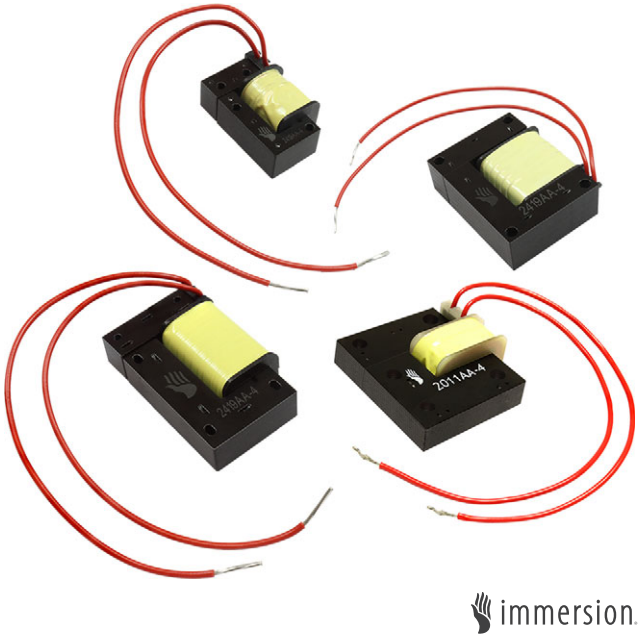
Automotive IHPT® Haptic Feedback Actuator With Immersion License



FEATURES

- High impulse vibrations for clear tactile feedback in noisy environments
- Drives 0.5 kg load to 6 *g*'s of acceleration with 12 V, 5 ms pulse (tested with Vishay's custom spring return fixture)
- Standard lead termination is dipped 100 % tin solder; customer specific connectors available upon request
- Two-piece magnetic solenoid construction with mounting holes; comprised of stationary "U" core and moving "I-bar"
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free
RoHS COMPLIANT
HALOGEN FREE
GREEN (5-2008)

APPLICATIONS

- Automotive dashboards, touch screens, and center consoles
- Physical feedback for electronic shift transmissions, steering wheels, seats, control panels
- Touch screens for human-machine interfaces

LINKS TO ADDITIONAL RESOURCES

Product Page 3D Models

STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	FORCE OUTPUT (N)	FORCE COEFFICIENT (1)	RESPONSE TIME TYP. (ms)	L_0 INDUCTANCE ± 20 % AT 1 kHz, 0.25 V, 0 A (mH)	DCR TYP. (Ω)	DCR MAX. (Ω)
IHPT1207AGELR39ABA	25	0.39	5	1.35	0.95	1.04
IHPT1710ACEL1R2ABA	45	1.2	5	4.04	2.0	2.2
IHPT1411AFELR73ABA	80	0.73	5	1.8	0.95	1.09
IHPT1614ACEL2R7BBA	120	2.7	5	3.5	1.2	1.32

Notes

- All specifications are referenced to 25 °C ambient, and assume a 0.75 mm (0.030") gap
- Operating temperature range -40 °C to +105 °C
- The part temperature (ambient + temperature rise) should not exceed 105 °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
- Rated voltage: 16 V maximum
- Dielectric withstand voltage (coil to core) = 150 V_{DC}

(1) Applied force, in newtons, can be estimated by the following equation: F = FORCE COEFFICIENT x I_{PK}^2

This product is covered by a license from Immersion or its affiliates solely when incorporated into haptic products in an authorized field of use as set forth in more detail at the following link: www.vishay.com/doc?34602. Protected under one or more of the U.S. Patents found at the following address www.immersion.com/patent-marking.html and other patents.

For technical questions, contact: magnetics@vishay.com

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GLOBAL PART NUMBER

I H P T	1 4 1 1 A F	E L	R 7 3	A B A
PRODUCT FAMILY	SIZE	PACKAGE CODE	FORCE COEFFICIENT	SERIES
		EL = includes Immersion license	**R73** = 0.73	

DESCRIPTION

IHPT1411AF-A	R73	TRAY	e3
MODEL	FORCE COEFFICIENT	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

MATERIAL

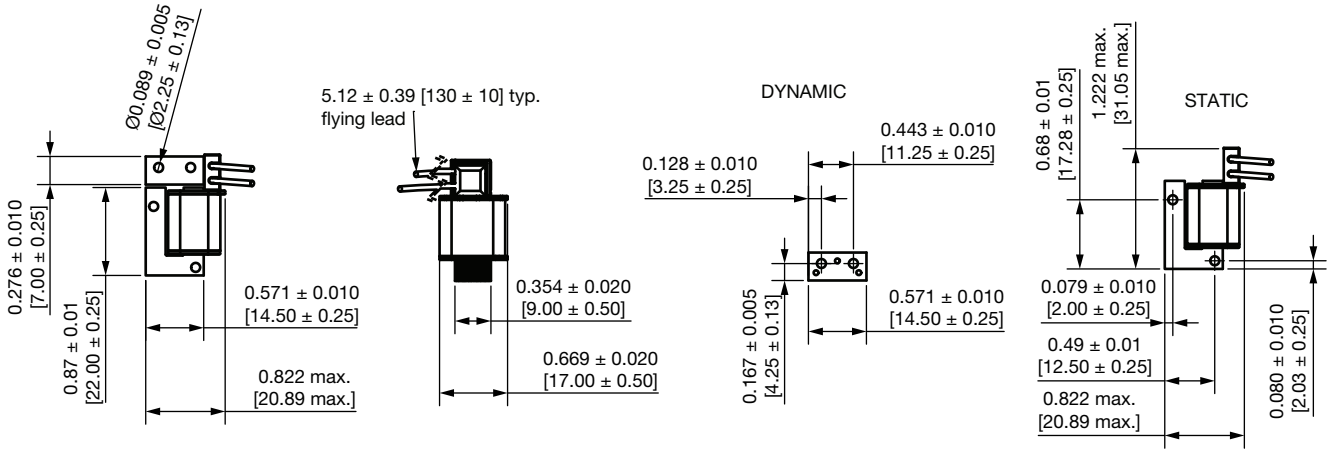
Core	Laminated steel
Wire	Copper, PU/PA insulated
Solder	Hot dip tin

SOLDER COMPOSITION

Sn	99.3 %
Cu	0.7 %

DIMENSIONS in inches [millimeters]

IHPT1207AGELR39ABA (25N)

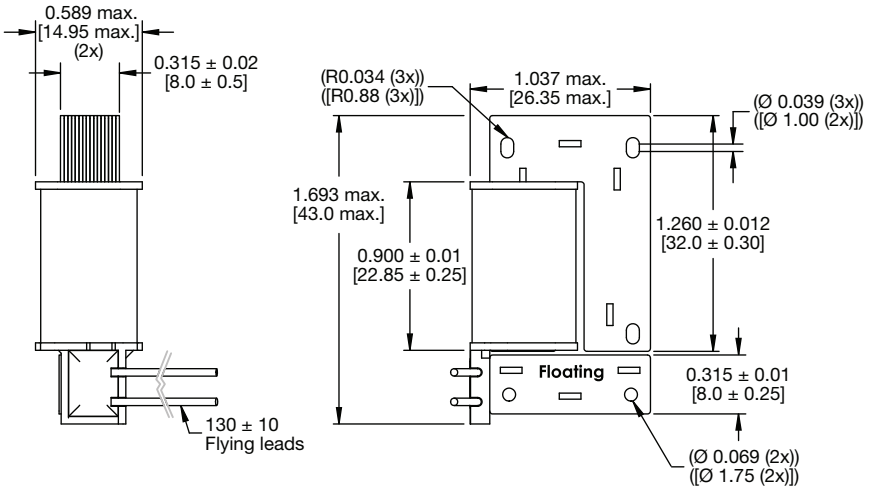


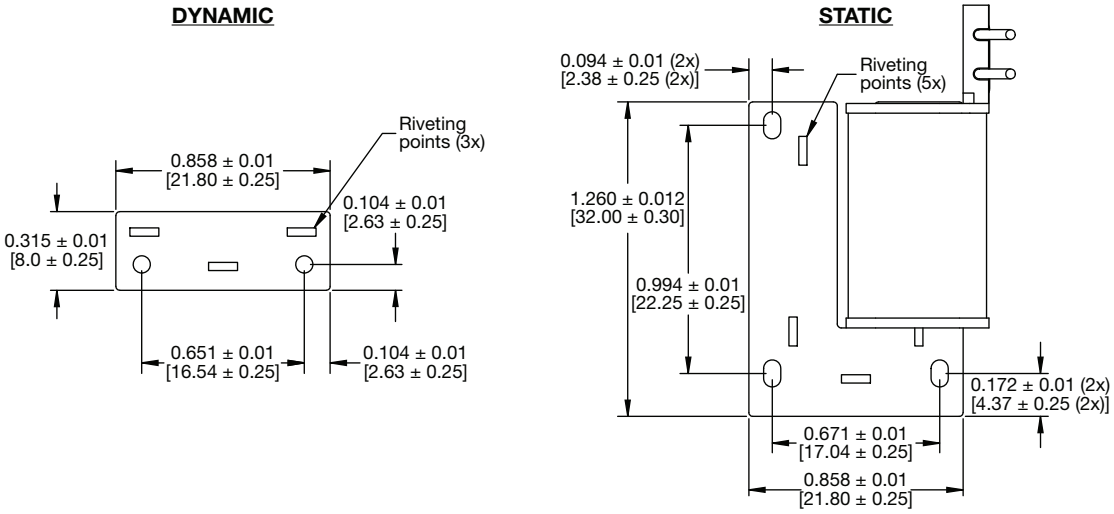
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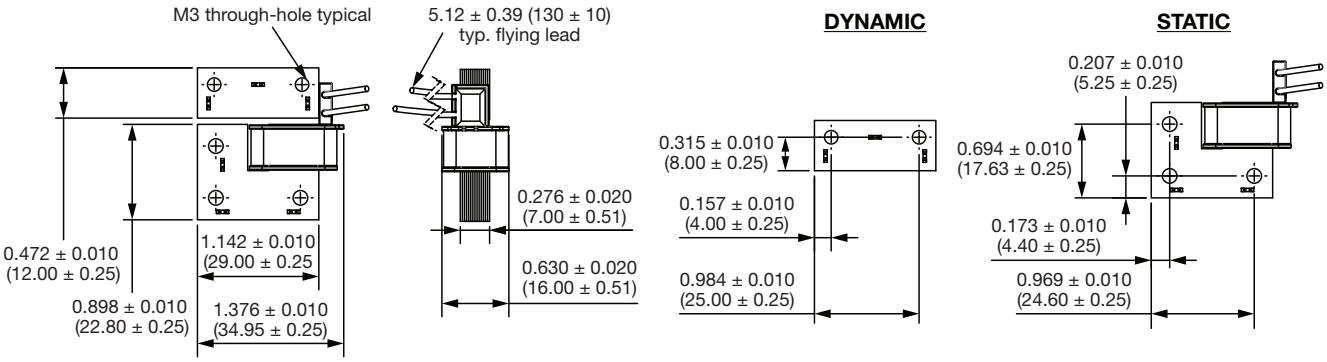
DIMENSIONS in inches [millimeters]

IHPT1710ACEL1R2ABA (45N)





IHPT1411AFELR73ABA (80N)

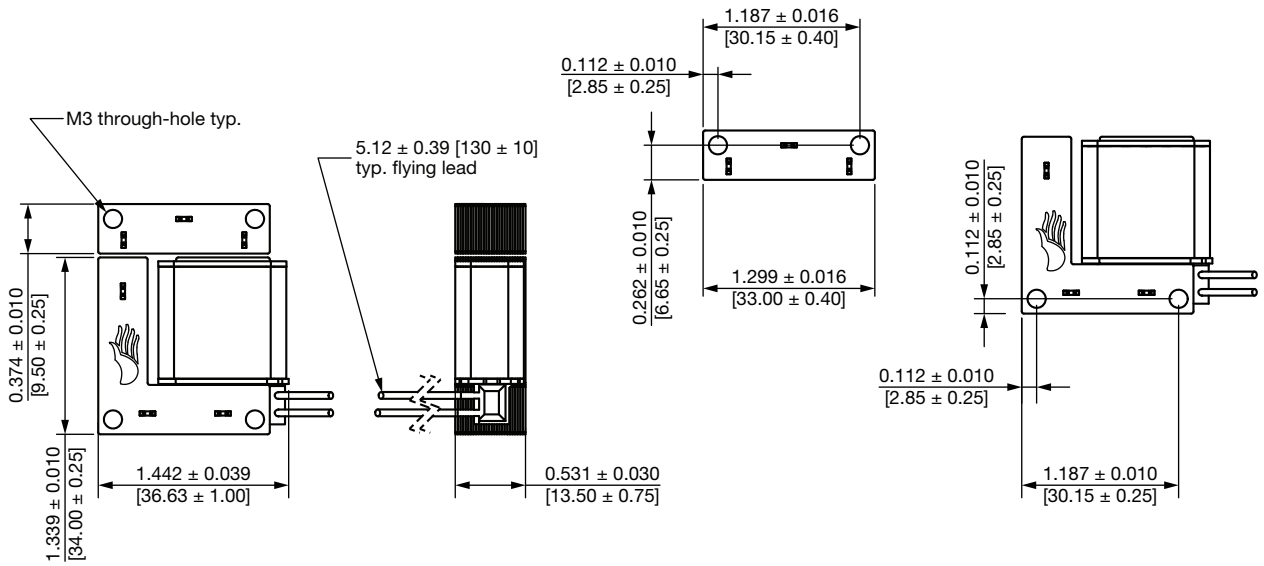


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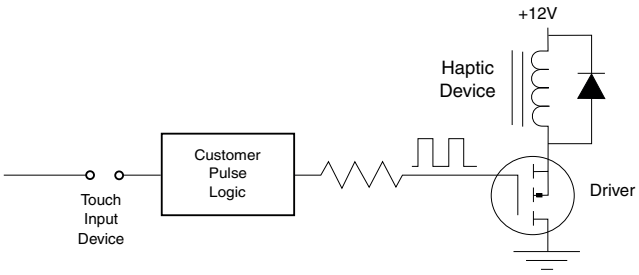
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DIMENSIONS in inches [millimeters]

IHPT1614ACEL2R7BBA (120N)



TYPICAL APPLICATION

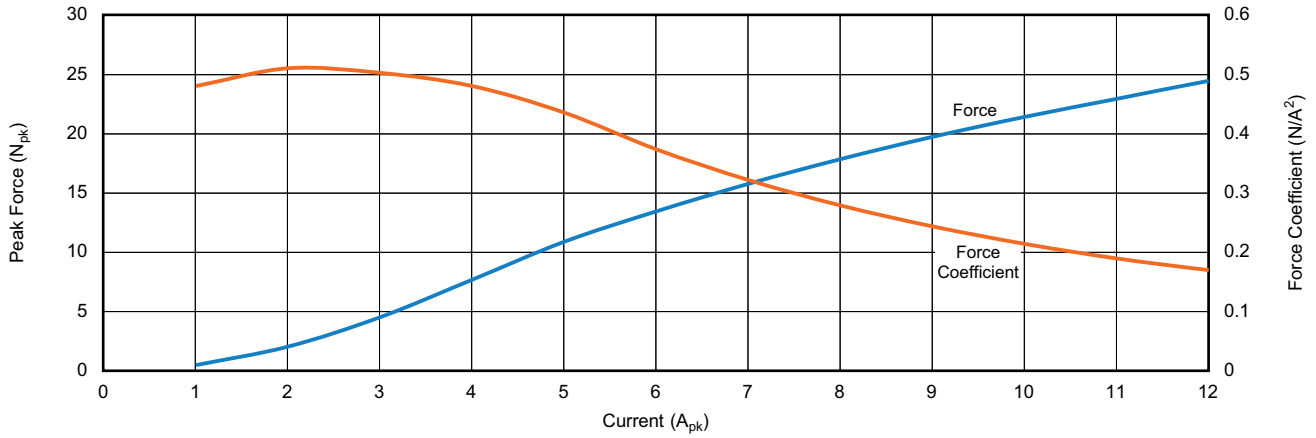


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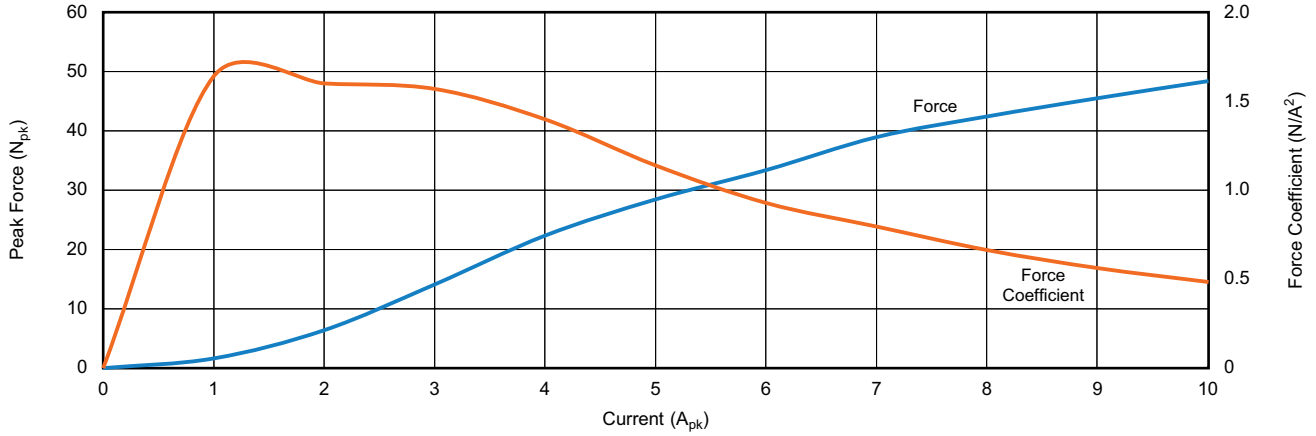
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PEAK FORCE RESPONSE (Typical)

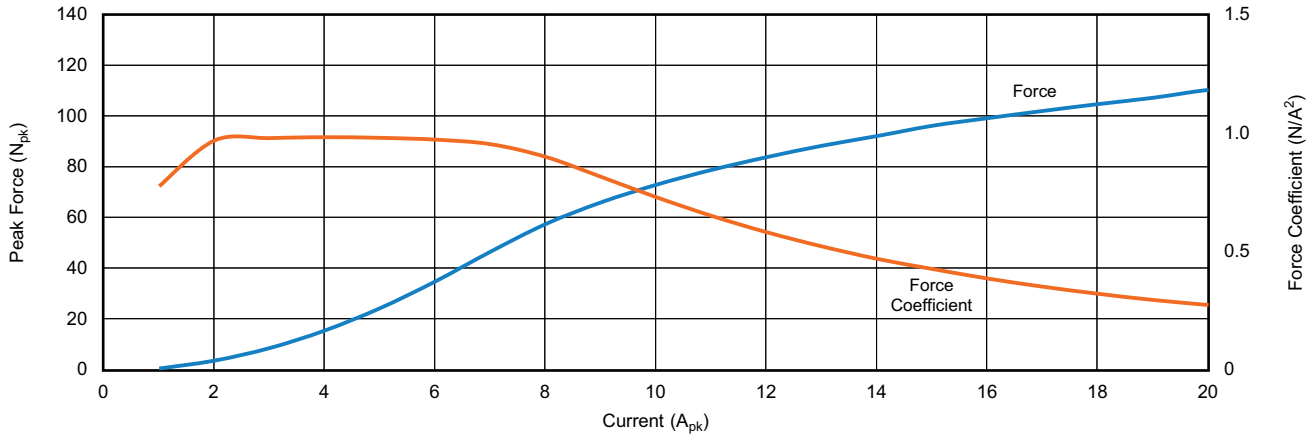
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IHPT1710ACEL1R2ABA (45N)



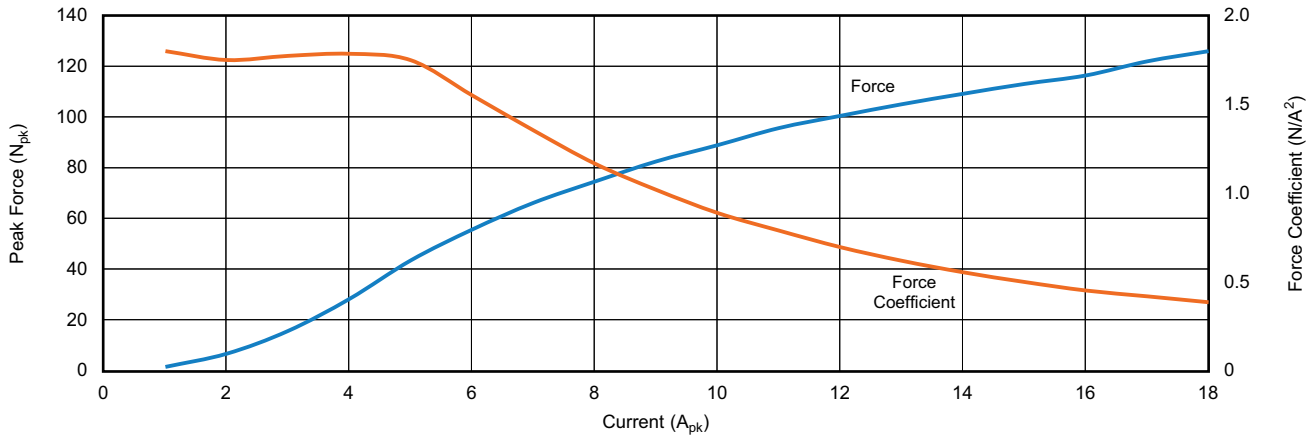
IHPT1411AFELR73ABA (80N)



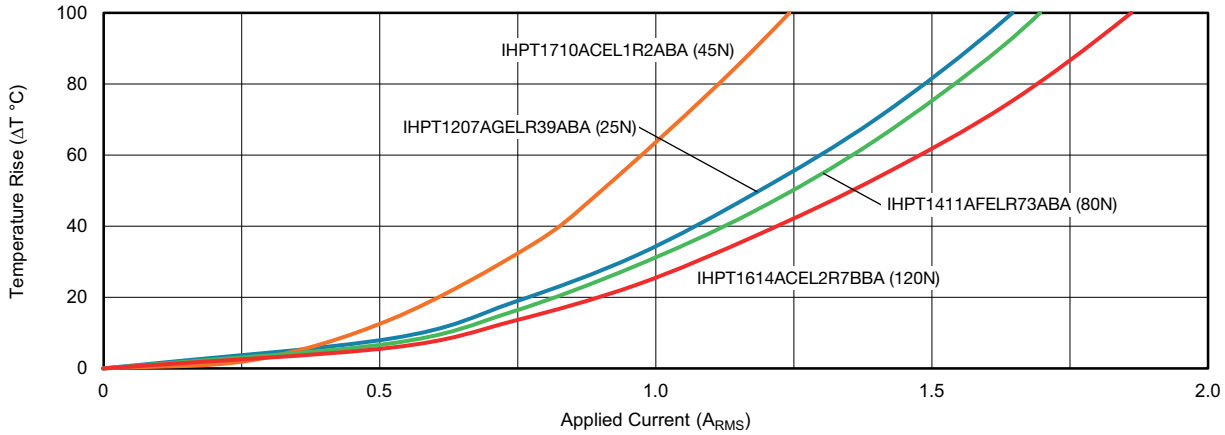
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PEAK FORCE RESPONSE (Typical)

IHPT1614ACEL2R7BBA (120N)



TEMPERATURE RISE



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