

DATA SHEET

LEADED POWER RESISTORS

KT, KF – CIRCUIT BREAKER wirewound

UP TO 11.0 W



Product Specification – Jun. 18, 2003 V.0



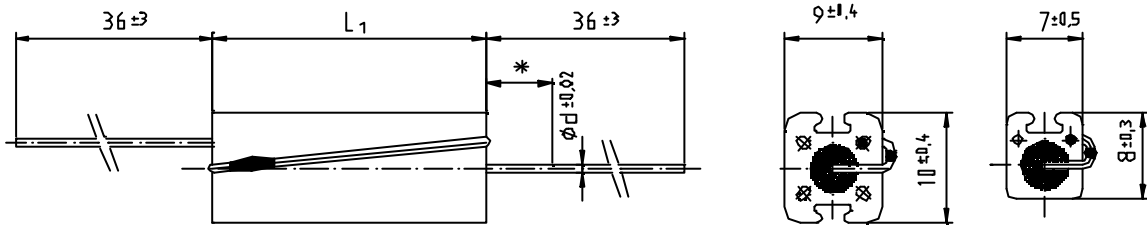
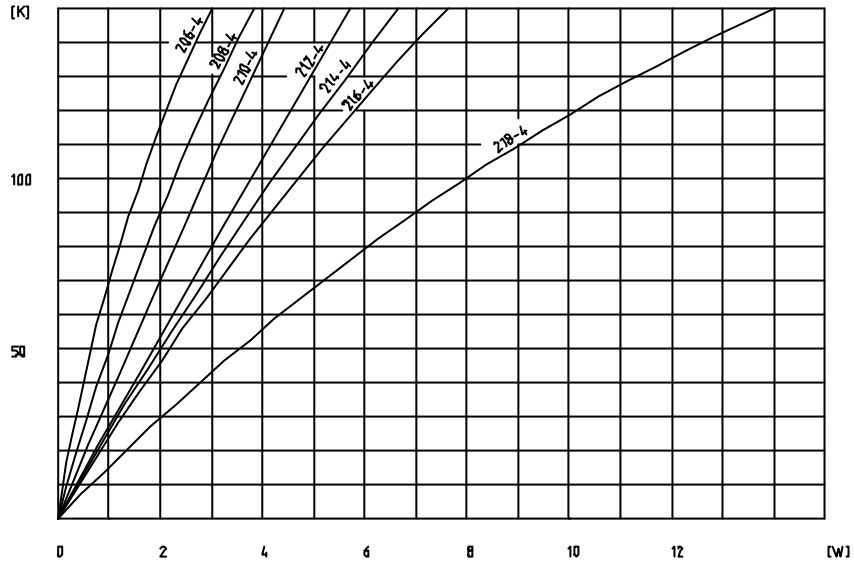
Power Wirewound Resistors
axial, circuit breaker, ceramic case, fibre class core

Specification

Type		KF206-4	KF208-4	KF210-4	KF212-4	KF214-4	KF216-4	KF218-4
Power rating	P ₂₅ P ₇₀	2,5 1,2	3,0 1,5	4,5 2,5	3,5 2,0	5,0 3,0	7,0 4,0	11 6,0
Resistance range		see Page 2						
E-series		E 24 (5%), E 12 (10%)						
Tolerance	%	± 5, ± 10						
Temperature coefficient	10 ⁻⁶ *K ⁻¹	- 80 ... + 500						
max. cont. working voltage	V _{RMS}	$\sqrt{P_{70} \cdot R}$ for all Styles						
Insulation voltage (1min.)	V _{RMS}	2000						
Insulation resistance	Ω	> 10 ⁴ M						
Derating linear	°C	see Table Temperature rise of solder joints						
Climatic category		55/150/56						
Temperature range	°C	- 55 ... 150						
Failure rate (Total, ϑ ₀ max., 60% conf. lev.)	10 ⁻⁹ *h ⁻¹	appr. 100, depends on value						
Endurance (P ₇₀ , 70°C, 1000h)	$\left[\frac{\Delta R}{R} \right]$ %	± 3,0 average						
Damp heat, steady state (40°C, 93% r. h., 56d)	$\left[\frac{\Delta R}{R} \right]$ %	± 2,0						
Climatic sequence	$\left[\frac{\Delta R}{R} \right]$ %	± 2,0						
Resistance to soldering heat (260°C, 10s)	$\left[\frac{\Delta R}{R} \right]$ %	± 0,2 typ.						
Terminal strength	$\left[\frac{\Delta R}{R} \right]$ %	± 1						
Terminal tensile strength	N	50						
Solderability	s	2,5 Flowtime; solderglobule test IEC 60068-2-20-T						
Marking		Printed in clear						

Power Wirewound Resistors
 axial, circuit breaker, ceramic case, fibre class core

Temperature rise of solder joint:

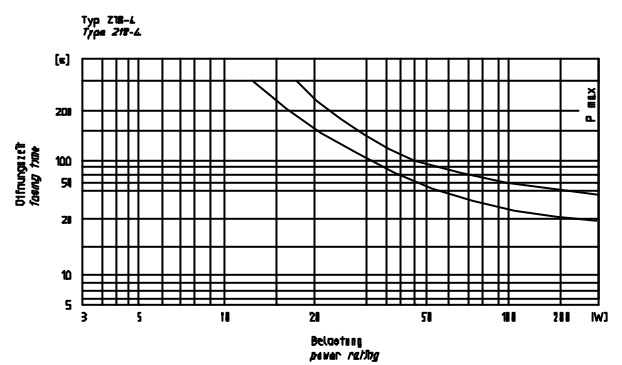
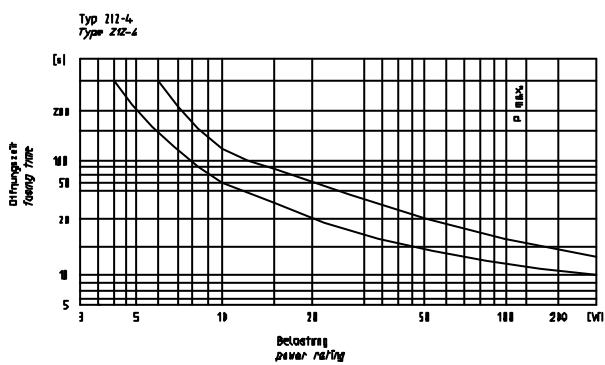
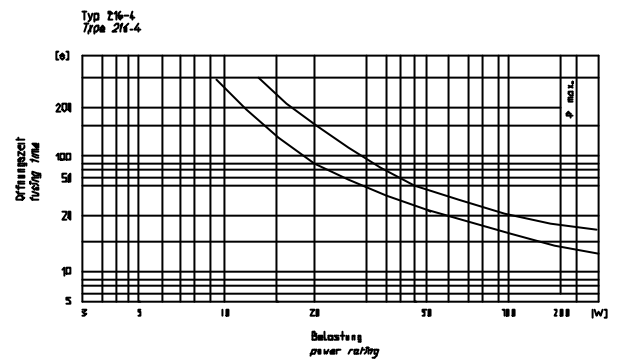
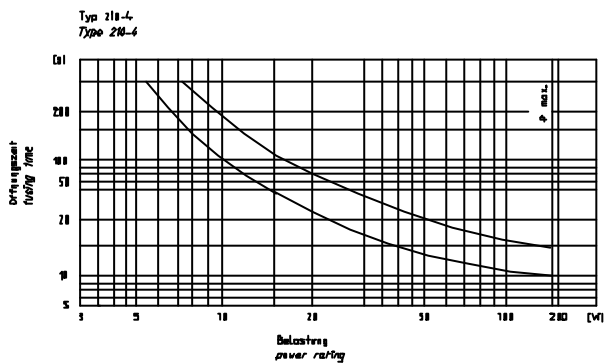
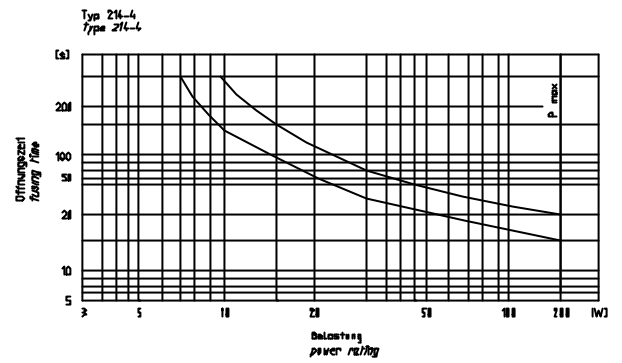
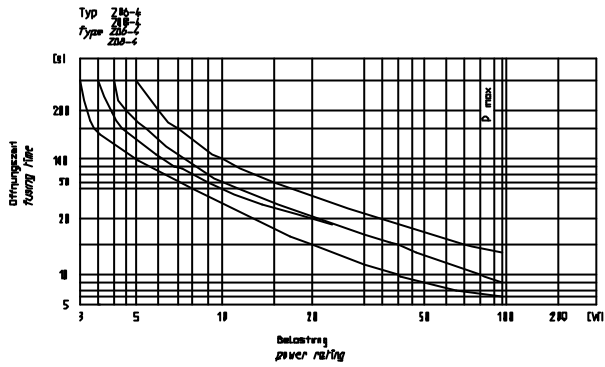


* 6mm, in diesem Bereich eingeschränkte Lötbarkeit
 6mm, reduced solderability in this area

Type	Resistance range		L ₁	ø d
	Min.	Max.		
KF206-4	0R10	9K1	20 ± 1,0	0,6
KF208-4	0R15	15K	25 ± 1,0	0,6
KF210-4	0R33	33K	38 ± 1,0	0,8
KF212-4	0R15	15K	25 ± 1,0	0,6
KF214-4	0R33	33K	38 ± 1,0	0,8
KF216-4	0R51	47K	50 ± 1,5	0,8
KF218-4	0R91	82K	75 ± 2,0	0,8

Power Wirewound Resistors
 axial, circuit breaker, ceramic case, fibre class core

Fusing times vs. load:



Series KF

Power Wirewound Resistors

axial, circuit breaker, ceramic case, fibre class core

Packaging:

Type	Packaging	Pieces	Pack.-Code
KF206-4	bulk	100	B
KF208-4	bulk	100	B
KF210-4	bulk	100	B
KF212-4	bulk	100	B
KF214-4	bulk	100	B
KF216-4	bulk	100	B
KF218-4	bulk	100	B

Ordering example:

KF 212-4
Type

5
Tolerance

B
Pack.-Code

1K
R-Value

Power Wirewound Resistors
vertical, circuit breaker, fibre glass core, ceramic case

Specification

Type		KT212-7	KT214-7	KT216-7	KT218-7
Power rating P_{70}	W	2	2,5	3,5	4,5
Resistance range	Ω	see Page 2			
E-series		E 24 (5%), E 12 (10%)			
Tolerance	%	$\pm 5, \pm 10$			
Temperature coefficient	$10^{-6} * K^{-1}$	- 80 ... + 500			
max. cont. working voltage	V_{RMS}	$\sqrt{P_{70} \cdot R}$			
Insulation voltage (1min.)	V_{RMS}	2000			
Insulation resistance	Ω	$> 10^4 M$			
Derating linear		see diagram page 3			
Climatic category		55/150/56			
Temperature range	$^{\circ}C$	-55 ... 150			
Failure rate (Total, ϑ_0 max., 60% conf. lev.)	$\left[\frac{\Delta R}{R} \right]$ %	appr. 100, depends on value			
Endurance ($P_{70}, 70^{\circ}C, 1000h$)	$\left[\frac{\Delta R}{R} \right]$ %	$\pm 3,0$ average			
Damp heat, steady state ($40^{\circ}C, 93\% r.h., 56d$)	$\left[\frac{\Delta R}{R} \right]$ %	$\pm 2,0$			
Climatic sequence	$\left[\frac{\Delta R}{R} \right]$ %	$\pm 2,0$			
Terminal strength	$\left[\frac{\Delta R}{R} \right]$ %	$\pm 1,0$			

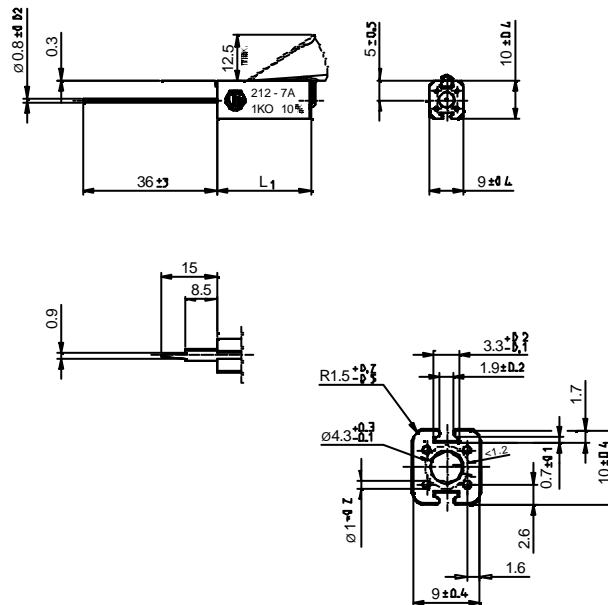
Series KT

Power Wirewound Resistors vertical, circuit breaker, fibre glass core, ceramic case

Type		KT212-7	KT214-7	KT216-7	KT218-7
Terminal tensile strength	N	50			
Resistance to soldering heat (260°C, 10s)	$\left[\frac{\Delta R}{R}\right]$ %	± 0,2 typ.			
Solderability	s	2,5 Flowtime/Solderglobule test, IEC-60068-2-20-T			
Marking		Printed in clear			

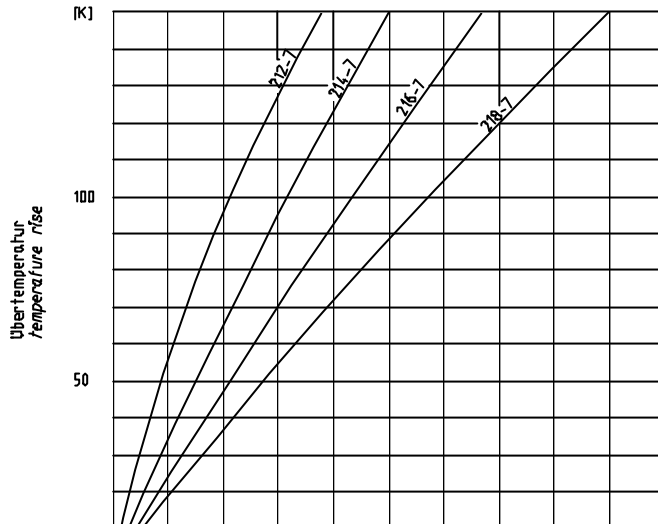
Type	Resistance rang			L ₁
	Min.		Max.	
KT212-7	10%	5%	15K	25 ±1,0
KT214-7	R075	R15	33K	38 ±1,0
KT216-7	R11	R33	47K	50 ±1,5
KT218-7	R28	R51	82K	75 ±2,0
	R27	R91		

Dimensions in mm:

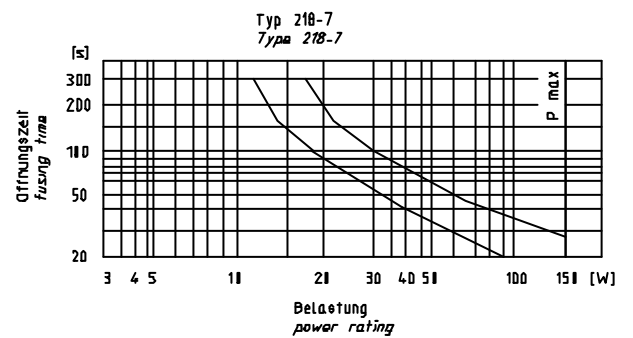
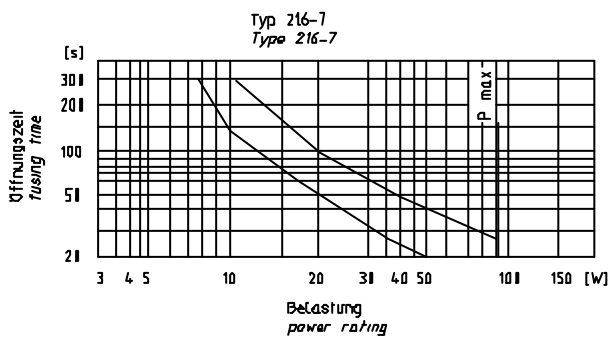
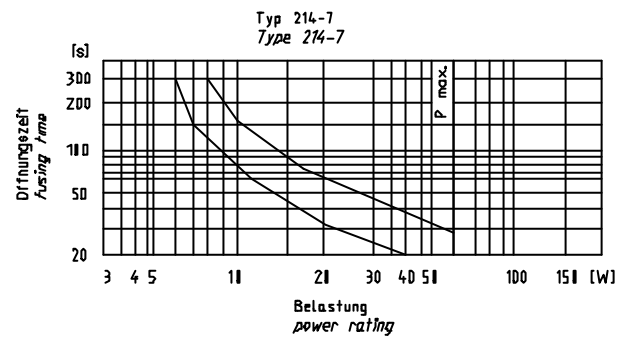
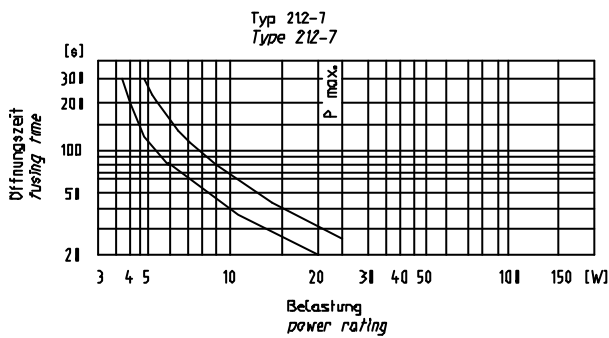


Power Wirewound Resistors
 vertical, circuit breaker, fibre glass core, ceramic case

Temperature rise (solder joint):



Fusing times vs. load:



Series KT

Power Wirewound Resistors

vertical, circuit breaker, fibre glass core, ceramic case

Packaging:

Type	Packaging	Pieces	Pack.-Code
KT212-7	bulk	200	B
KT214-7	bulk	200	B
KT216-7	bulk	200	B
KT218-7	bulk	100	B

Ordering example: KT 212-7 5 B 1K5
 Type Tolerance Pack.-Code R-Value