

Cement resistors

WCR/WGR

FEATURES

- High power dissipation in small volume
- High pulse load handing capabilities

APPLICATIONS

- PDP, LCD power board
- Power supplies.

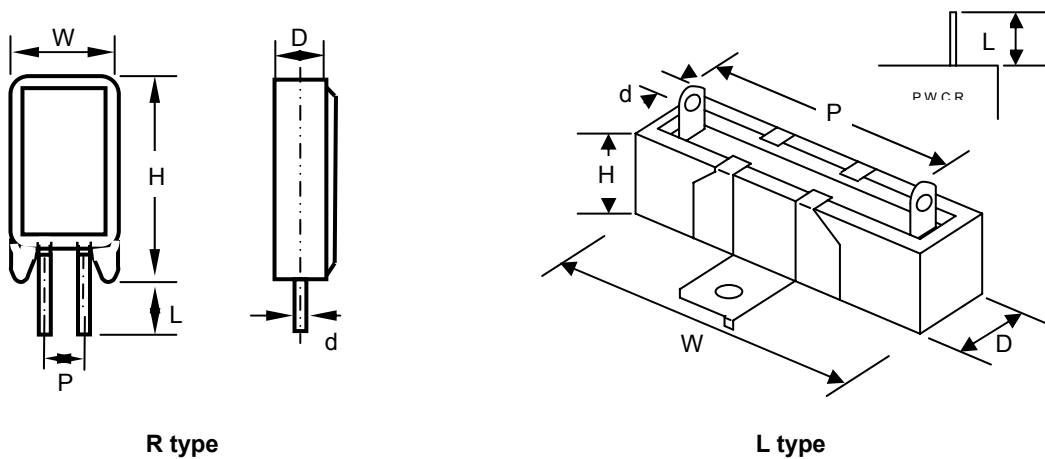
DESCRIPTION

The resistor element is a resistive wire which is wound in a single layer on a ceramic rod or fiber glass core.

metal caps are pressed over the ends of the rod. The ends of the resistance wire and the leads are connected to the caps by welding.

The resistor body and lead ends are housed with in a rectangular ceramic case which is non-flammable, will not melt even at high overloads and is resistant to most commonly used.

DIMENSIONS



Type			Dimensions (mm)					
			W ±1.0	H ±1.0	D ±1.0	P ±1.0	L ±1.0	d ±0.05
WCR	5W	R type	13	25	10	5	4.5	0.8
WGR								
WCR	7W	R type	13	38	10	5	4.5	0.8
WGR								
WGR 10W	L type	L type	48	9.5	9.5	35	10	6
WGR 20W			62	12.5	12.5	48	10	6
WGR 30W			74	20	20	59	10	7

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QUICK REFERENCE DATA

DESCRIPTION		VALUE				
		WC(G)R 5W	WC(G)R 7W	WGR 10W	WGR 20W	WGR 30W
resistance range	Ceramic core	0.1 Ω ~ 300 Ω		-		
	Glass core					
resistance tolerance		±5%, ±2% (E24)				
temperature coefficient		± 250 ppm / °C				
rated dissipation at T _{amb} = 70 °C		5W	7W	10W	20W	30W
max. working voltage		√P×R	√P×R	√P×R	√P×R	√P×R
basic specifications		IEC 60 115-1 and 60 115-2				
climatic category (IEC60068)		40 / 200 / 56				

ORDERING INFORMATION

Ordering code indicating resistor types and packing

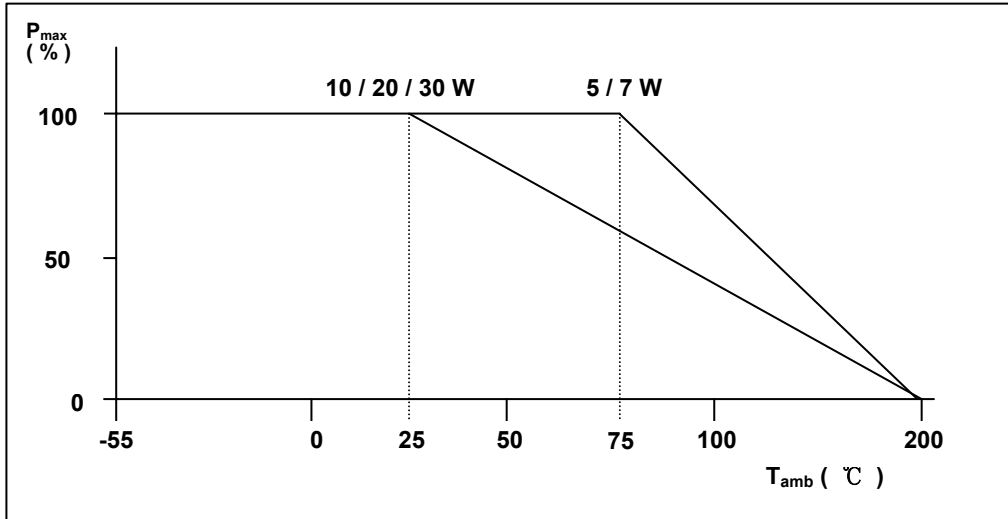
Type		Packing	Quantity	Tol. ± %	Ordering code
WCR	5W	Bulk	100 pcs	±5%	PWCR 185 13xxx
WGR					PWGR 165 13xxx
WCR	7W				PWCR 187 13xxx
WGR					PWGR 167 13xxx
WGR 10W					PWGR 160 13xxx
WGR 20W					PWGR 168 13xxx
WGR 30W			200 pcs		PWGR 169 13xxx

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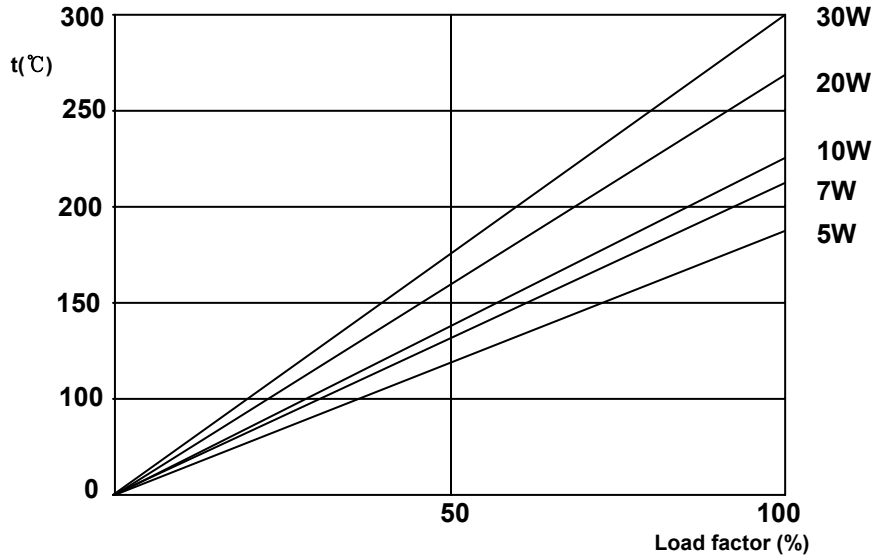
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The maximum permissible hot – spot temperature is 200 °C.

Derating curve



Hot spot temperature



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Test procedures and requirements

Electrical and mechanical characteristics the following characteristics must be inspected regularly for compliance with the requirements according to the instruction.

TEST	PROCEDURE	REQUIREMENTS
terminal strength	Load : 4.5Kg ; 10s	No evidence of mechanical damage or loosening terminals.
solderability	5s; 260 °C flux 600	good tinning ; no damage
resistance to soldering heat	thermal shock : 3s; 350 °C; 2.5mm from body	$\pm (2\%+0.05 \Omega)$
rapid change of temperature	30minutes at -55 °C and 30minutes at +155 °C; 5cycles	$\pm (2\%+0.05 \Omega)$
damp heat (steady state)	56days; 40 °C; 90 to 95% RH; dissipation 0.01 P _n	$\pm (3\%+0.05 \Omega)$
endurance	1000hours at 70 °C; P _n or V _{max} 1.5 hours on and 0.5 hours off	$\pm (5\%+0.1 \Omega)$
temperature coefficient	between -55 °C and +155 °C (TC x 10 ⁻⁶ /K)	$\pm 250\text{ppm} / \text{°C}$
insulation resistance	500V _{DC} during 1minute;	R _{ins min} : 1000 MΩ
short time overload	rated voltage x 2.5, 5s on 45sec off 5 cycles	$\pm (2.0\%+0.05 \Omega)$