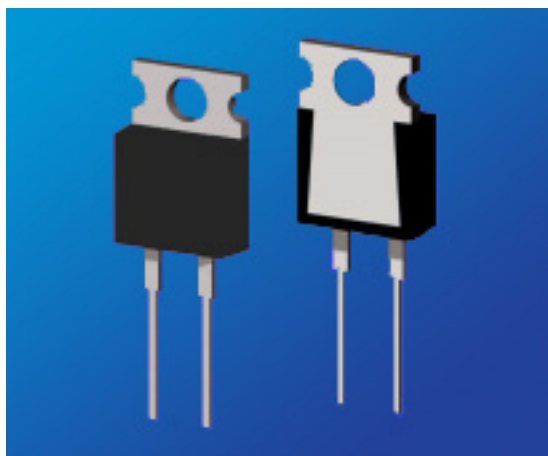


RESISTOR HIGH POWER LOW INDUCTANCE

RHX SERIES



KEY FEATURES

- Resistances from 51k Ohms
- High Stability Film Resistance Elements
- Rated Power of 35, 50 and 100 Watts
- TO-220 and TO-247 Housing
- Resistance tolerance of $\pm 0.1\%$ or $\pm 1\%$
- Low Inductance of $< 10\text{nH}$ for RHXH1 and RHXH2, $< 50\text{nH}$ for RHXH3

APPLICATIONS

- Power Inverters
- Engine Sensors
- Power Supplies
- Temperature Sensors

PRODUCT SUMMARY

PRODUCT SERIES (RHX)	RESISTANCE RANGE (Ω) ³		POWER RATING (W)		THERMAL RESISTANCE	TOLERANCES
	MIN	MAX	HEATSINK ¹	FREE AIR ²		
RHXH1	0.02	51K	35	1	3.3°C/W	$\pm 1\%$ ($R \geq 0.1\Omega$) $\pm 5\%$
RHXH2	0.02	51K	50	1	2.3°C/W	$\pm 1\%$ ($R \geq 0.1\Omega$) $\pm 5\%$
RHXH3	0.02	51K	100	3	1.3°C/W	$\pm 1\%$ ($R \geq 0.10\Omega$) $\pm 5\%$

¹ Power Rating based on 25°C Flange Temperature

² Power Rating based on 25°C Ambient Temperature

³ Contact Factory for Higher or Lower Values

AVAILABLE OPTIONS (Consult Factory)

- Special Testing Requirements

TEMPERATURE COEFFICIENTS:

- $\pm 50\text{ppm}/^\circ\text{C}$ ($R \geq 10\Omega$)
- $\pm 100\text{ppm}/^\circ\text{C}$ ($0.1\Omega \leq R < 10\Omega$)
- $\pm 250\text{ppm}/^\circ\text{C}$ ($R < 0.1\Omega$)

HOW TO ORDER

RHX	H2	Q	038K0	F	4
RESISTOR HIGH POWER LOW INDUCTANCE	PACKAGE CODE	TEMPERATURE COEFFICIENT OF RESISTANCE (TCR)	RESISTANCE	TOLERANCE	PACKING
	H1, 35W, TO-220 H2, 50W, TO-220 H3, 100W, TO-247	Q = $\pm 50\text{ppm}/^\circ\text{C}$ N = $\pm 100\text{ppm}/^\circ\text{C}$ K = $\pm 250\text{ppm}/^\circ\text{C}$	0R038 = 0.038 Ω 003K8 = 3.8K Ω 038K0 = 38.0K Ω 380K0 = 380.0K Ω 003M8 = 3.8M Ω Letter denotes decimal place. R = decimal, "K" 10^3 , "M" 10^6 Remaining 4 digits are significant or placeholders.	F = $\pm 1.0\%$ ($R \geq 0.1\Omega$) J = $\pm 5.0\%$	4 = Tube

Tin/Lead coated leads, add "- Pb" on part number.

Standard Termination Finish: Matte Tin (Sn)

Example P/N: RHXH2Q038K0F4 is Resistor High Power Low Inductance, 50W TO-220, $\pm 50\text{ppm}/^\circ\text{C}$, 38.0K Ω , $\pm 1.0\%$, tube

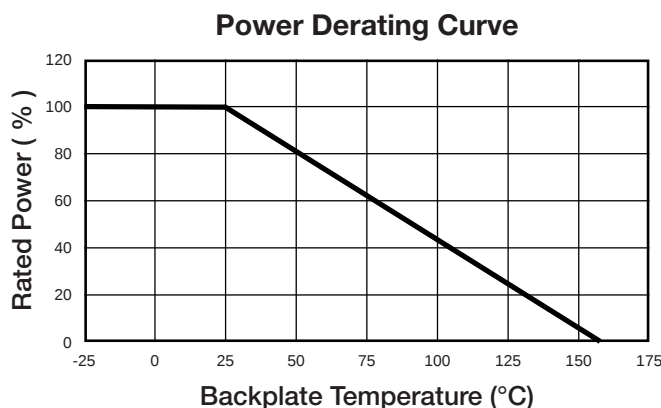


RESISTOR HIGH POWER LOW INDUCTANCE

RHX SERIES

ENVIRONMENTAL CHARACTERISTICS

Electrical Characteristics	RHXH1 & RHXH2 Values	RHXH3 Value
Maximum Current	25A	-
Inductance	<10nH (At the Standoff)	-
Insulation Resistance	>1000 Megohm	>1000 Megohm
Dielectric Strength	2000 VAC	2500 VAC
Temperature Range	-55°C to +155°C	-55°C to +155°C
Maximum Working Voltage	$\sqrt{Power \times Resistance}$ (500V MAX)	700 V or $\sqrt{Power \times Resistance}$, whichever is less



RHXH1 & RHXH2 POWER RATING NOTES:

- H1 and H2 High Power Low Inductance Resistors must be attached to a suitable heatsink. Without a heatsink, the maximum power rating is 1W.
- The maximum internal resistor temperature is 155°C.
- Use the following formula to specify an appropriate heatsink:

RHXH3 POWER RATING NOTES:

- H3 High Power Low Inductance Resistors must be attached to a suitable heatsink.
- The maximum internal resistor temperature is 155°C.
- Use the following formula to specify appropriate heatsink:

$$R_{\theta H} = \frac{T_{MAX} - (P * R_{\theta R}) - T_A}{P}$$

Where: $R_{\theta H}$ = Thermal Resistance of Heatsink (°C/W)
 $R_{\theta R}$ = Thermal Resistance of Resistor (°C/W)
 T_{MAX} = Maximum Temperature of Resistor (°C)
 T_A = Ambient Temperature of Heatsink (°C)
 P = Power Through Resistor (W)

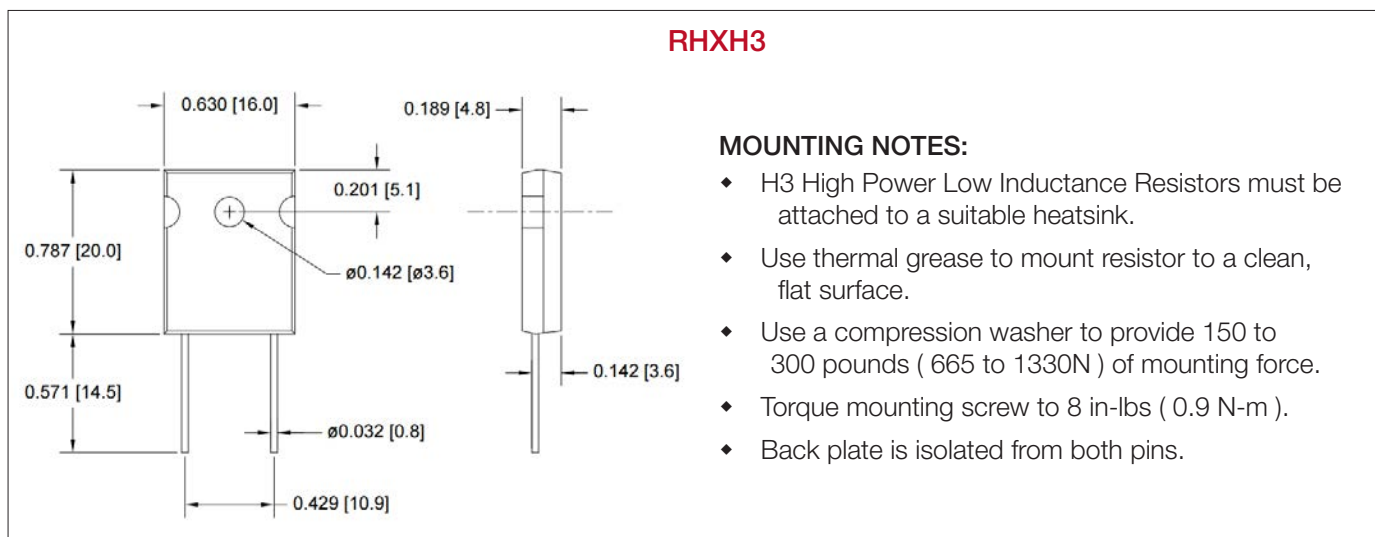
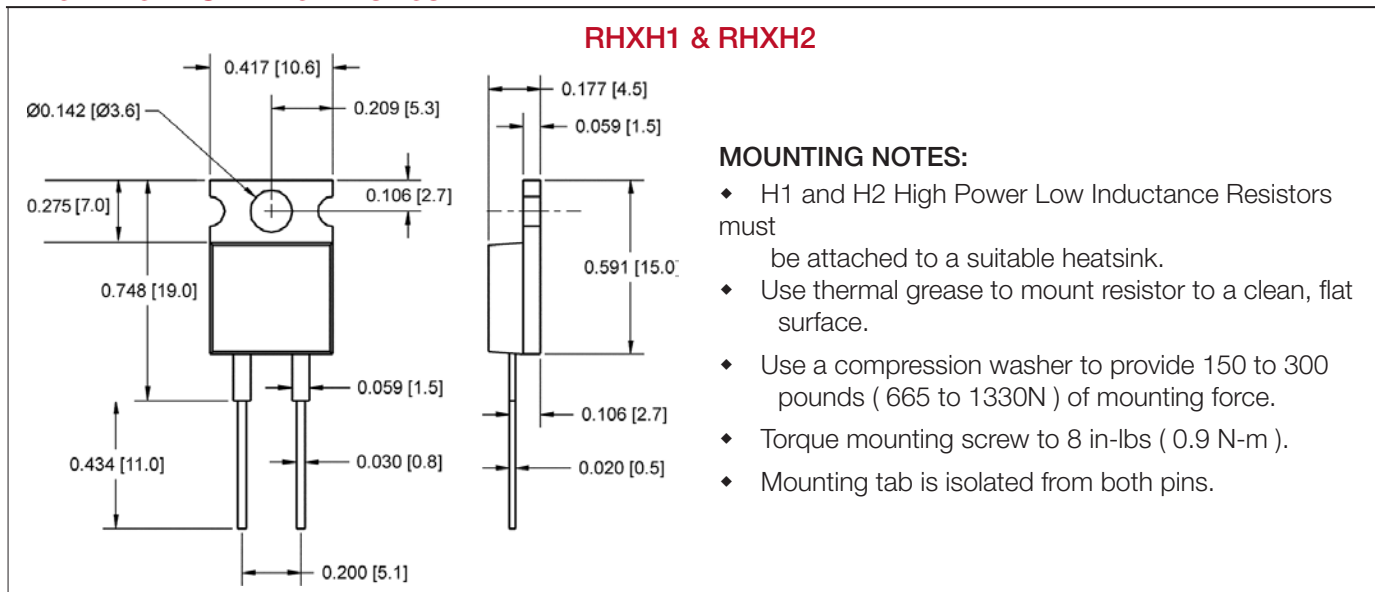


RESISTOR HIGH POWER LOW INDUCTANCE

RHX SERIES



MECHANICAL CHARACTERISTICS



ENVIRONMENTAL CHARACTERISTICS

Environmental Performance	ΔR			Test Conditions
	RHXH1	RHXH2	RHXH3	
Humidity Resistance	$\pm 1\% + 0.05\Omega$			40°C, 90-95% RH, DC 0.1W, 1000 hr
Load Life	$\pm 1\% + 0.05\Omega$			25°C, 90 min ON, 30 min OFF, 1000 hr
Temperature Cycle	$\pm 0.25\% + 0.05\Omega$			-55°C for 30 min, +155°C for 30 min, 1000 hr
Vibration	$\pm 0.25\% + 0.05\Omega$			IEC60068-2-6
Solder Heat	$\pm 0.1\% + 0.05\Omega$			+350°C, 3s

Moisture Sensitivity Level: MSL-1



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Johanson:

RHXH1N006R8F4	RHXH1N005R6F4	RHXH2N002R0F4	RHXH2N005R6F4	RHXH3Q180R0F4	RHXH1Q270R0F4
RHXH3Q030K0F4	RHXH1N007R5F4	RHXH3K00R04J4	RHXH1N003R9F4	RHXH1Q001K3F4	RHXH1N005R0F4
RHXH1Q002K0F4	RHXH2Q200R0F4	RHXH1Q003K3F4	RHXH3Q068R0F4	RHXH1N006R2F4	RHXH3N00R51F4
RHXH2N001R8F4	RHXH2Q022K0F4	RHXH3N00R68F4	RHXH3Q220R0F4	RHXH3N008R2F4	RHXH1N00R27F4
RHXH3Q560R0F4	RHXH2Q011R0F4	RHXH1N002R0F4	RHXH1Q047R0F4	RHXH2Q002K7F4	RHXH3Q018K0F4
RHXH2Q005K1F4	RHXH1Q150R0F4	RHXH1K00R05J4	RHXH3Q750R0F4	RHXH1N00R15F4	RHXH2Q030K0F4
RHXH3Q002K7F4	RHXH3N000R2F4	RHXH3Q390R0F4	RHXH2Q068R0F4	RHXH3Q007K5F4	RHXH1Q910R0F4
RHXH1N003R0F4	RHXH2Q036R0F4	RHXH3Q036K0F4	RHXH2Q270R0F4	RHXH3Q005K0F4	RHXH2Q018K0F4
RHXH3Q300R0F4	RHXH3N00R91F4	RHXH2Q250R0F4	RHXH2Q043R0F4	RHXH2Q082R0F4	RHXH1Q030K0F4
RHXH3N00R15F4	RHXH1Q001K5F4	RHXH2Q013K0F4	RHXH2N00R39F4	RHXH2N00R43F4	RHXH3N00R36F4
RHXH3Q005K6F4	RHXH2Q006K2F4	RHXH1Q005K1F4	RHXH1K00R02J4	RHXH2Q013R0F4	RHXH1Q022R0F4
RHXH3Q009K1F4	RHXH3N009R1F4	RHXH2N00R36F4	RHXH2N00R24F4	RHXH2N003R3F4	RHXH1N00R75F4
RHXH3Q005K1F4	RHXH2Q004K7F4	RHXH1Q003K9F4	RHXH3Q004K3F4	RHXH3Q001K2F4	RHXH2Q015R0F4
RHXH3Q043R0F4	RHXH3N007R5F4	RHXH3Q003K3F4	RHXH2K00R03J4	RHXH1Q390R0F4	RHXH3N001R8F4
RHXH3N00R22F4	RHXH1K0R015J4	RHXH1Q001K0F4	RHXH3N005R0F4	RHXH2Q330R0F4	RHXH3Q006K8F4
RHXH2Q020R0F4	RHXH2Q024K0F4	RHXH3Q047R0F4	RHXH2Q075R0F4	RHXH3K0R015J4	RHXH3Q012K0F4
RHXH2N00R51F4	RHXH2Q120R0F4	RHXH3N00R56F4	RHXH3Q004K7F4		