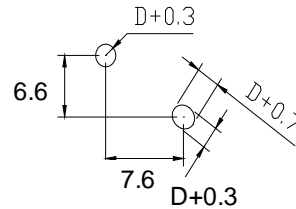
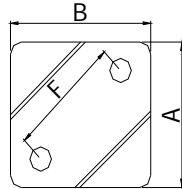
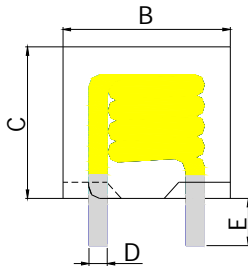


P/N	L0	A	B	C	D	E	F	DCR (mΩ)		Heat Rating	Saturation
	Inductance							[Typical]	[ Max ]	Current	Current
	$\mu\text{H} \pm 20\%$									Idc (Amp)	Isat (Amp)
	@0A									Typical	Typical
KQ11XC-0R25M	0.25	11.50	11.50	10.00	1.50	3.40	8.5 (1)	0.50	0.60	42.0	60.0
KQ11XC-0R27M	0.27	11.50	11.50	10.00	1.50	3.40	8.5 (1)	0.65	0.78	38.0	60.0
KQ11XC-0R3M	0.30	11.50	11.50	10.00	1.50	3.40	8.5 (1)	0.65	0.78	38.0	60.0
KQ11XC-0R39M	0.39	11.50	11.50	10.00	1.50	3.40	8.5 (1)	0.65	0.78	38.0	50.0
KQ11XC-0R47M	0.47	11.50	11.50	10.00	1.50	3.40	8.5 (1)	0.65	0.78	38.0	50.0
KQ11XC-0R56M	0.56	11.50	11.50	10.00	1.50	3.40	8.5 (1)	0.85	1.00	32.0	50.0
KQ11XC-0R6M	0.60	11.50	11.50	10.00	1.50	3.40	8.5 (1)	0.85	1.00	32.0	45.0
KQ11XC-0R68M	0.68	11.50	11.50	10.00	1.50	3.40	8.5 (1)	0.85	1.00	32.0	40.0
KQ11XC-0R8M	0.80	11.50	11.50	10.00	1.40	3.40	8.5 (1)	1.20	1.45	27.0	40.0
KQ11XC-1R0M	1.00	11.50	11.50	10.00	1.20	3.40	9.0 (2)	1.50	1.80	25.0	40.0
KQ11XC-1R2M	1.20	11.50	11.50	10.50	1.20	3.40	9.0 (2)	2.00	2.40	21.0	40.0
KQ11XC-1R5M	1.50	11.50	11.50	10.50	1.20	3.40	9.0 (2)	2.00	2.40	21.0	35.0
KQ11XC-1R8M	1.80	11.50	11.50	10.50	1.00	3.40	9.3 (3)	3.50	4.20	15.0	35.0
KQ11XC-2R0M	2.00	11.50	11.50	10.50	1.00	3.40	9.3 (3)	3.50	4.20	16.0	30.0
KQ11XC-2R2M	2.20	11.50	11.50	10.50	1.00	3.40	9.3 (3)	3.50	4.20	16.0	30.0

## ◆ KQ12XC Series:

Physical Dimension: [Unit: mm]

Recommended Layout: [Unit: mm]



P/N	L0	A	B	C	D	E	F	DCR (mΩ)		Heat Rating	Saturation
	Inductance							[Typical]	[ Max ]	Current	Current
	$\mu\text{H} \pm 20\%$									Idc (Amp)	Isat (Amp)
	@0A									Typical	Typical
KQ12XC-0R22M	0.22	12.00	13.00	9.00	1.70	3.40	10.00	0.40	0.50	45.0	60.0
KQ12XC-0R33M	0.33	12.00	13.00	9.00	1.70	3.40	10.00	0.55	0.70	40.0	56.0
KQ12XC-0R39M	0.39	12.00	13.00	9.00	1.70	3.40	10.00	0.55	0.70	39.0	55.0
KQ12XC-0R47M	0.47	12.00	13.00	9.00	1.70	3.40	10.00	0.60	0.70	38.0	54.0
KQ12XC-0R56M	0.56	12.00	13.00	9.00	1.70	3.40	10.00	0.60	0.70	38.0	52.0
KQ12XC-0R6M	0.60	12.00	13.00	10.00	1.70	3.40	10.00	0.80	1.00	35.0	50.0
KQ12XC-0R68M	0.68	12.00	13.00	10.00	1.70	3.40	10.00	0.80	1.00	35.0	50.0
KQ12XC-0R8M	0.80	12.00	13.00	10.00	1.70	3.40	10.00	0.80	1.00	33.0	48.0
KQ12XC-1R0M	1.00	12.00	13.00	10.00	1.50	3.40	10.00	1.10	1.30	30.0	40.0
KQ12XC-1R2M	1.20	12.00	13.00	10.00	1.50	3.40	10.00	1.20	1.45	28.0	40.0
KQ12XC-1R5M	1.50	12.00	13.00	11.00	1.50	3.40	10.00	1.45	1.75	25.0	38.0
KQ12XC-2R0M	2.00	12.00	13.00	11.00	1.30	3.40	10.00	2.65	3.20	18.0	35.0
KQ12XC-2R2M	2.20	12.00	13.00	11.00	1.20	3.40	10.00	2.65	3.20	18.0	35.0

# Test condition @ 200KHz, 0.1Vrms, 25°C ambient

# Idc: DC current(A) that will cause an approximate  $\Delta T$  of 40°C

# Isat: DC current(A) that will cause Lo to drop approximately 20%

# Operating Temperature Range: -25°C to +125°C