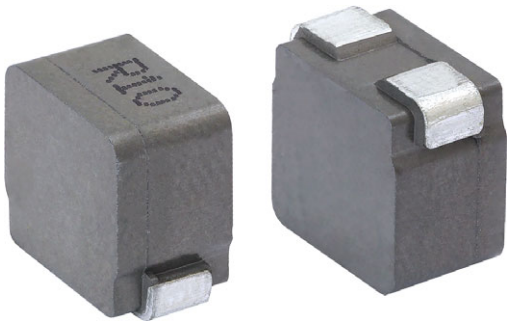
# Ultra Low DCR Inductors, High Current, Vertical Mount Series



## FEATURES

- High temperature rating, up to 155 °C
- Unique vertical mounting profile to optimize board space and utilize air flow for cooling
- Magnetically shielded metal alloy construction
- Optimized for high currents loads in high frequency converters
- Patented coil design achieves ultra low DCR and robust design
- Thermally conductive structure minimizes hot spots for enhanced heat dissipation over ferrite technologies in natural convection and active cooling environments
- Handles high transient current spikes without saturation
- IHVR design; PATENT(S): www.vishay.com/patents
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

## LINKS TO ADDITIONAL RESOURCES

Product Page

## APPLICATIONS

- Servers, data centers
- High current load EMI filters (12 V / 100 A or 48 V / 100 A)
- GaN converters
- Energy storage inductor for high frequency, low voltage converters (12 V to 1 V)

## STANDARD ELECTRICAL SPECIFICATIONS

| PART NUMBER | $L_0$ INDUCTANCE AT 100 kHz, 0.25 V, 0 A (µH) | DCR AT 25 °C (mΩ) | | HEAT RATING CURRENT DC TYP. (A) (1) | SATURATION CURRENT DC TYP. (A) | | SRF TYP. (MHz) |
|---|---|---|---|---|---|---|---|
| | | TYP. | MAX. | | (2) | (3) | |
| IHVR4025JZEZR10M3Z | 0.10 | 0.130 | 0.143 | 112 | 140 | 183 | 212 |
| IHVR4025JZEZR15M3Z | 0.15 | 0.130 | 0.143 | 112 | 82 | 112 | 126 |

**Notes**

- All test data is referenced to 25 °C ambient
- Operating temperature range -55 °C to +155 °C
- The part temperature (ambient + temp. rise) should not exceed 155 °C under worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application

(1) DC current (A) that will cause an approximate ΔT of 40 °C

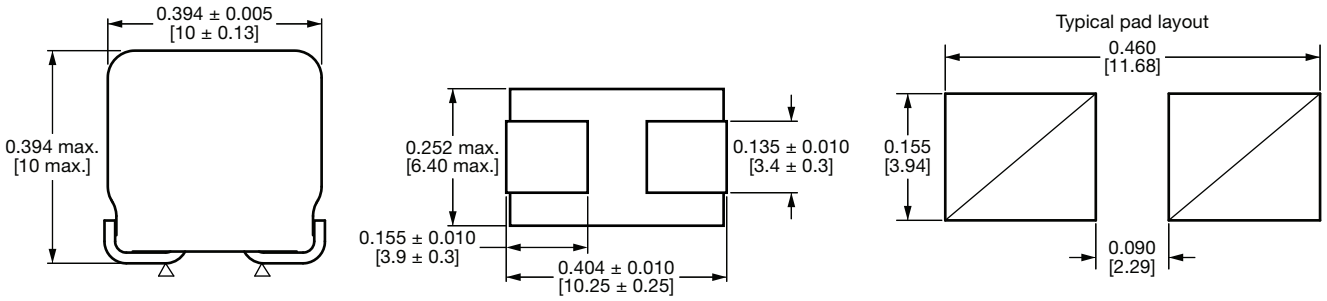
(2) DC current (A) that will cause $L_0$ to drop approximately 20 %

(3) DC current (A) that will cause $L_0$ to drop approximately 30 %

**PATENT(S): www.vishay.com/patents**

**This Vishay product is protected by one or more United States and international patents.**

## DIMENSIONS in inches [millimeters]




**Note**

- DCR measured at locations indicated by "Δ" on drawing

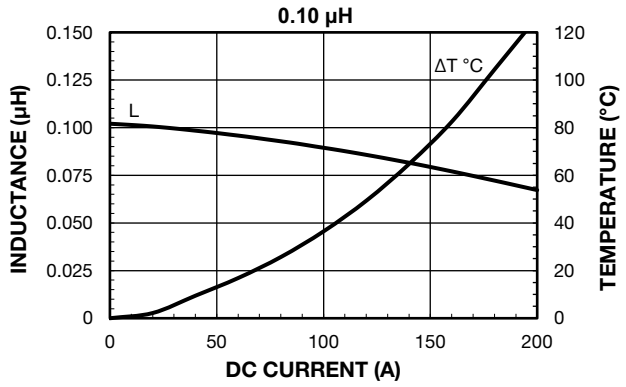
## DESCRIPTION

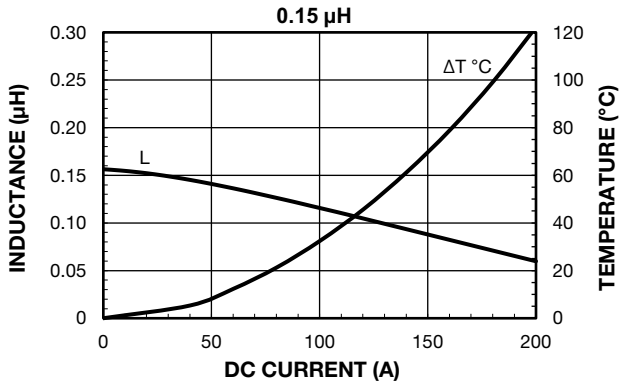
| | | | | |
|---|---|---|---|---|
| **IHVR-4025JZ-3Z** | **0.10 µH** | **± 20 %** | **EZ** | **e3** |
| MODEL | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

## GLOBAL PART NUMBER

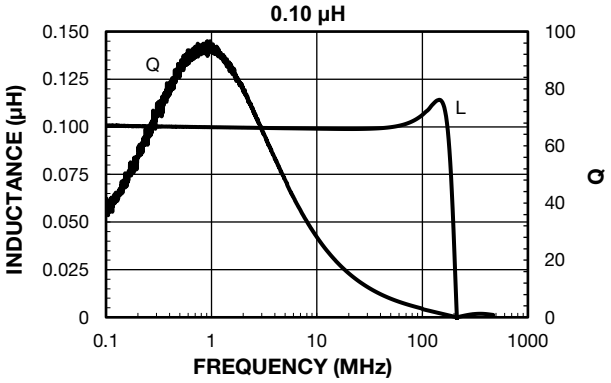
| I H V R | 4 0 2 5 J Z | E Z | R 1 0 | M | 3 Z |
|---|---|---|---|---|---|
| PRODUCT FAMILY | SIZE | PACKAGE CODE | INDUCTANCE VALUE | TOLERANCE | SERIES |
| | | | **R10** = 0.10 µH | **M** = 20 % | |

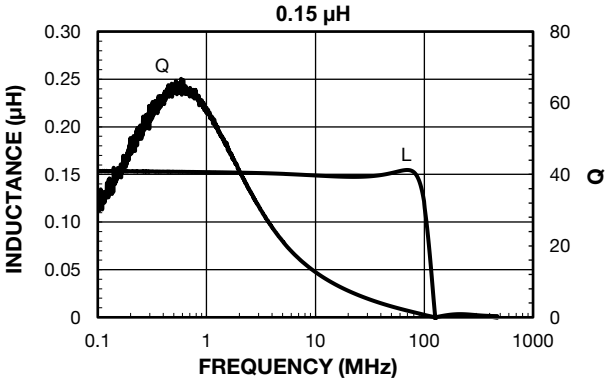
## PERFORMANCE GRAPHS




## PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY



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