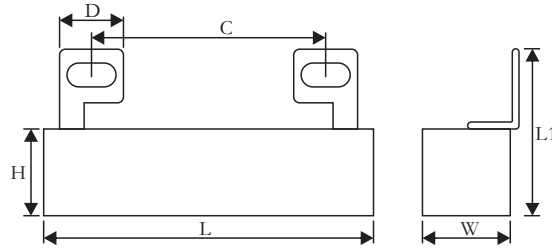


● Features

- I Good heat-durability, low temperature coefficient, low noise, high load power, high insulating capacity.
- II Operating ambient temperature: -55°C to $+275^{\circ}\text{C}$

● Dimensions, Applications And Ratings



Type	Power (W)	Resistance Range(Ω)	Tolerance Range	Dimensions(mm)				
				L \pm 1	W \pm 1	H \pm 1	C \pm 1	D \pm 0.5
MS	10	1R~100KR	J \pm 5%	48	12	12	28	14
MS	20	1R~100KR	K \pm 10%	63	12	12	45	14

● Ordering Information

Example:

MS	10	J	10R00
(1)	(2)	(3)	(4)
Series Name	Power Rating	Resistance Tolerance	Resistance

(1) Type: MS SERIES

(2) Power Rating: 10=10W, 20=20W

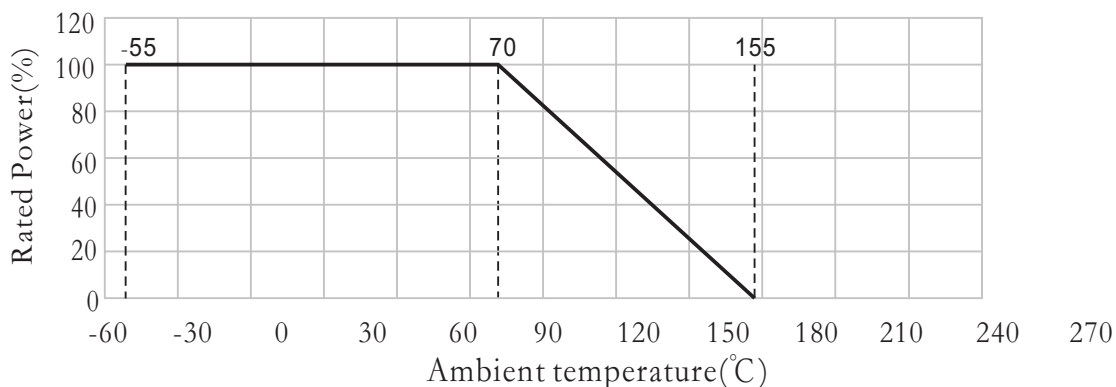
(3) Tolerance: F= \pm 1%, G= \pm 2%, J= \pm 5%, K= \pm 10%

(4) Resistance Value: 0R100=0.1 Ω , 1R000=1 Ω , 4R700=4.7 Ω , 10K00=10K Ω

● Reference Standards

JISC 5201-1

● Derating Curve



● Performance

Test Items	Performance	Test Methods(JIS C 5201-1)
Temperature coefficient	$\pm 300\text{ppm}/^{\circ}\text{C}$	Test resistance value at normal temperature and normal temperature added 100°C , calculate 70°C resistance value change rate.
Short time overload	$\Delta R \leq \pm (2\%R_0 + 0.05\Omega)$	1~4W: According 5 times rated power to account the voltage, 5~10W: According 10 times rated power to account the voltage or max. overload voltage(get the lower) for 5 seconds.
Resistance to soldering heat	$\Delta R \leq \pm (1\%R_0 + 0.05\Omega)$	Immerge into the $350 \pm 10^{\circ}\text{C}$ tin stove for 2~3 seconds
Solderability	Tth soldering area is over 95%	Immerge into the $245 \pm 3^{\circ}\text{C}$ tin stove for 2~3 seconds
Temperature cycle	$\Delta R \leq \pm (1\%R_0 + 0.05\Omega)$	At -55°C for 30min, then at $+25^{\circ}\text{C}$ for 10~15min, then at $+275^{\circ}\text{C}$ for 30min, then at $+25^{\circ}\text{C}$ for 10~5, min, total 5cycles.
Load life in humidity	$\Delta R \leq \pm (5\%R_0 + 0.05\Omega)$	Overload rated voltage or Max.working voltage(get the lower)for 1000hours (1.5hours on and half-hour off) at the $40 \pm 2^{\circ}\text{C}$ and 90~95% relative humidity.
Nonflammability	No visible flame	Respectively load AC voltage by 5,10,16 times rated power for 5 minutes.