Carbon Film Fixed Resistors Series

KLS6-Carbon Film Fixed Resistors Series

1.Features

- Temperature Range -55 $^\circ\text{C}$ ~ +155 $^\circ\text{C}$
- ± 5% tolerance
- High quality performance at economical prices
- Compatible with automatic insertion equipment
- Flame retardant type available
- Weldable type with copper plated lead wire available
- Values below 1Ω or above $10M\Omega$ are available by special request, please ask for details

Dimension (Unit: mm)



	pow er	pow er Dimension(mm)					Max.	Insulation	Resistance
Code	(70° C)	D Max.	LMax.	d ^{+0.02} -0.05	H±3	w orking voltage	Permission voltage	dielectric strength	range
Standard Size									
1/8W	1/8W	1.85	3.5	0.5	28	200V	400V	400V	1Ω~10MΩ
1/4W	1/4W	2.5	6.8	0.6	28	250V	500V	500V	1Ω~10MΩ
1/2W	1/2W	3.5	10	0.6	28	350V	700V	700V	1Ω~10MΩ
1W	1W	5	12	0.7	28	500V	1000V	1000V	$1\Omega \sim 10 M\Omega$
2W	2W	5.5	16	0.8	28	500V	1000V	1000V	1Ω~10MΩ
Small Size									
1/4WS	1/4W	1.85	3.5	0.5	28	200V	400V	400V	1Ω~10MΩ
1/2WS	1/2W	2.5	6.8	0.6	28	250V	500V	500V	1Ω~10MΩ
1WS	1W	3.5	10	0.6	28	500V	1000V	1000V	1Ω~10MΩ
2WS	2W	5	12	0.7	28	500V	1000V	1000V	$1\Omega \sim 10M\Omega$
3WS	3W	5.5	16	0.8	28	500V	1000V	1000V	1Ω~10MΩ

DERATING CURVE







TEMPERATURE COEFFICIENT

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All specification & dimensions are subject to change, please call your nearest KLS sales represesntative for update information

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CHARACTERISTICS

Characteristics		Limits		Test Methods (JIS	Test Methods (JIS C 5201-1)			
DC. Resistance	Must be within th tolerance.	e specified		5.1 The limit of error of measuring apparatus shall not exceed allowable range or 5% of resistance tolerance				
Temperature coefficient	Resist. Range T.C.R. (PPM / < 10 Ω			5.2 Natural resistance change per temp. degree centigrade. R2-R1 x106 (PPM/°C) R1(t2-t1) R1: Resistance value at room temperature (t1) R2: Resistance value at room temp.plus 100°C (t2)				
Short time overload	Resistance chan $\pm (1 \% + 0.05\Omega)$ evidence of mech	Max. with no)	5.5 Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds.				
Insulation Resistance	Insulation resista 10,000 MΩ Min	nce is		5.6 Resistors shall be clamped in the trough of a 90° metallic V-block and shall be tested at DC potential respectively specified in the above list for 60 +10/ -0 seconds.				
Dielectric withstanding voltage	No evidence of flashover mechanical damage, arcing or insulation break down.			5.7 Resistors shall be clamped in the trough of a 90° metallic V-block and shall be tested at AC potential respectively specified in the table 1 for 60 + 10/-0 seconds.				
Terminal strength	No evidence of mechanical damage.			6.1 Direct load Resistance to a 2.5 kgs direct load for 10 secs. in the direction of the longitudinal axis of the terminal leads. Twist test : Terminal leads shall be bent through 90° at a point of about 6mm from the body of the resistor and shall be rotated through 360 about the original axis of the bent terminal in alternating direction for a total of 3 rotations.				
Resistance to soldering heat	Resistance change rate is $\pm (1\% + 0.05\Omega)$ Max. with no evidence of mechanical damage.			6.4 Permanent resistance change when leads immersed to 3.2 to 4.8 mm from the body in $350 \text{ °C} \pm 10 \text{ °C}$ solder for 3 ± 0.5 seconds				
Solderability	95 % coverage Min.			 6.5 The area covered with a new , smooth clean , shiny and continuous surface free from concentrated pinholes. Test temp. of solder : 245°C ± 3°C Dwell time in solder : 2 ~ 3 seconds 				
T	Desistence show			7.4 Resistance change after continuous 5 cycles for duty shown below: Step Temperature Time				
cycling	fring heat 6mm from the body of about the original axis for a total of 3 rotation tance to Resistance change rate is ± (1% + 0.05Ω) Max. with no 6.4 Permanent resista evidence of mechanical damage. 350 °C ± 10°C solder rability 95 % coverage Min. 95 % coverage Min. 6.5 The area covered clean , shiny and cont from concentrated pin Test temp. of solder : Dwell time in solder : Dwell time in solder : Step	-55°C ±3°C	30 mins					
			e.		Room temp.	10~15 mins		
					+155°C ±2°C	30 mins		
				4	Room temp.	10~15 mins		
Load life in humidity		value < than 100KΩ >100KΩ	ΔR/R ± 3 % ± 5 %	operating at RCWV	hour "off") in a humidity olled at 40°C ± 2°C			
Load life	Resistance v	ralue < than 56KΩ	ΔR/R ± 2 %	7.10 Permanent resistance change after 1,000 hours operating at RCWV with duty cycle of (1.5 hours "on", 0.5 hour "off") at 70°C ± 2°C ambient				

ORDER INFORMATION

KLS6-CF-1/8W-	10KR-J A			
Part Number	Packing Type: A = Tape / Box	R = Tape / Reel	B = Bulk / Box	
Carbon Film Fixed Resistors —	Tolerance: J = ± 5%			
Power Code	Standard Values			

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