KHS Series Datasheet

Power Wirewound Resistor | Axial | Fiber glass core | ceramic case

ORDERING CODE-Example

New SAP Part Nr.:

KHS	500	K	B	-	AX-	150R	AA
Serie	Power rating	Tol.	Pack-Code	TCR	Forming type	R Value	Special
		J = ±5% K = ±10%	B = Bulk R = Tape Reel	- Base on spec.	**AX-** = Axial **83-** Inner Taping dimension		**AA** = Standard

Historical VTM Part Nr.:

KH208 – 8	5	B	150R
Type	Tol.	Pack-Code	R Value
	J = ±5% K = ±10%	B = Bulk R = Tape Reel	

APPLICATIONS

- Automotive
- Alternative Energy
- Home Appliances
- Charger
- Power Supply
- Industrial

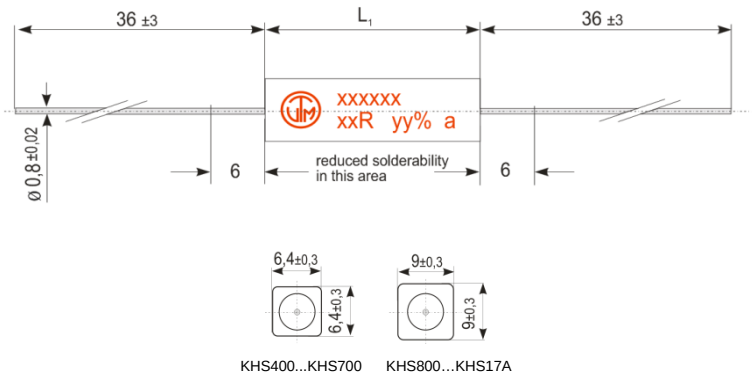
FEATURES

- Pulse version available
- preforming ; Other preforming available
- RoHs Compliant

ELECTRICAL SPECIFICATIONS

Type		KHS400	KHS500	KHS700	KHS800	KHS10A	KHS11A	KHS17A
Historical Part Number		KH206-8	KH208-8	KH210-8	KH212-8	KH214-8	KH216-8	KH218-8
Nominal Power Rating P_{70}	[W]	4	5	7	8	10	11	17
Resistance Range	Min.	Please check the table below						
	[Ω]	9K1	15K	33K	15K	33K	47K	82K
	Max.	(Other values upon request)						
E-Series (preferred)		E24 = 5% ; E12 = 10% (Other upon request)						
Tolerances	±[%]	J = 5% ; K = 10%						
Temperature Coefficient	±[10^{-6}*K^{-1}]	Depends on the value, please check the table below						
Working Temperature Range	[ºC]	-55 ... +350						
Thermal Resistance	[KW^{-1}]	70	56	40	35	28	25	16
Insulation Resistance IEC60115-1 clause 4.6	[MΩ]	> 10^4						
Max. Working Voltage	$[V]_{RMS}$	$\sqrt{P_{70} \times R}$						
Dielectric Withstanding Voltage IEC60115-1 clause 4.7 (1[min])	$[V]_{RMS}$	2000						

DIMENSIONS [mm]



Type	*Historical P/N:*	L_1
KHS400	KH206 - 8	**20** ±1,0
KHS500	KH208 - 8	**25** ±1,0
KHS700	KH210 - 8	**38** ±1,0
KHS800	KH212 - 8	**25** ±1,0
KHS10A	KH214 - 8	**38** ±1,0
KHS11A	KH216 - 8	**50** ±1,5
KHS17A	KH218 - 8	**75** ±2,0

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PERFORMANCE DATA

Type		KHS400	KHS500	KHS700	KHS800	KHS10A	KHS11A	KHS17A
Historical Part Number		KH206-8	KH208-8	KH210-8	KH212-8	KH214-8	KH216-8	KH218-8
Derating Linear	[ºC]	70…350 (0W)						
Climatic Category		55/200/21						
Failure Rate *(Total, ϑ_0, max, 60[%] cont. lev.)*	[10^{-9*} h^{-1}]	appr. 100 depends on value						
Endurance *IEC60115-1 clause 4.25* *(P_{70} @ 70[°C], 1000[h])*	±[%]	3						
Damp Heat, Steady State *IEC60115-1 clause 4.24* *(40[°C], 93[% r.h.], 56[d])*	±[%]	2						
Climatic Sequence *IEC60115-1 clause 4.23*	±[%]	2						
Resistance to Soldering Heat *IEC60115-1 clause 4.18* *($260^{\pm5}$[°C], $3{,}5^{\pm1}$[s])*	±[%]	0,2						
Terminal Strength	±[%]	1						
Terminal Tensile Strength	[N]	50						
Solderability *IEC60068-2-20* *($245^{\pm5}$[ºC] $3^{\pm0,5}$[s])*		Solder bath method (> 95% coverage)						
Marking *IEC60062*		Printed in clear						

ELECTRICAL CHARACTERISTIC

RESISTANCE RANGE (minimum)

New P/Nr. Type	*Historical P/N:*	± 10 [%]	± 5 [%]
KHS400	KH206 - 8	0R051	0R1
KHS500	KH208 - 8	0R075	0R15
KHS700	KH210 - 8	0R11	0R33
KHS800	KH212 - 8	0R075	0R15
KHS10A	KH214 - 8	0R11	0R33
KHS11A	KH216 - 8	0R15	0R51
KHS17A	KH218 - 8	0R27	0R91

TEMPERATURE COEFFICIENT

New P/Nr. Type	*Historical P/N:*	400 ± 50 ppm/K		-20 ± 60 ppm/K		0 ± 10 ppm/K	
KHS400	KH206 - 8	≥ 0R051	≤ 0R2	≥ 0R22	≤ 300R	≥ 330R	≤ 9K1
KHS500	KH208 - 8	≥ 0R075	≤ 0R3	≥ 0R33	≤ 470R	≥ 510R	≤ 15K
KHS700	KH210 - 8	≥ 0R11	≤ 0R68	≥ 0R75	≤ 910R	≥ 1K	≤ 33K
KHS800	KH212 - 8	≥ 0R075	≤ 0R3	≥ 0R33	≤ 470R	≥ 510R	≤ 15K
KHS10A	KH214 - 8	≥ 0R11	≤ 0R68	≥ 0R75	≤ 910R	≥ 1K	≤ 33K
KHS11A	KH216 - 8	≥ 0R15	≤ 1R	≥ 1R1	≤ 1K3	≥ 1K5	≤ 47K
KHS17A	KH218 - 8	≥ 0R27	≤ 1R6	≥ 1R8	≤ 2K4	≥ 2K7	≤ 82K

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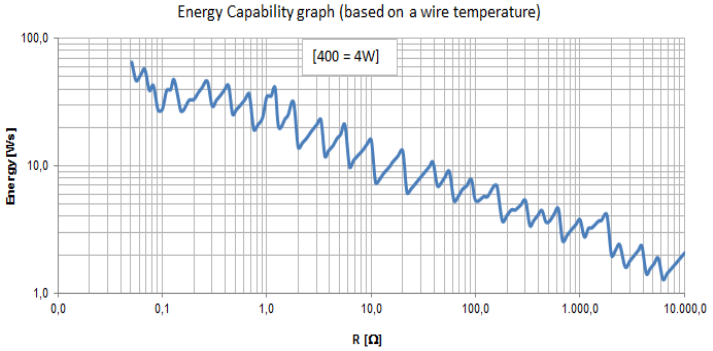
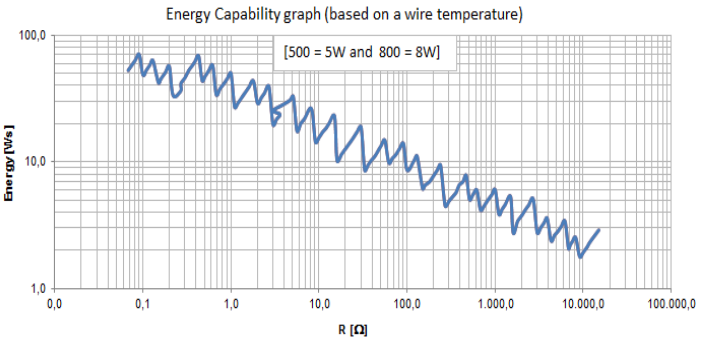
PERFORMANCE GRAPH's

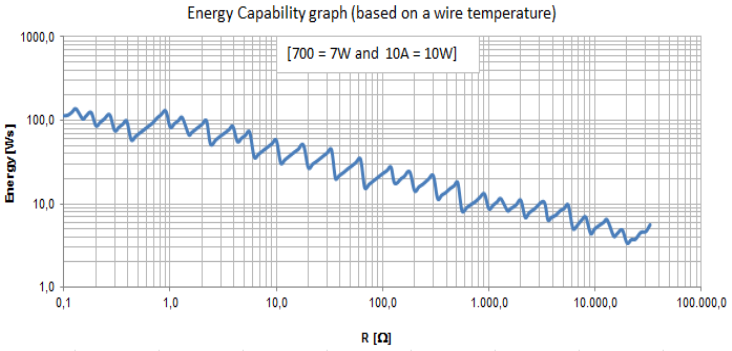
KHS400



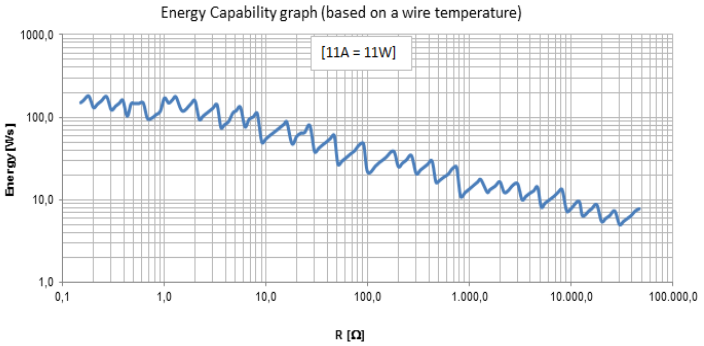
KHS500 and KHS800



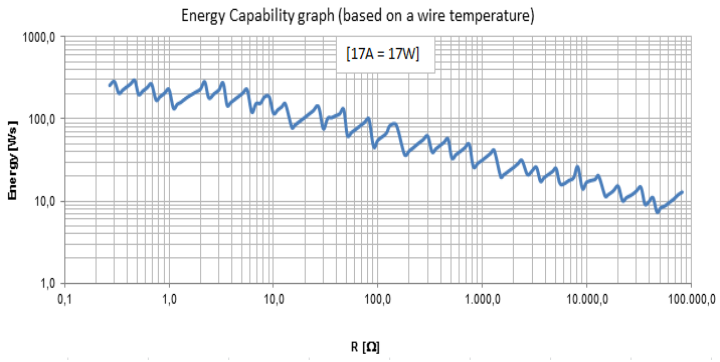
KHS700 and KHS10A



KHS11A



KHS17A



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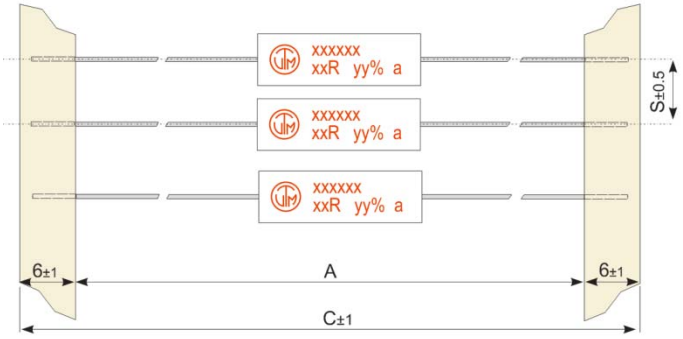
PACKAGING

The standard packaging for KHS in axial type is bulk, dimensions below.



New P/Nr. Type	*Historical P/N:*	Pack Code	Pieces	***Forming Type***
KHS400	KH206 - 8	**B** = Bulk	200	**AX-** = Axial
KHS500	KH208 - 8		200	
KHS700	KH210 - 8		200	
KHS800	KH212 - 8		200	
KHS10A	KH214 - 8		100	
KHS11A	KH216 - 8		100	
KHS17A	KH218 - 8		100	

New P/Nr. Type	*Historical P/N:*	***Pack Code***	Pieces	***Forming Type*** *(Inner Taping dim.)*	A	C	S
KHS400	KH206 - 8	**R** = Taped in Reel	1000	**83-**	83	95	10
KHS500	KH208 - 8		1000		83	95	10
KHS700	KH210 - 8		1000		83	95	10
KHS800	KH212 - 8		500		83	95	10
KHS10A	KH214 - 8		500		83	95	10

ALTERNATIVE LEAD CONFIGURATIONS

This type KHS is also available in a different pre-forming, as shown below, other's upon request.

THROUGH HOLE VERSION

Axial Goal Post (AG-)	Axial Goal Post Kink (AK-)	Radial (RD-)	Radial 2 Kink (RK-)

For horizontal and vertical pre-forming please consult your local sales contact.

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