

# IMS05WDEB470K40 Datasheet



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DiGi Electronics Part Number	IMS05WDEB470K40-DG
Manufacturer	<a href="#">Vishay Dale</a>
Manufacturer Product Number	IMS05WDEB470K40
Description	FIXED IND 47UH 420MA 1.8 OHM TH
Detailed Description	47 $\mu$ H Shielded Inductor 420 mA 1.8Ohm Max Axial

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## Purchase and inquiry

Manufacturer Product Number:

IMS05WDEB470K40

Series:

IMS-5WD-40

Manufacturer:

Vishay Dale



## Inductors, Commercial, Molded, Shielded, Axial Leaded



### ELECTRICAL SPECIFICATIONS

**Inductance Tolerance:**  $\pm 10\%$  standard,  $\pm 5\%$  available

**Insulation Resistance:** 1000 M $\Omega$  minimum per MIL-STD-202, method 302, test condition B

**Dielectric Withstanding Voltage:** 1000 V<sub>AC</sub> per MIL-STD-202, method 301 (at sea level)

**Percent Coupling:** 3% maximum per MIL-PRF-15305

**Operating Temperature:** -55 °C to +105 °C

ENVIRONMENTAL PERFORMANCE		
TEST	CONDITIONS	SPECIFICATIONS
Barometric Pressure	C	MIL-STD-202, method 105
Thermal Shock	A-1	MIL-STD-202, method 107
Flammability	-	MIL-STD-202, method 111
Overload	-	MIL-PRF-15305
Low Temperature Storage	-	MIL-PRF-15305
Resistance to Soldering Heat	A	MIL-STD-202, method 210
Resistance to Solvents	-	MIL-STD-202, method 215

### FEATURES

- Wide inductance range in small package
- Flame retardant coating
- Electromagnetic shield-finest shield available
- Precision performance, excellent reliability, sturdy construction
- Epoxy molded construction provides superior moisture protection
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS  
COMPLIANT

### MECHANICAL SPECIFICATIONS

**Terminals:** 5 lb pull per MIL-STD-202, method 211, test condition A

**Weight:** IMS-5 = 0.85 g maximum

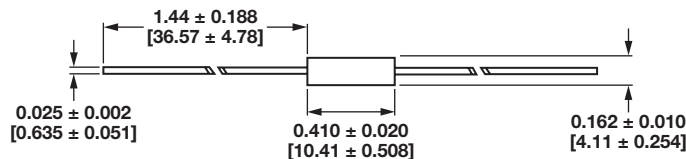
### MATERIAL SPECIFICATIONS

**Encapsulant:** Epoxy

**Standard Terminals:** #22 AWG, tinned copper

INDUCTANCE RANGE AND MILITARY STANDARD			
INDUCTANCE RANGE ( $\mu$ H)		MATERIAL	
MIN.	MAX.	CORE	SHIELD
0.10	0.82	Phenolic	Powdered iron
1.0	12	Powdered iron	Powdered iron
15	8200	Ferrite	Ferrite

### DIMENSIONS in inches [millimeters]



### STANDARD ELECTRICAL SPECIFICATIONS

MODEL	IND. ( $\mu$ H)	TOL. (%)	Q MIN.	TEST FREQUENCY L AND Q (MHz)	SRF MIN. (MHz) <sup>(1)</sup>	DCR MAX. ( $\Omega$ )	RATED DC CURRENT (mA) <sup>(2)</sup>	INCREMENTAL CURRENT (mA) <sup>(3)</sup>
IMS-5	0.10	$\pm 10$	50	25.0	250.0	0.025	1790	-
IMS-5	0.12	$\pm 10$	51	25.0	250.0	0.034	1530	-
IMS-5	0.15	$\pm 10$	51	25.0	250.0	0.037	1470	-
IMS-5	0.18	$\pm 10$	50	25.0	250.0	0.047	1300	-
IMS-5	0.22	$\pm 10$	49	25.0	250.0	0.067	1100	-
IMS-5	0.27	$\pm 10$	47	25.0	250.0	0.11	855	-
IMS-5	0.33	$\pm 10$	46	25.0	250.0	0.13	780	-
IMS-5	0.39	$\pm 10$	44	25.0	250.0	0.18	670	-
IMS-5	0.47	$\pm 10$	44	25.0	235.0	0.25	565	-
IMS-5	0.56	$\pm 10$	43	25.0	210.0	0.33	490	-
IMS-5	0.68	$\pm 10$	42	25.0	190.0	0.45	420	-
IMS-5	0.82	$\pm 10$	40	25.0	180.0	0.59	370	-

#### Notes

<sup>(1)</sup> Measured with full length lead

<sup>(2)</sup> **Rated DC current:** Based on maximum temperature rise not to exceed 15 °C at +90 °C ambient

<sup>(3)</sup> **Incremental current:** The minimum typical current at which the inductance will be decreased by 5% from its initial zero DC value



STANDARD ELECTRICAL SPECIFICATIONS								
MODEL	IND. (μH)	TOL. (%)	Q MIN.	TEST FREQUENCY L AND Q (MHz)	SRF MIN. (MHz) <sup>(1)</sup>	DCR MAX. (Ω)	RATED DC CURRENT (mA) <sup>(2)</sup>	INCREMENTAL CURRENT (mA) <sup>(3)</sup>
IMS-5	1.0	± 10	44	25.0	140.0	0.07	1070	-
IMS-5	1.2	± 10	44	7.9	130.0	0.10	895	-
IMS-5	1.5	± 10	44	7.9	115.0	0.12	815	-
IMS-5	1.8	± 10	44	7.9	105.0	0.14	775	-
IMS-5	2.2	± 10	44	7.9	100.0	0.19	650	-
IMS-5	2.7	± 10	44	7.9	92.0	0.28	535	-
IMS-5	3.3	± 10	44	7.9	85.0	0.35	480	-
IMS-5	3.9	± 10	44	7.9	75.0	0.40	450	-
IMS-5	4.7	± 10	44	7.9	70.0	0.55	380	-
IMS-5	5.6	± 10	44	7.9	65.0	0.72	335	-
IMS-5	6.8	± 10	50	7.9	55.0	1.02	280	-
IMS-5	8.2	± 10	50	7.9	50.0	1.32	250	-
IMS-5	10	± 10	50	7.9	46.0	1.62	220	-
IMS-5	12	± 10	55	2.5	44.0	2.00	200	-
IMS-5	15	± 10	45	2.5	49.0	0.80	315	250.0
IMS-5	18	± 10	45	2.5	45.0	0.89	300	235.0
IMS-5	22	± 10	45	2.5	41.0	0.96	290	220.0
IMS-5	27	± 10	45	2.5	38.0	1.19	260	200.0
IMS-5	33	± 10	45	2.5	34.0	1.37	240	190.0
IMS-5	39	± 10	50	2.5	29.0	1.93	205	180.0
IMS-5	47	± 10	50	2.5	27.0	2.11	195	175.0
IMS-5	56	± 10	50	2.5	25.0	2.23	190	160.0
IMS-5	68	± 10	50	2.5	21.0	2.70	170	150.0
IMS-5	82	± 10	50	2.5	10.5	2.44	180	140.0
IMS-5	100	± 10	50	2.5	10.0	3.12	160	120.0
IMS-5	120	± 10	55	0.79	9.7	3.6	150	95.0
IMS-5	150	± 10	55	0.79	8.5	4.1	140	90.0
IMS-5	180	± 10	55	0.79	8.0	4.4	135	85.0
IMS-5	220	± 10	55	0.79	7.5	5.0	125	80.0
IMS-5	270	± 10	55	0.79	7.0	5.8	115	70.0
IMS-5	330	± 10	55	0.79	6.5	6.4	110	65.0
IMS-5	390	± 10	60	0.79	6.2	7.4	105	60.0
IMS-5	470	± 10	60	0.79	5.7	9.5	92	58.0
IMS-5	560	± 10	60	0.79	4.7	10.5	90	55.0
IMS-5	680	± 10	60	0.79	4.5	11.8	80	50.0
IMS-5	820	± 10	60	0.79	4.2	13.0	80	45.0
IMS-5	1000	± 10	60	0.79	3.8	17.5	70	40.0
IMS-5	1200	± 10	45	0.25	1.5	22.1	60	35.0
IMS-5	1500	± 10	45	0.25	1.2	26.5	55	33.0
IMS-5	1800	± 10	45	0.25	1.0	29.9	50	30.0
IMS-5	2200	± 10	45	0.25	0.97	33.8	50	27.0
IMS-5	2700	± 10	45	0.25	0.92	47.3	40	25.0
IMS-5	3300	± 10	45	0.25	0.84	53.0	40	22.0
IMS-5	3900	± 10	45	0.25	0.80	73.8	35	20.0
IMS-5	4700	± 10	45	0.25	0.74	81.6	31	19.0
IMS-5	5600	± 10	44	0.25	0.73	98.9	28	17.0
IMS-5	6800	± 10	40	0.25	0.66	111.0	27	16.0
IMS-5	8200	± 10	40	0.25	0.54	119.0	26	15.0

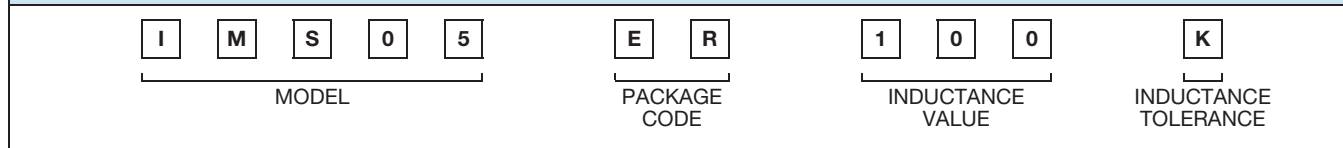
Notes

- (1) Measured with full length lead
- (2) **Rated DC current:** Based on maximum temperature rise not to exceed 15 °C at +90 °C ambient
- (3) **Incremental current:** The minimum typical current at which the inductance will be decreased by 5 % from its initial zero DC value

**ORDERING INFORMATION**

IMS-5	10 μH	± 10 %	ER	e2
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

**GLOBAL PART NUMBER**





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