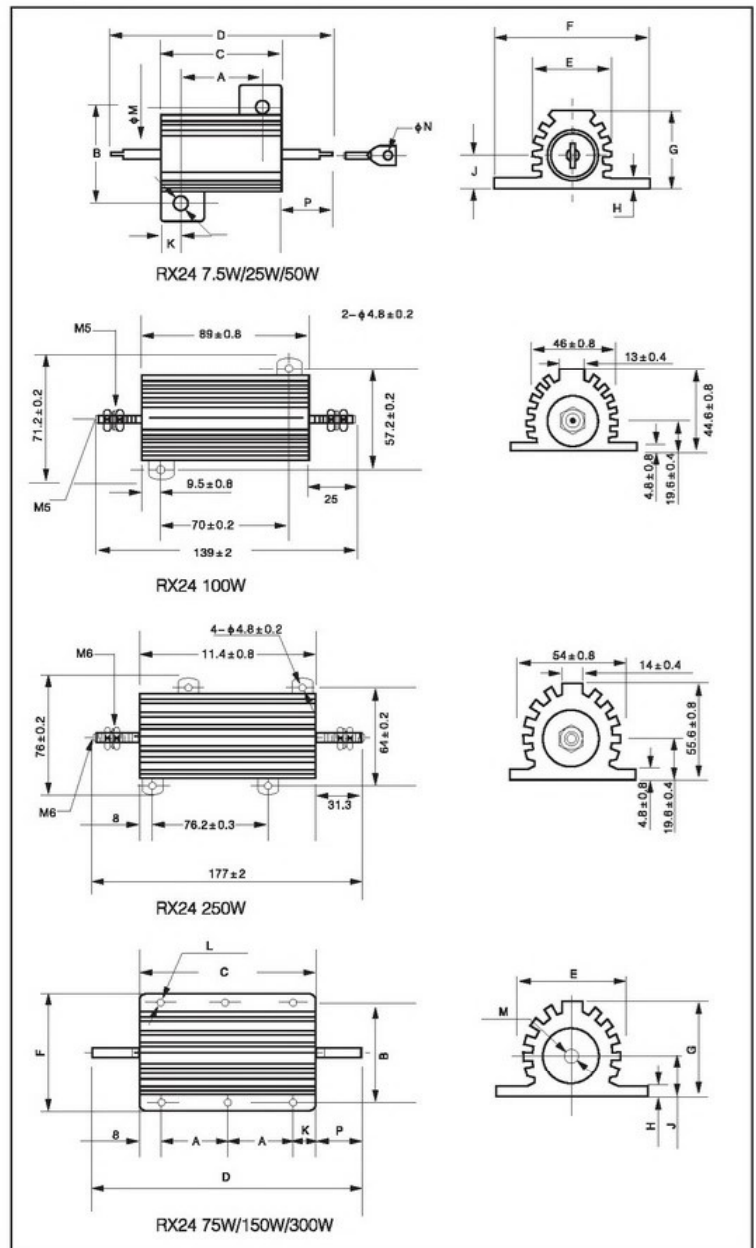


RX24 铝外壳功率线绕电阻器

aluminium encased power wire-wound resistors



■ 构造图 Construction(mm)



■ 产品特点 Features

- 功率大且坚固,耐震
- 散热性好
- 电阻温度系数小,呈直线变化
- High power and rugged, shock-proof
- Good heat-sink
- Low TCR, and good linearity

■ 应用范围 Applications

- 适用于大型机械设备
- 负荷测试, 电力电源
- 变频器
- 伺服电机及高要求等恶劣工控环境
- Used in large-size machinery
- Load test, power supply and electricity
- Frequency inverter
- Serve motor and other harsh industry environment

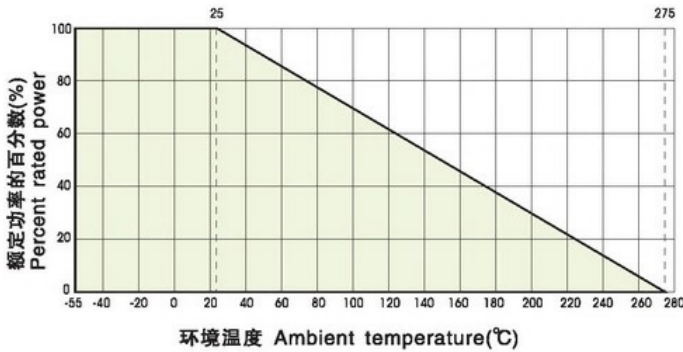
■ 执行标准 Reference Standards

Q/ATK035-2002

■ 外形尺寸 Dimensions(mm)

型号 Type	外形尺寸 Dimensions(mm)													
	A±0.1	B±0.1	C±0.2	D±1.5	E±0.4	F±0.1	G±0.4	H±0.2	J±0.2	K±0.2	L±0.1	M±0.02	N±0.1	P±0.1
RX24 7.5W	11.2	12.5	15.2	28.6	8.5	16.4	8.1	1.7	3.8	2	2.4	1.5	1.3	6.7
RX24 12.5W	14.2	15.9	19	34.9	10.7	20.3	9.9	1.9	4.2	2.4	2.4	2	2.2	7.95
RX24 25W	18.2	19.8	27	49.2	14	27.4	13.9	1.9	5.9	4.4	3.2	2	2.2	11.1
RX24 50W	40	21.4	50	70.6	16	29	15.5	2.2	6.6	5	3.2	2	2.2	10.3
RX24 75W	23.5	37	65.5	93.5	27	48	26	3.5	11.5	9.2	4.4	M3/3	—	14
RX24 150W	52	37	130	158	27	48	26	3.5	11.5	13	4.4	M3/3	—	14
RX24 300W	51	58	130	170	46.5	73	45	5	21	14	5.5	M6	—	20

■ 加热吸收板的降功耗曲线 Derating Curve of Heatsink



■ 额定功率 Rated Power

Rx24电阻器额定功率下工作须依据下列尺寸安装热吸收板 (单位: mm)。

(RX resistor power ratings are to be mounted with the following heat sink:

RX24 7.5W/12.5W: 102 × 152 × 51 × 1mm(832cm²)

RX24 25W: 127 × 178 × 51 × 1mm(1077cm²)

RX24 50W: 305 × 305 × 1.5mm(1877cm²)

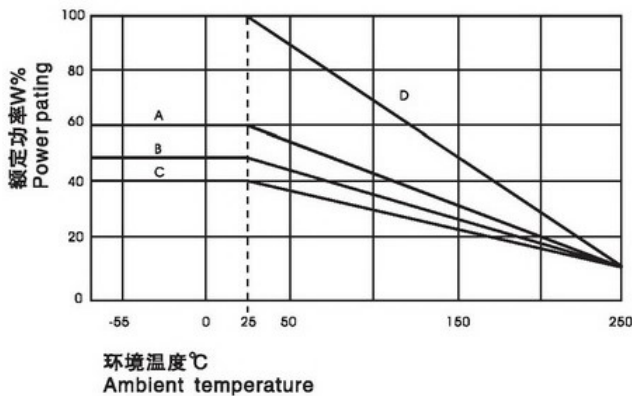
RX100W/250W: 305 × 305 × 3.2mm(1896cm²)

RX24 75W: 305 × 305 × 1.5mm(1877 cm²)

RX24 150W: 305 × 305 × 3.2mm(1896 cm²)

RX24 300W: 3750cm² × 3.2mm

■ 降功耗曲线 Derating Curve



■ 环境温度与降功耗曲线 Ambient Temperature vs Derating Curve

Rx24电阻器在环境温度大于25°C时所需的降功耗曲线图。(Derating is required for ambient temperatures above 25, see the following graph.)

A, B, C曲线时适用于没有安装热吸收板的RE电阻器降功耗曲线;

(Curves A, B, C apply to operation of unmounted resistors;)

D曲线是适用于所有安装热吸收板RE电阻器的降功耗曲线。

(Curves D applies to all types mounted with specified heat sink.)

A: RX24 7.5W/12.5W不安装(unmounted)。

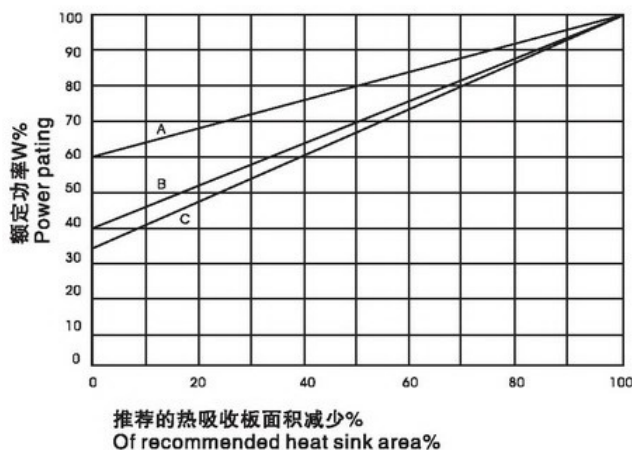
B: RX24 75W电阻器没有安装情况下。

C: RE24 150W; 300W电阻器没有安装情况下。

D: 安装推荐的热吸收板上。

(D: mounted with recommended aluminum heat sink.)

■ 热吸收板的降功耗曲线 Derating Curve of Heatsink



■ 减少热吸收板的降功耗曲线 Reduced Heat Sink Derating Curve

当推荐安装的热吸收板面积被减少时, 电阻器需要降功耗使用。

(Derating is also required when recommended heat sink area is reduced.)

A: RX24 7.5W/12.5W

B: RX24 25W

C: RX24 50W/100W/250W

RX24 铝外壳功率线绕电阻器

aluminium encased power wire-wound resistors



■技术说明 Technical Specifications

型号 Type	MIL-PR F-18546TYPE	额定功率P25℃ Rated power(W)		阻值范围 Resistance Range			绝缘电压 (AC)	温度系数 (10 ⁻⁶ /K)
		民用(Civil)	军用(Military)	±0.25%	±0.5%	±1%, ±5%, ±10%		
RX24 7.5W	-	7.5(5)		R50~1K2	R10~1K2	R10~3K32	1000V	±20
	RE60G		5	-	-			
RX24 7.5WN	-	7.5(5)		1R0~200R	1R0~860R	1R~1K65		
	RE60N		5	-	-			
RX24 12.5W	-	12.5(10)		R50~2K7	R10~2K7	R10~5K62		
	RE65G		10	-	-			
RX24 12.5WN	-	12.5(10)		1R0~1K2	1R0~1K2	1R0~2KB		
	RE65N		10	-	-			
RX24 25W	-	25		R10~3K9	R10~3K9	10R~12K1		
	RE70N		20	-	-			
RX24 25WN	-	25		1R0~2K7	1R0~2K7	1R0~6K04		
	RE70N		20	-	-			
RX24 50W	-	50		R10~5K6	R10~5K6	10R~39K2	2000V	±50
	RE75G		30	-	-			
RX24 50WN	-	50		1R0~3K9	1R0~3K9	1R0~19K6		
	RE75N		30	-	-			
RX24 75W	-	100		R05~30K	R5~12K	R5~29K4	4500V	±100
	RE77G		50	-	-			
RX24 75WN	-	100		R05~20K	1R0~5K6	1R0~14K7		
	RE77N		50	-	-			
RX24 120W	-	120		R10~27K	R10~27K	R10~35K7		
	RE80G		60	-	-			
RX24 120WN	-	120		1R0~8K2	1R0~8K2	1R0~17K4		
	RE80N		60	-	-			
RX24 150W	-	150		R05~30K				
			75	-				
RX24 150WN	-	150		R05~20K				
			75	-				
RX24 300W	-	300		R05~35K				
			150	-				
RX24 300WN	-	300		R05~18K				
			150	-				

注: RX24 7.5W/12.5W电阻器上标明的是括号内功率, 新的结构允许电阻器具有更高功率, 但只有客户要求, 才能打印更高功率。

1%或更高阻值精度的非标电阻器可协商定制生产。

NOTE: Figures in parentheses on RX24 7.5W/12.5W is wattage, same as that value on parts, wattage printed on parts, new construction allows these resistors to be rated at higher wattage but will only be printed with the higher wattage on customer request. Please contact us for the production of non-standard resistors with the higher tolerance or 0.1%.

■材料说明 Material Specifications

Material Specifications

电阻丝: 铜镍合金或镍铬合金, 依据阻值大小而定

Element: Copper-nickel alloy or nickel-chromium alloy depending on resistance value

芯料: 陶瓷或滑石瓷依据物理尺寸而定

Core: Ceramic, steatite, depending on physical size

密封材料: 硅酮模压塑料

Encapsulant: Silico molded materials

外壳: 阳极氧化铝外壳

Housing: aluminium with hard anodic coating

帽盖: 不锈钢 End Caps: stainless steel

引出端子: RX24 7.5W~RX24 50W是镀锡铜线

RX24 100W/250W是带螺纹的不锈钢棒

Standard Terminals: Tinned Copper wires on RX24 7.5W CMEL

RX24 50W Threaded stainless steel terminals on

RX24 100W/250W

打印标识: 公司商标、日期、公差、型号、功率、阻值

Part Marking: VTM, Model, Wattage, Value, Tolerance, Date Code

■特殊改变 Special Modifications

铝外壳电阻可依据客户要求作如下改变:

Some modifications one available on customer request the details as follow:

引出端形状或材料

Terminal configurations and materials

阻值公差 Resistance values and tolerances

低TCR Low TCR

外壳外形 Housing configuration

安装孔螺纹 Thread of mounting hole

预处理和其他附加实验

Pre-processing and other additional testing

RX24 铝外壳功率线绕电阻器

aluminium encased power wire-wound resistors



■ MIL规范应用

APPLICABLE MIL SPECIFICATIONS

MIL-PRF-18546军用规范涵盖了基板安装功率型铝外壳电阻器。

MIL-PRF-18546 is the military specification covering aluminum housed, chassis mount, power resistors.

■ 无感电阻 Non-inductive resistance

可以通过无感绕制的方法得到具有相同物理和电气特性的产品，并在型号后面加注“N”的方式加以区分

Same physical and electrical characteristics as the normal one are available for non-inductive resistor, also, they are defined by adding another letter N after the model number (RE605N, for example)

■ 性能指标 Performance

试验项目 Test Item	性能要求 Specifications	试验方法 Test Methods
温度冲击 Thermal shock	$\Delta R \leq \pm (0.5\%R + 0.05\Omega)$	$P_R / -55^\circ\text{C}$, 15min
短期过载 Short time overload	$\Delta R \leq \pm (0.5\%R + 0.05\Omega)$	$5P_R$, 5S
耐电压 Dielectric withstanding voltage	$\Delta R \leq \pm (0.2\%R + 0.05\Omega)$	RX24 7.5W-RX24 25W 1000V _{AC} RX24 50W-2000V _{AC} RX24 100W-RX24 250W 4500V _{AC}
耐潮湿 Moisture proof	$\Delta R \leq \pm (1.0\%R + 0.05\Omega)$	40°C, RH93±3%, 240h
耐碰撞 Shock proof	$\Delta R \leq \pm (0.2\%R + 0.05\Omega)$	100g, 6ms, 10cycles
高频率振动 Vibration with high frequency	$\Delta R \leq \pm (0.2\%R + 0.05\Omega)$	10~200HZ, 20g, 6h
长期寿命 Load life	$\Delta R \leq \pm (1.0\%R + 0.05\Omega)$	25°C, P_R , 1000h

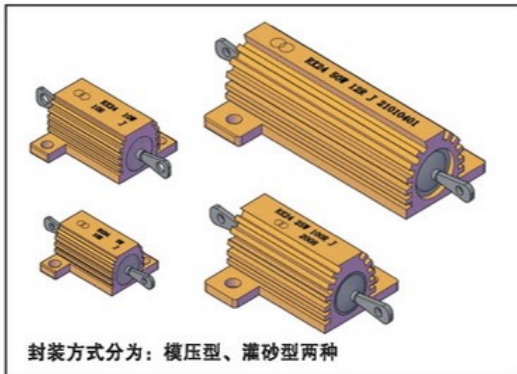
■ 订货示例 How To Order

例如 Example

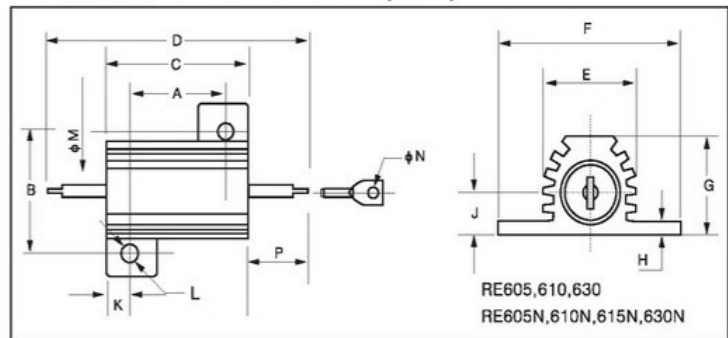
RX24	5W	1KΩ	±0.25%	±50(10 ⁻⁶ /K)	盒装
产品型号 Type	功率 Power	标称阻值 Nominal Value	精度 Tolerance	温度系数 TCR	包装方式 Packaging
RX24	7.5W~300W	1KΩ	±0.25% ±0.5% ±15 ±5% ±10%	±20(10 ⁻⁶ /K) ±50(10 ⁻⁶ /K) ±100(10 ⁻⁶ /K)	盒装 box

RX24 铝外壳功率线绕电阻器

aluminium encased power wire-wound resistors

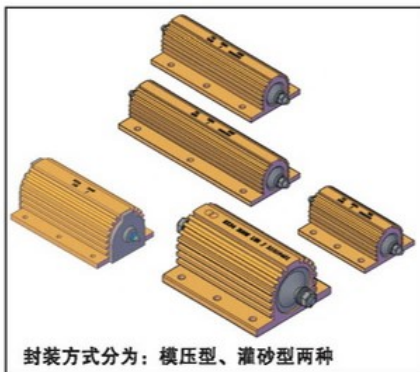


构造图 Construction(mm)

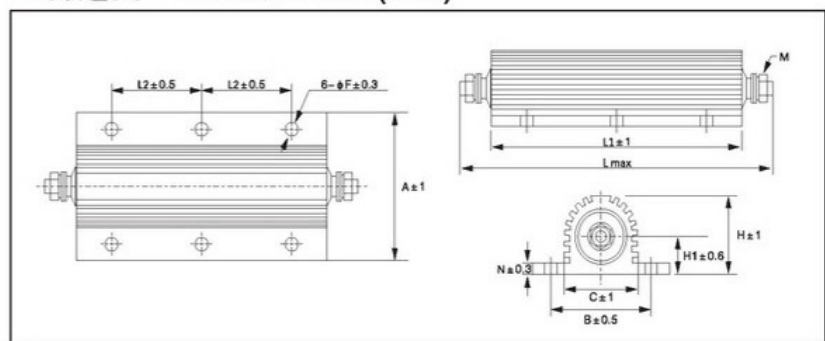


外形尺寸 Dimensions(mm)

型号 Type	外形尺寸 Dimensions(mm)													
	A±0.1	B±0.1	C±0.2	D±1.5	E±0.4	F±0.1	G±0.4	H±0.2	J±0.2	K±0.2	L±0.1	M±0.02	N±0.1	P±0.8
RX24-5W	11.2	12.5	15.2	28.6	8.5	16.4	8.1	1.7	3.8	2	2.4	1.5	1.3	6.7
RX24-10W	14.2	15.9	19	34.9	10.7	20.3	9.9	1.9	4.2	2.4	2.4	2	2.2	8.0
RX24-25W	18.2	19.8	27	49.2	14	27.4	13.1	1.9	5.9	4.4	3.5	2	2.2	11.1
RX24-50W	40	21.4	50	70.6	16	29	15.5	2.2	6.6	5	3.2	2	2.2	10.3



构造图 Construction(mm)



外形尺寸 Dimensions(mm)

型号 Type	外形尺寸 Dimensions(mm)										
	L	L1	L2	A	B	C	H	H1	F	N	M
RX24-75W	90	65.4	23.5	48	37	27	26	13.3	4.5	3.4	4
RX24-100W	124	98	35	48	37	27	26	13.3	4.5	3.4	4
RX24-150W	155	130	52	48	37	27	26	13.3	4.5	3.4	4
RX24-200W	133	92	35	73	58	46	45	21	5.4	5	6
RX24-250W	154	112	45	73	58	46	45	21	5.4	5	6
RX24-300W	174	130	51	73	58	46	45	21	5.4	5	6

技术说明 Technical Specifications

型号 Type	带散热板 25℃功率	无散热板 25℃功率	阻值范围	最大工作电压 DC/AC有效值	绝缘电压(V)	散热板面积 cm ²	散热板厚度 cm
RX24-5	5W	3W	R1-3K	142	1000	832	1
RX24-10	10W	6W	R1-4K7	245	1000	832	1
RX24-25	25W	12.5W	R1-10K0	500	1000	1077	1
RX24-50	50W	20W	R1-12K	1000	2000	1877	1.5
RX24-75	75W	45W	R2-15K	1400	2000	995	3
RX24-100	100W	50W	R5-18K	1900	2000	995	3
RX24-150	150W	55W	R5-20K	2500	2000	995	3
RX24-200	200W	60W	R5-25K	1900	4000	3750	3
RX24-250	250W	65W	R5-28K	2200	4500	3750	3
RX24-300	300W	75W	R5-30K	2500	5000	5780	3

产品特点 Features

- 模压结构, 坚固
- 耐振动冲击、耐潮湿
- 散热性好
- 小体积、大功率
- 外形美观、易于安装
- Molded construction, strong
- Resistance to vibration, shock and humidity
- Good heat dissipation
- Small volume and high power
- Beautiful appearance, easy to install

执行标准 Reference Standards

Q/WCD29-2019

应用范围 Applications

- 负荷测试、电力电源
- 变频器、伺服驱动
- 仪器仪表、自动控制
- 轨道交通、新能源汽车
- Loadtest, powersupply
- Inverter, servodrive
- Instrumentation, automaticcontrol
- Railtransit, newenergyelectricvehicles

性能指标 Performance

特性 Characteristics	性能要求 Specifications	试验方法 Test Methods
短期过负荷	$\Delta R \leq \pm(2\%R + 0.05\Omega)$	5倍额定功率, 5s
耐电压	无击穿飞弧	1000Vac ~ 5000Vac 60s 漏电流: 1mA
绝缘电阻	$\geq 1G\Omega$	测试电压: 500Vdc \pm 50Vdc 60s
温度系数	$\leq \pm 250ppm/^{\circ}C$	GB/T 5729-2003 第4.8条
振动	$\Delta R \leq \pm(1\%R + 0.05\Omega)$	10Hz ~ 500Hz 0.75mm或加速度98m/s ² (取小者) 6h
冲击	$\Delta R \leq \pm(1\%R + 0.05\Omega)$	加速度490m/s ² 半正弦波 11ms 共18次
温度快速变化	$\Delta R \leq \pm(1\%R + 0.05\Omega)$	-55 $^{\circ}C$ 30min 155 $^{\circ}C$ 30min
稳态湿热	$\Delta R \leq \pm(5\%R + 0.10\Omega)$	40 $^{\circ}C \pm 2^{\circ}C$ 湿度90% ~ 95% 21天
室温耐久性	$\Delta R \leq \pm(5\%R + 0.10\Omega)$	额定功率 1000h 1.5h通, 0.5h断
表面温升	$\leq 175K$	GB/T 5729-2003 第4.14条 额定功率, 达到热平衡

降功耗曲线 Derating Curve

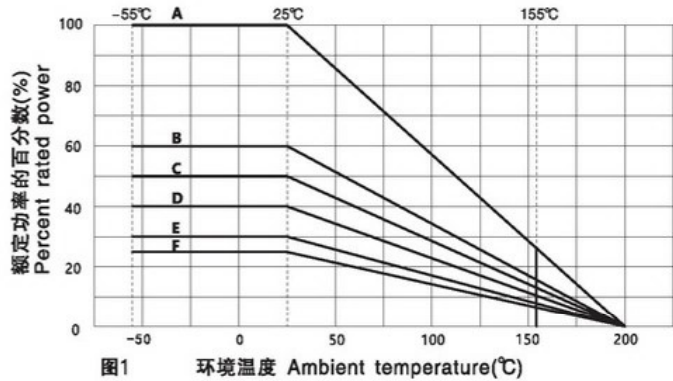


图1 中曲线A为安装标准散热板的RX24降功耗曲线

图1 中B、C、D、E、F曲线适用于不安装标准散热板的降功耗曲线

B: RX24-5W、RX24-10W不安装

C: RX24-25W不安装

D: RX24-75W、RX24-100W、RX24-150W不安装

E: RX24-50W、RX24-200W不安装

F: RX24-250W、RX24-300W不安装