

# IMC1812EB47NM Datasheet



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DiGi Electronics Part Number	IMC1812EB47NM-DG
Manufacturer	<a href="#">Vishay Dale</a>
Manufacturer Product Number	IMC1812EB47NM
Description	FIXED IND 47NH 450MA 300MOHM SMD
Detailed Description	47 nH Unshielded Wirewound Inductor 450 mA 300 mOhm Max 1812 (4532 Metric)



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## Purchase and inquiry

Manufacturer Product Number:

IMC1812EB47NM

Series:

IMC-1812

Type:

Wirewound

Inductance:

47 nH

Current Rating (Amps):

450 mA

Shielding:

Unshielded

Q @ Freq:

50 @ 50MHz

Ratings:

-

Inductance Frequency - Test:

50 MHz

Package / Case:

1812 (4532 Metric)

Size / Dimension:

0.177" L x 0.126" W (4.50mm x 3.20mm)

Manufacturer:

Vishay Dale

Product Status:

Active

Material - Core:

Non-Magnetic

Tolerance:

±20%

Current - Saturation (Isat):

-

DC Resistance (DCR):

300mOhm Max

Frequency - Self Resonant:

1GHz

Operating Temperature:

-55°C ~ 125°C

Mounting Type:

Surface Mount

Supplier Device Package:

1812

Height - Seated (Max):

0.134" (3.40mm)

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8504.50.8000

Moisture Sensitivity Level (MSL):

1 (Unlimited)

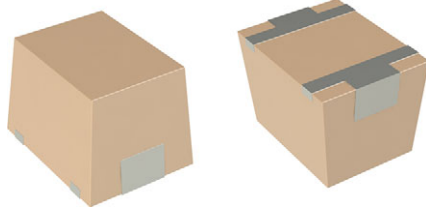
ECCN:

EAR99





## Wirewound, Surface-Mount, Molded RF Inductors



### LINKS TO ADDITIONAL RESOURCES



### TEST EQUIPMENT

- H/P 4342A Q meter with Vishay Dale test fixture or equivalent
- H/P 4191A RF impedance analyzer (for SRF measurements)
- Wheatstone bridge

### FEATURES

- Molded construction provides superior strength and moisture resistance
- RF inductors for high frequency filtering and impedance matching
- Size: 4.5 mm x 3.2 mm x 3.2 mm
- Non-RoHS terminations available (see package code options below)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

### ELECTRICAL SPECIFICATIONS

**Inductance range:** 0.010  $\mu$ H to 1000  $\mu$ H

**Special tolerances available upon request**

**Operating temperature:** -55 °C to +125 °C

**Coilform material:** non-magnetic for 0.010  $\mu$ H to 0.82  $\mu$ H; powdered iron for 1.0  $\mu$ H to 120  $\mu$ H; ferrite for 150  $\mu$ H to 1000  $\mu$ H

STANDARD ELECTRICAL SPECIFICATIONS							
PART NUMBER	IND. ( $\mu$ H)	TOL.	TEST FREQ. (MHz)	Q MIN.	SRF MIN. (MHz)	DCR MAX. ( $\Omega$ )	RATED DC CURRENT (mA) <sup>(1)</sup>
			L & Q				
IMC1812ES10NM	0.010	$\pm 20\%$	50.0	50	1000	0.20	450
IMC1812ES12NM	0.012	$\pm 20\%$	50.0	50	1000	0.20	450
IMC1812ES18NM	0.018	$\pm 20\%$	50.0	50	1000	0.20	450
IMC1812ES22NM	0.022	$\pm 20\%$	50.0	50	1000	0.20	450
IMC1812ES27NM	0.027	$\pm 20\%$	50.0	50	1000	0.20	450
IMC1812ES33NM	0.033	$\pm 20\%$	50.0	50	1000	0.30	450
IMC1812ES39NM	0.039	$\pm 20\%$	50.0	50	1000	0.30	450
IMC1812ES47NM	0.047	$\pm 20\%$	50.0	50	1000	0.30	450
IMC1812ES56NM	0.056	$\pm 20\%$	50.0	40	900	0.35	450
IMC1812ES68NM	0.068	$\pm 20\%$	50.0	40	800	0.35	450
IMC1812ES82NM	0.082	$\pm 20\%$	50.0	40	700	0.40	450
IMC1812ESR10M	0.10	$\pm 20\%$	25.2	30	650	0.32	450
IMC1812ESR12M	0.12	$\pm 20\%$	25.2	30	600	0.30	450
IMC1812ESR15M	0.15	$\pm 20\%$	25.2	30	500	0.30	450
IMC1812ESR18M	0.18	$\pm 20\%$	25.2	30	400	0.35	450
IMC1812ESR22M	0.22	$\pm 20\%$	25.2	30	350	0.40	450
IMC1812ESR27M	0.27	$\pm 20\%$	25.2	30	300	0.45	450
IMC1812ESR33M	0.33	$\pm 20\%$	25.2	30	250	0.55	430
IMC1812ESR39M	0.39	$\pm 20\%$	25.2	30	220	0.70	380
IMC1812ESR47K	0.47	$\pm 10\%$	25.2	30	190	0.80	355
IMC1812ESR56K	0.56	$\pm 10\%$	25.2	30	170	1.20	285
IMC1812ESR68K	0.68	$\pm 10\%$	25.2	30	150	1.40	270
IMC1812ESR82K	0.82	$\pm 10\%$	25.2	30	140	1.60	250
IMC1812ES1R0K	1.0	$\pm 10\%$	7.96	50	100	0.50	450
IMC1812ES1R2K	1.2	$\pm 10\%$	7.96	50	80.0	0.55	430
IMC1812ES1R5K	1.5	$\pm 10\%$	7.96	50	70.0	0.60	410
IMC1812ES1R8K	1.8	$\pm 10\%$	7.96	50	60.0	0.65	390



STANDARD ELECTRICAL SPECIFICATIONS							
PART NUMBER	IND. (μH)	TOL.	TEST FREQ. (MHz)	Q MIN.	SRF MIN. (MHz)	DCR MAX. (Ω)	RATED DC CURRENT (mA) <sup>(1)</sup>
			L & Q				
IMC1812ES2R2K	2.2	± 10 %	7.96	50	55.0	0.70	380
IMC1812ES2R7K	2.7	± 10 %	7.96	50	50.0	0.75	370
IMC1812ES3R3K	3.3	± 10 %	7.96	50	45.0	0.80	355
IMC1812ES3R9K	3.9	± 10 %	7.96	50	40.0	0.90	330
IMC1812ES4R7K	4.7	± 10 %	7.96	50	35.0	1.00	315
IMC1812ES5R6K	5.6	± 10 %	7.96	50	33.0	1.10	300
IMC1812ES6R8K	6.8	± 10 %	7.96	50	27.0	1.20	285
IMC1812ES8R2K	8.2	± 10 %	7.96	50	25.0	1.40	270
IMC1812ES100K	10.0	± 10 %	2.52	50	20.0	1.60	250
IMC1812ES120K	12.0	± 10 %	2.52	50	18.0	2.00	225
IMC1812ES150K	15.0	± 10 %	2.52	50	17.0	2.50	200
IMC1812ES180K	18.0	± 10 %	2.52	50	15.0	2.80	190
IMC1812ES220K	22.0	± 10 %	2.52	50	13.0	3.20	180
IMC1812ES270K	27.0	± 10 %	2.52	50	12.0	3.60	170
IMC1812ES330K	33.0	± 10 %	2.52	50	11.0	4.00	160
IMC1812ES390K	39.0	± 10 %	2.52	50	11.0	4.50	150
IMC1812ES470K	47.0	± 10 %	2.52	50	10.0	5.00	140
IMC1812ES560K	56.0	± 10 %	2.52	50	9.0	5.50	135
IMC1812ES680K	68.0	± 10 %	2.52	50	9.0	6.00	130
IMC1812ES820K	82.0	± 10 %	2.52	50	8.0	7.00	120
IMC1812ES101K	100.0	± 10 %	0.79	40	8.0	8.00	110
IMC1812ES121K	120.0	± 10 %	0.79	40	6.0	8.00	110
IMC1812ES151K	150.0	± 10 %	0.79	40	5.0	9.00	105
IMC1812ES181K	180.0	± 10 %	0.79	40	5.0	9.50	102
IMC1812ES221K	220.0	± 10 %	0.79	40	4.0	10.0	100
IMC1812ES271K	270.0	± 10 %	0.79	40	4.0	12.0	92
IMC1812ES331K	330.0	± 10 %	0.79	40	3.5	14.0	85
IMC1812ES391K	390.0	± 10 %	0.79	40	3.0	16.0	80
IMC1812ES471K	470.0	± 10 %	0.79	40	3.0	26.0	62
IMC1812ES561K	560.0	± 10 %	0.79	30	3.0	30.0	50
IMC1812ES681K	680.0	± 10 %	0.79	30	3.0	30.0	50
IMC1812ES821K	820.0	± 10 %	0.79	30	2.5	35.0	30
IMC1812ES102K	1000.0	± 10 %	0.25	30	2.5	40.0	30

**Note**

(1) Rated DC current based on the maximum temperature rise, not to exceed 40 °C at +85 °C ambient

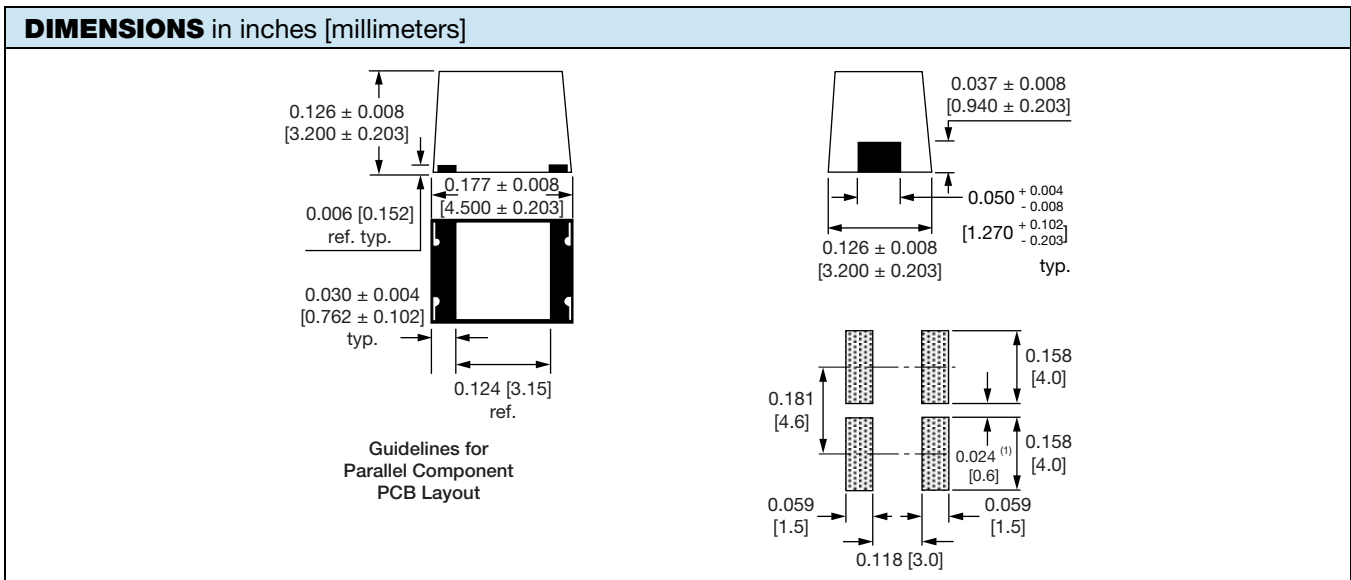
PART MARKING
- DALE
- Inductance code
- Date code



DESCRIPTION			
IMC-1812	10 $\mu$ H	$\pm 10\%$	ES
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE

GLOBAL PART NUMBER				
I M C	1 8 1 2	E S	1 0 0	K
PRODUCT FAMILY	SIZE	PACKAGE CODE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE
		ES = tape and reel	100 = 10 $\mu$ H	M = $\pm 20\%$ K = $\pm 10\%$ J = $\pm 5\%$ H = $\pm 3\%$

PACKAGE CODE & TERMINATION OPTIONS
ES = RoHS compliant with tape and reel packaging (2000 pcs on 13-inch reel)
ER = RoHS compliant with tape and reel packaging (500 pcs on 7-inch reel)
EB = RoHS compliant with bulk packaging (500 pcs/bulk)
RQ = non-RoHS tin-lead with tape and reel packaging (2000 pcs on 13-inch reel)
RV = non-RoHS tin-lead with tape and reel packaging (500 pcs on 7-inch reel)
BN = non-RoHS tin-lead with bulk packaging (500 pcs/bulk)



**Note**  
 (1) Recommended minimum spacing between components



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