

A Complete Family of Wide Side Termination Resistors

Technical Information

- Wide side termination (reverse geometry)
- Higher power ratings as a result of enhanced heat dissipation
- Superior thermal shock characteristics and high solder joint reliability
- Allows downsizing and increased board space due to higher power rating density
- High reliability and performance with T.C.R. down to ± 75 p.p.m. and 0.5% resistance tolerance
- AEC-Q200 tested

Target Markets

- Power supply market – for current sense detection
- Automotive – ECU's, anti-lock braking systems, air bag systems



KOA Speer Wide Terminal Lineup

Standard
WK73R

Pulse Power
WG73

Low Resistance
WK73S
WU73

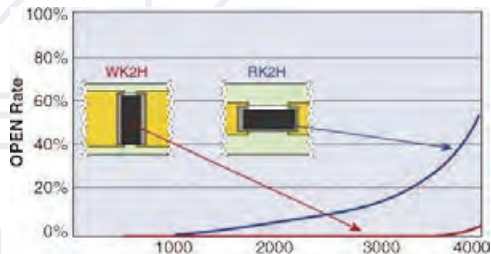
High Power
WK73R (HP)
WK73S (HP)

Anti-Sulfur
WK73R-RT (HP)
WK73S-RT (HP)

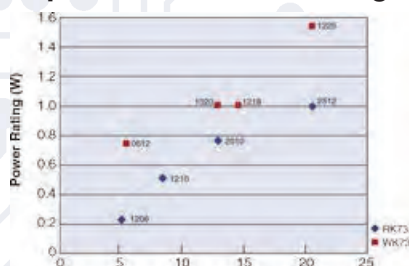
Why Choose Wide Terminal Resistors?

- Offers excellent heat radiation and achieves higher rated power for similar dimensions
- Wide terminal resistors, feature closely-spaced electrodes and better heat dissipation and heat-cycle durability as compared to standard resistor

Heat Shock Test



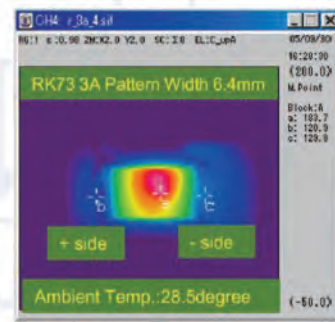
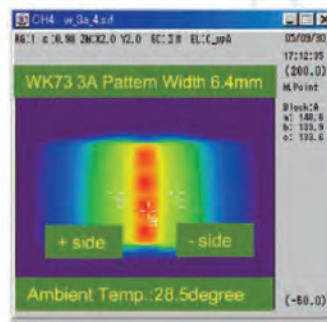
Chip Size and Power Rating



Wide Terminal Type (WK73)
Heat Dissipation Image



Nominal Terminal Type (RK73)
Heat Dissipation Image



Applications & Ratings

Standard

WK73R: High reliability

Part Designation	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (X 10 ⁻⁶ /K)	Resistance Range (Ω)			Maximum Working Voltage	Maximum Overload Voltage	Operating Temp. Range
					D±0.5% E-24/E-96	F±1% E-24/E-96	J±5% E-24			
WK73R1E	0.33W ¹	70°C	125°C	±100	—	10 - 1M	10 - 1M	75V	100V	-55°C to +155°C
WK73R1J	0.5W ¹	70°C	125°C	±100	—	10 - 1M	10 - 1M	150V	200V	
WK73R2A	0.75W ¹	70°C	125°C	±100	—	20.5k - 1M	22k - 1M	200V	400V	
	1.0W ¹	70°C	125°C	±100	—	10 - 20k	10 - 20k			
WK73R2B	0.75W	70°C	125°C	±100	10 - 1M	10 - 1M	10 - 1M	200V	400V	
	1.0W ¹	70°C	115°C	±100	10 - 9.76k	10 - 9.76k	10 - 9.1k			
WK73R2H	1.0W	70°C	125°C	±100	—	10 - 430k	10 - 430k	200V	400V	
				±200	—	432k - 1M	470k - 1M			
WK73R2J	1.0W	70°C	100°C	±100	—	10 - 510k	10 - 510k	200V	400V	
				±200	—	511k - 1M	560k - 1M			
WK73R3A	1.5W	70°C	125°C	±100	—	10 - 330k	10 - 330k	200V	400V	
				±200	—	332k - 1M	360k - 1M			
	2.0W ¹	70°C	115°C	±100	—	10 - 330k	10 - 330k			
				±200	—	332k - 1M	360k - 1M			

Pulse Power

WG73: Flat chip resistors (anti-surge)

Part Designation	Power Rating	Rated Ambient Temperature	Rated Terminal Part Temperature	T.C.R. (X 10 ⁻⁶ /K)	Resistance Range (Ω)		Maximum Working Voltage	Maximum Overload Voltage	Operating Temperature Range
					K±10% E-12	M±20% E-12			
WG732B	1.0W	70°C	±125°C	±100	560m ~ 1k	560m ~ 1k	200V	400V	-55°C to +155°C
WG732H	1.5W	70°C	±125°C	±100	560m ~ 1k	560m ~ 1k	200V	400V	-55°C to +155°C
WG733A	2.0W	70°C	±125°C	±100	560m ~ 1k	560m ~ 1k	200V	400V	-55°C to +155°C

Applications & Ratings

Low Resistance

Thick Film

WK73S: Resistance range of 10m to 9.76Ω

Part Designation	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (X 10 ⁻⁶ /K)	Resistance Range (Ω)			Maximum Working Voltage	Maximum Overload Voltage	Operating Temp. Range
					D±0.5% E-24/E-96	F±1% E-24/E-96	J±5% E-24			
WK73S2A	1.0W ¹	70°C	125°C	±100	—	1 - 9.76	1 - 9.1	200V	400V	-55°C to +155°C
				0~+200	—	30m - 976m	30m - 910m			
				0~+300	—	20m - 29.4m	20m - 27m			
WK73S2B	0.75W	70°C	125°C	±800	—	—	10m - 27m	200V	400V	
				±200	—	30m - 422m	30m - 390m			
				±100	430m - 9.76	430m - 9.76	430m - 9.1			
	1.0W ¹	70°C	115°C	±800	—	—	10m - 27m			
				±200	—	30m - 422m	30m - 390m			
				±100	430m - 9.76	430m - 9.76	430m - 9.1			
WK73S2H	1.0W	70°C	125°C	±800	—	—	10m - 24m	200V	400V	
				±200	—	27m - 215m	27m - 200m			
				±100	—	220m - 9.76	220m - 9.1			
WK73S2J	1.0W	70°C	100°C	±800	—	—	10m - 30m	200V	400V	
				±200	—	33m - 237m	33m - 220m			
				±100	—	240m - 9.76	240m - 9.1			
WK73S3A	1.5W	70°C	125°C	±800	—	—	10m - 20m	200V	400V	
				±300	—	22m - 32.4m	22m - 30m			
				±200	—	33m - 357m	33m - 330m			
	±100	—	360m - 9.76	360m - 9.1						
	2.0W ¹	70°C	115°C	±800	—	—	10m - 20m			
				±300	—	22m - 32.4m	22m - 30m			
±200				—	33m - 357m	33m - 330m				
				±100	—	360m - 9.76	360m - 9.1			

Thick Film Current Sense

WU73: Resistance range of 10m to 100mΩ

Part Designation	Power Rating	Rated Ambient Temperature	Rated Terminal Part Temperature	T.C.R. (X 10 ⁻⁶ /K)	Resistance Range (Ω) E-24, 25m, 50m	Resistance Tolerance	Operating Temperature Range
WU732B	1.0W	70°C	115°C	±100	10m~12m	F: ±1%	-55°C to +155°C
				±75	13m~27m		
				±100	30m~100m		
WU732B15	1.5W	70°C	95°C	±100	10m~12m	F: ±1%	-55°C to +155°C
				±75	13m~27m		
				±100	30m~100m		

Applications & Ratings

High Power

WK73R/WK73S: Power rating of 1.5 to 3 Watt

Thick Film

WK73R

Part Designation	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (X 10 ⁻⁶ /K)	Resistance Range (Ω)			Maximum Working Voltage	Maximum Overload Voltage	Operating Temp. Range
					D±0.5% E-24/E-96	F±1% E-24/E-96	J±5% E-24			
WK73R2B15	1.5W	70°C	95°C	±100	10 - 9.76k	10 - 9.76k	10 - 9.1k	200V	400V	-55°C to +155°C
WK73R2H2	2.0W	70°C	95°C	±100	—	10 - 430k	10 - 430k	200V	400V	
				±200	—	432k - 1M	470k - 1M			
WK73R3A3	3.0W	70°C	95°C	±100	—	10 - 330k	10 - 330k	200V	400V	
				±200	—	332k - 1M	360k - 1M			

Thick Film Current Sense

WK73S

Part Designation	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (X 10 ⁻⁶ /K)	Resistance Range (Ω)			Maximum Working Voltage	Maximum Overload Voltage	Operating Temp. Range
					D±0.5% E-24/E-96	F±1% E-24/E-96	J±5% E-24			
WK73S2B15	1.5W	70°C	95°C	±100	430m - 9.76	430m - 9.76	430m - 9.1	200V	400V	-55°C to +155°C
				±200	—	30m - 422m	30m - 390m			
				±800	—	—	10m - 27m			
WK73S2H2	2.0W ¹	70°C	95°C	±100	—	220m - 9.76	220m - 9.1	200V	400V	
				±200	—	27m - 215m	27m - 200m			
				±800	—	—	10m - 24m			
WK73S3A3	3.0W	70°C	95°C	±100	—	360m - 9.76	360m - 9.1	200V	400V	
				±200	—	33m - 357m	33m - 330m			
				±300	—	22m - 32.4m	22m - 30m			
				±800	—	—	10m - 20m			

Applications & Ratings

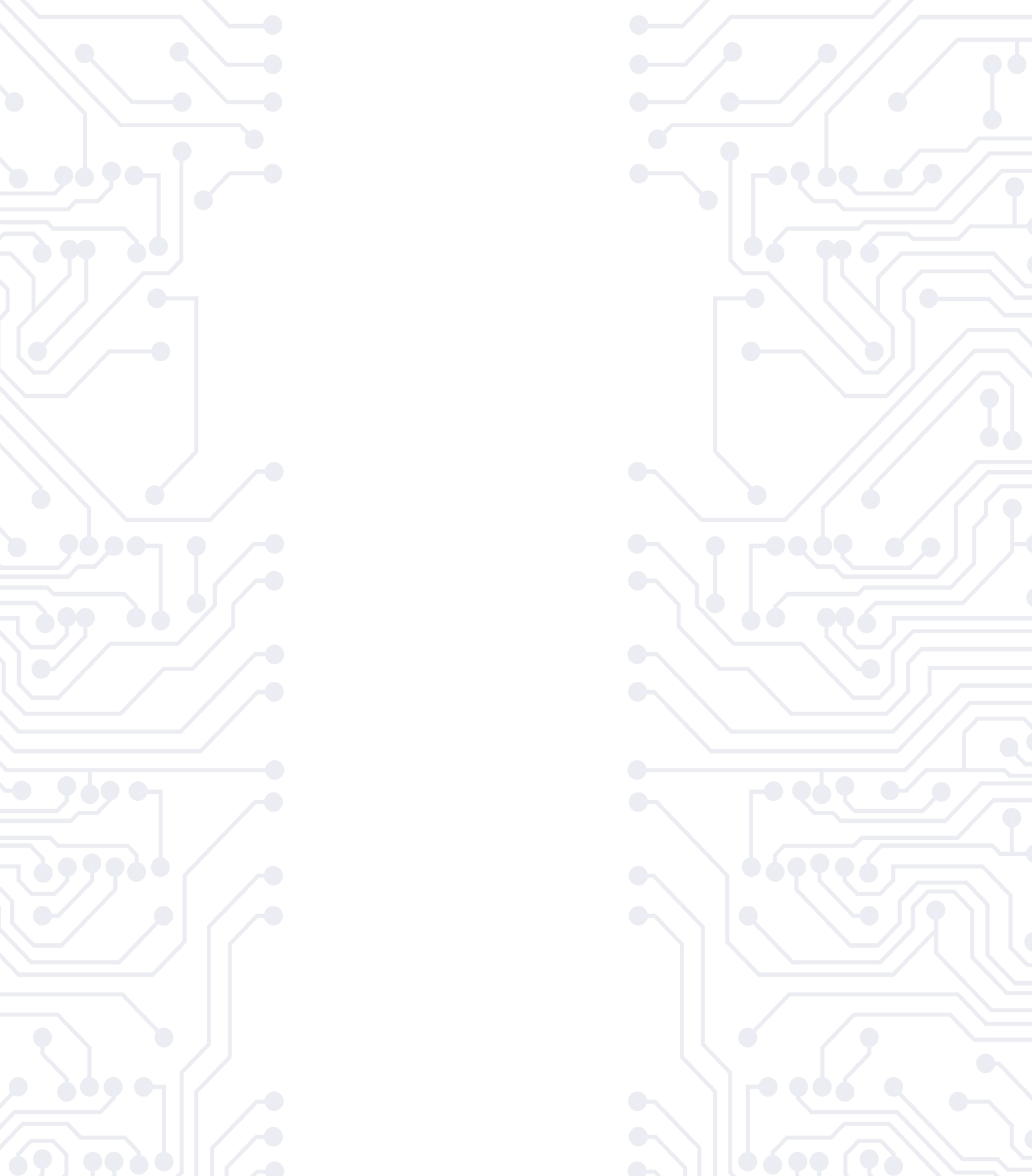
Anti-Sulfur

WK73R-RT/WK73S-RT: Power rating of 0.75 to 2 Watt

Part Designation	Power Rating	Rated Ambient Temperature	Rated Terminal Part Temperature	T.C.R. (X 10 ⁻⁶ /K)	Resistance Range (Ω)		Maximum Working Voltage	Maximum Overload Voltage	Operating Temperature Range			
					F±1% E-24 · E-96	J±5% E-24						
WK73S2A	1.0W ¹	—	125°C	±100	1 ~ 9.76	1 ~ 9.1	200V	400V	-55°C to +155°C			
WK73R2A	0.75W	—	125°C	±100	20.5k ~ 1M	22k ~ 1M						
	1.0W ¹	—	125°C	±100	10 ~ 20k	10 ~ 20k						
WK73S2B	0.75W	70°C	115°C	±100	1 ~ 9.76	1 ~ 9.1						
	1.0W ¹	—	115°C	±100 ±150	1 ~ 9.76 0.3 ~ 0.976	1 ~ 9.1 0.3 ~ 0.91						
WK73R2B	0.75W	70°C	125°C	±100	10 ~ 9.76k	10 ~ 9.1k						
	1.0W ¹	—	115°C	±200 ±100	10k ~ 1M 10 ~ 9.76k	10k ~ 1M 10 ~ 9.1k						
WK73S2H	1.0W	70°C	125°C	±100 ±150	1 ~ 9.76 0.2 ~ 0.976	1 ~ 9.1 0.2 ~ 0.91				200V	400V	-55°C to +155°C
WK73R2H	1.0W	70°C	125°C	±100	10 ~ 430k	10 ~ 430k						
				±200	432k - 1M	470k - 1M						
WK73S2J	1.0W	70°C	100°C	±100	1 ~ 9.76	1 ~ 9.1				200V	400V	-55°C to +155°C
WK73R2J	1.0W	70°C	100°C	±100	10 ~ 510k	10 ~ 510k						
				±200	511k ~ 1M	560k ~ 1M						
WK73S3A	1.5W	70°C	125°C	±100	1 ~ 9.76	1 ~ 9.1	200V	400V	-55°C to +155°C			
	2.0W ¹	—	115°C	±100	1 ~ 9.76	1 ~ 9.1						
WK73R3A	1.5W	70°C	125°C	±100	10 ~ 330k	10 ~ 330k						
				±200	332k - 1M	360k - 1M						
	2.0W ¹	—	115°C	±100	10 ~ 330k	10 ~ 330k						
				±200	332k - 1M	360k - 1M						

WK73R-RT (HP)/WK73S-RT (HP): Power rating of 1.5 to 3 Watt

Part Designation	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (X 10 ⁻⁶ /K)	Resistance Range (Ω)		Maximum Working Voltage	Maximum Overload Voltage	Operating Temperature Range			
					F±1% E-24 · E-96	J±5% E-24						
WK73S2B15R	1.5W	70°C	95°C	±100	1 ~ 9.76	1 ~ 9.1	200V	400V	-55°C to +155°C			
				±150	0.3 ~ 0.976	0.3 ~ 0.91						
WK73R2B15R	1.5W	70°C	95°C	±100	10 ~ 9.76k	10 ~ 9.1k						
				±100	1 ~ 9.76	1 ~ 9.1						
WK73S2H2R	2.0W	70°C	95°C	±150	0.2 ~ 0.976	0.2 ~ 0.91				200V	400V	-55°C to +155°C
				±100	10 ~ 430k	10 ~ 430k						
WK73R2H2R	2.0W	70°C	95°C	±200	432k - 1M	470k - 1M						
WK73S3A3R	3.0W	70°C	95°C	±100	1 ~ 9.76	1 ~ 9.1	200V	400V	-55°C to +155°C			
WK73R3A3R	3.0W	70°C	95°C	±100	10 ~ 330k	10 ~ 330k						
				±200	332k - 1M	360k - 1M						



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