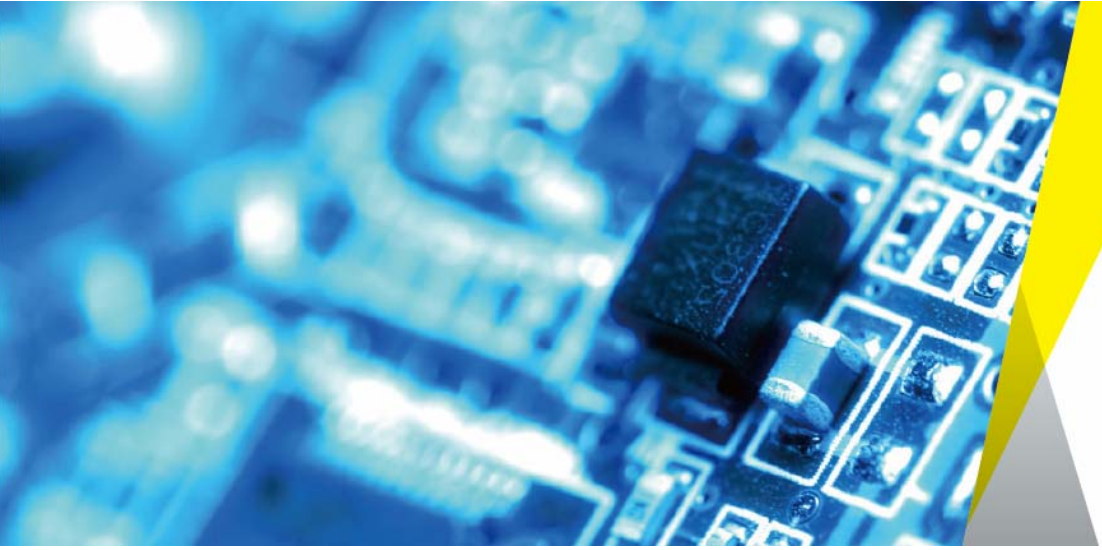

DATA SHEET

Product Name **Power Dissipation Mount Fixed Resistors**

Part Name **PDM、PDM-1、PDMS Series**

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Uniroyal Electronics Global Co.,Ltd Xiamen Branch
Kunshan Foss Electronic material Co., Ltd.
Royal Electronic Factory (thailand) co., ltd

Brands ***RoyalOhm*** ***UniOhm***

1. Scope

1.1 This specification for approve relates Power Power Dissipation Mount Fixed Resistors manufactured by UNI-ROYAL.

1.2 With Aluminum Shell for a good heat dissipation，suitable for board mount

1.3 Thin & lightweight body with big power rating

1.4 Application：Power Supply ，Adapter，Machine

2. Part No. System

The standard Part No. includes 14 digits with the following explanation:

2.1 For Power Dissipation Mount Fixed Resistors, these 4 digits are to indicate the product type but if the product type has only 3digits, the 4th digit will be "0"

Example: PDM0=PDM type;

2.2 5th~6th digits:

1W~16W (≧1W)

Wattage	1	2	3	5	7	8	9	10	15
Normal Size	1W	2W	3W	5W	7W	8W	9W	AW	FW

2.2.1 For power rating of 1watt to 16watt, the 5th digit will be a number or a letter code and the 6th digit will be the letters of W.

Example: 5W=5W

2.2.2 For power rating between20 watt to 99 watt, the 5th and the 6th digit will show the whole numbers of the power rating itself

Example: 25=25W; 50=50W

2.3 The 7th digit is to denote the Resistance Tolerance. The following letter code is to be used for indicating the standard Resistance Tolerance.

F=±1% G=±2% J=±5% K= ±10%

2.4 The 8th to 11th digits is to denote the Resistance Value.

2.4.1 For the standard resistance values of E-24 series, the 8th digit is "0",the 9th & 10th digit are to denote the significant figures of the resistance and the 11th digit is the numbers of zeros following.

Example:

012J=1.2Ω 0120=12Ω 0273=27KΩ

2.5 The 12th, 13th & 14th digits.

2.5.1 The 12th digit is to denote the Packaging Type with the following codes:

B=Bulk/Box

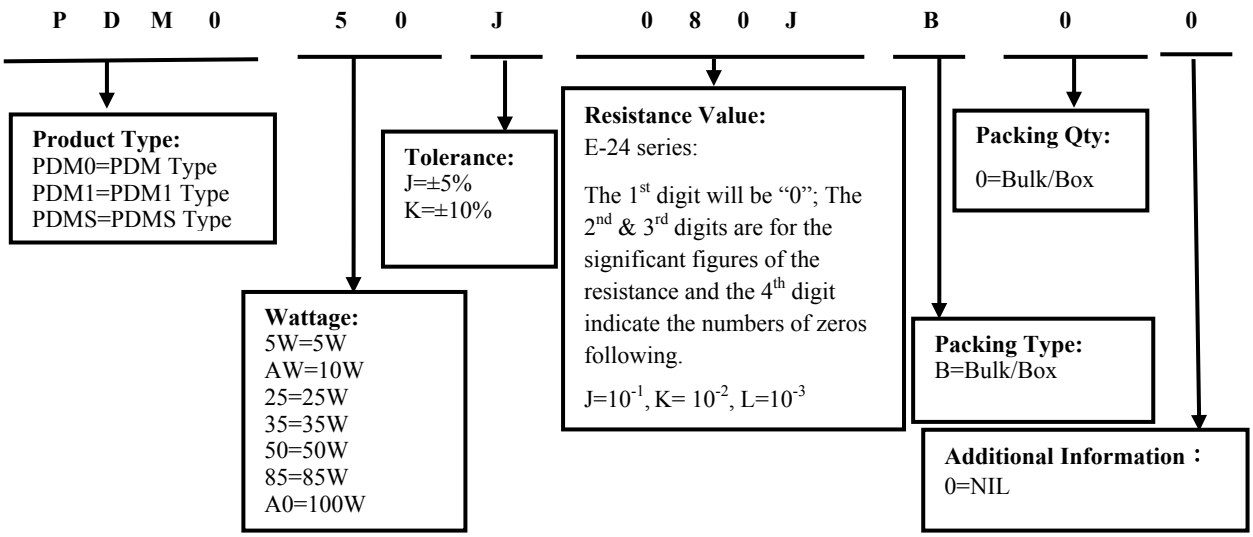
2.5.2 The 13th digit is normally to indicate the Packing Quantity, This digit should be filled with "0"for the Cement products with "Bulk/Box"packing requirements.

2.5.3 For some items, the 14th digit alone can use to denote special features of additional information with the following codes or standard product

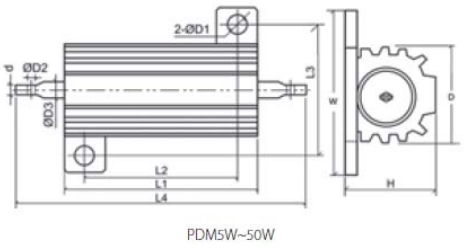
Example: 0= standard product

3. Ordering Procedure

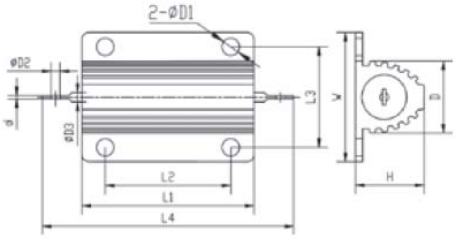
(Example: PDM 50W ±5% 8Ω B/B)



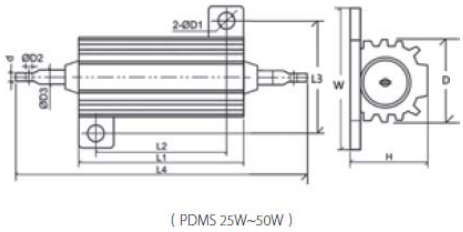
4. Ratings & Dimension



PDM5W~50W



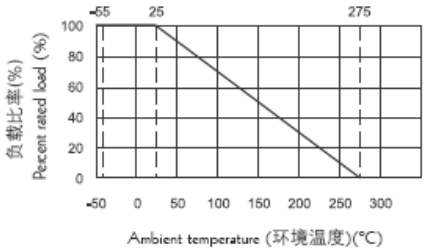
(PDM1 75W、100W)



(PDMS 25W~50W)

Type	Dimension(mm)											Resistance Range	Special high Value
	L1 ±1	L2	L3	L4 ±1.5	W±1	H±1	D±1	d±0.2	D1	D2±0.5	D3		
PDM 5W	15.5	11±0.5	12±0.5	32.5	16±0.5	8.0	8.0	0.3	2.0+0.5/-0.2	1.3	1±0.05	0.5Ω~1 KΩ	1.8KΩ
PDM 10W	20.5	15.2±0.5	17.2±0.5	40.5	22.3±0.5	12.2	11.0	0.8	2.5+0.5/-0.2	2.0	2±0.1	1Ω~1.5KΩ	5KΩ
PDM 25W	28.0	18.2±0.5	20.2±0.5	45.5	30.3±0.5	16.0	13.5	0.8	3.0+0.5/-0.2	2.0	2±0.1	5.1Ω~8.2KΩ	12KΩ
	28.0	18±0.5	19.0±0.5	49.0	27±1	14.0	13.5	0.8	4+0.5/-0.2	/	2±0.1	5.1Ω~8.2KΩ	12KΩ
PDM 35W	34.5	24.2±0.5	20.2±0.5	56.5	30±0.5	16.3	16.3	0.8	3.0+0.5/-0.2	2.0	2±0.1	5.1Ω~8.2KΩ	15KΩ
PDM 50W	50.5	40.2±0.5	20.2±0.5	75.0	30.3±0.5	15.7	15.5	0.8	3.0+0.5/-0.2	2.0	2±0.1	5.1Ω~20KΩ	35KΩ
	50.0	40±1	21.5±0.5	78.5	30±1	16.0	15.5	0.8	3.5±0.5	/	2±0.1	5.1Ω~20KΩ	35KΩ
PDMS25W	28.0	18±0.5	19±1	49.0	27±0.5	14.0	13.5	0.8	4±0.5	2.0	2±0.1	5.1Ω~8.2KΩ	22KΩ
PDMS50W	50.0	40±0.5	21.5±1	75.0	30±0.5	16.0	15.5	0.8	3.5±0.5	2.0	2±0.1	5.1Ω~20KΩ	35KΩ
PDM-1 75W	66.0	36±0.5	37±1	88.0	47.5±1	26.0	27.0	1.1	4.5±0.5	2.0	2.3±0.2	1Ω~20KΩ	-
PDM-1 85W	75.5	40±0.5	20.5±1	100	29±1	15.5	15.5	0.8	3.5±0.5	2.0	2±0.1	1Ω~20KΩ	-
PDM-1 100W	98.0	72±1	37±1	120	48±1	26.0	27.0	0.8	4.5±0.5	2.0	2±0.1	1Ω~20KΩ	-

5. Derating Curve



5.1 Voltage rating:

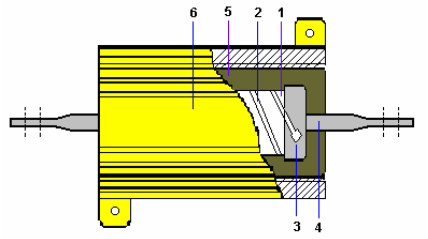
Resistors shall have a rated direct-current (DC) continuous working voltage or an approximate sine-wave root-mean-square (RMS) alternating-current (AC) continuous working voltage at commercial-line frequency and waveform corresponding to the power rating, as determined from the following formula:

$$RCWV = \sqrt{P \times R}$$

Where: RCWV = rated dc or RMS ac continuous working voltage at commercial-line frequency and waveform (VOLT.)

P = power rating (WATT.) R= nominal resistance (OHM)

6. Structure



No.	Material Generic Name
1	Ceramic rod
2	Resistance wire
3	Cap
4	Terminal lead
5	Silicones molding compound
6	Aluminum shell

7. Performance Specification

Characteristic	Limits	Test Methods (GB/T5729&JIS-C-5201&IEC60115-1)
Temperature Coefficient	＜20Ω: ±400PPM/℃ ≧20Ω: ±350PPM/℃	4.8 Natural resistance changes per temp. Degree centigrade $\frac{R_2-R_1}{R_1(t_2-t_1)} \times 10^6$ (PPM/℃) R_1: Resistance Value at room temperature （t_1）; R_2: Resistance at test temperature (Upper limit temperature or Lower limit temperature) t_1: +25℃ or specified room temperature t_2: Upper limit temperature or Lower limit temperature test temperature
Short-time overload	Resistance change rate must be in±(5%+0.05Ω) ,and no mechanical damage.	4.13 Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds.
Dielectric withstanding voltage	No evidence of flashover mechanical damage, arcing or insulation break down.	4.7 Resistors shall be clamped in the trough of a 90°metallic V-block and shall be tested at AC potential respectively for 60-70 seconds.
Resistance to soldering heat	Resistance change rate must be in ± (1%+0.05Ω) , and no mechanical damage.	4.18 Permanent resistance change when leads immersed to a point 2.0-2.5mm from the body in 260℃±5°℃ solder for 10±1 seconds.
Terminal strength	No evidence of mechanical damage	4.16 Direct load: Resistance to a 2.5Kg direct load for 10 seconds 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.
Solderability	95% coverage Min.	4.17 The area covered with a new, smooth, clean, shiny and continuous surface free from concentrated pinholes. Test temp. Of solder:245℃±3℃ Dwell time in solder: 2~3seconds.

Rapid change of temperature	ΔR/R±(2%+0.05 Ω),no evidence of mechanical damage	4.19 30 min at lower limit temperature and 30 min at upper limit temperature，100 cycles.
Humidity (Steady state)	Resistance change rate must be in±(5%+0.05Ω) , and no mechanical damage.	4.24 Temporary resistance change after 240 hours exposure in a humidity test chamber controlled at 40±2℃ and 90~95%RH relative humidity
Load life	Resistance change rate must be in±(5%+0.05Ω) , and no mechanical damage.	4.25.1 permanent resistance change after 1,000 hours operating at RCWV with duty cycle of 1.5 hours “ON”, 0.5 hour “OFF” at 25℃ ±2℃ ambient.
Low Temperature Storage	Resistance change rate must be in±(5%+0.05Ω) , and no mechanical damage.	4.23.4 Lower limit temperature，for 2H.
High Temperature Exposure	Resistance change rate must be in±(5%+0.05Ω) , and no mechanical damage.	4.23.2 Upper limit temperature ，for 16H.

8. Note

8.1 UNI-ROYAL recommend the storage condition temperature: 15℃~35℃, humidity :25%~75%.
(Put condition for individual product).
Even under UNI-ROYAL recommended storage condition, solderability of products over 1 year old.
(Put condition for each product) may be degraded.
8.2 Store / transport cartons in the correct direction, which is indicated on a carton as a symbol.
Otherwise bent leads may occur due to excessive stress applied when dropping of a carton.
8.3 Product performance and soldered connections may deteriorate if the products are stored in the following places:
a. Storage in high Electrostatic.
b. Storage in direct sunshine、rain and snow or condensation.
c. Where the products are exposed to sea winds or corrosive gases, including Cl_2, H_2S_3 NH_3, SO_2, NO_2.

9. Record

Version	Description of amendment	Page	Date	Amended by	Checked by
1	First issue of this specification	1~5	Mar.20, 2018	Chen Haiyan	Chen Nana