SPECIFICATION SHEET

DIP CEMENT RESISTORS GENERAL PURPOSE SQM SERIES

SPECIFICATION SHEET NO.	S0929 - SQM10WB330RJL1	
ORIGINAL MFG/PART NO.	Aillen Capacitors/SQM10WB330RJ	
NEXTGEN PART CODE	SQM10WB330RJL1	Indicate This Code For RFQ /Order
DATE	Sept. 29, 2025	
REVISION	A3	Updated With Most Recent Data
DESCRIPTION AND MAIN PARBMETRICS	Dip Cement Resistors General Purpose SQM Series, Type B, 2 Leads Dimension H35.0*W20.0*S12.0mm Power Rated Wattage 10W Resistance Value 330Ω Tolerance±5% Operating Temp. Range -55℃ ~ +155℃ Package in Bulk, 240pcs/Inner Box REACH/RoHS/RoHS III Compliant and Halogen Free (HF)	
CUSTOMER		
CUSTOMER PART NUMBER		
CROSS REF. PART NUMBER		
MEMO		

VENDOR APPROVE			
Issued/Checked/Approved	Mandy Xu	Ruby Zhang	Jack Zhang
Effective Date: Sept. 29, 2025			

CUSTOMER APPROVE
Date:

DESCRIPTION

A Cement Resistor Is A Heat- And Flame-Resistant Power Resistor. A Cement Resistor Can Handle The Large Amounts Of Power Flowing Through It And Is Not Damaged By Heat Or Flame. If You Are Designing A Circuit With A Large Amount Of Current Flowing Through The Resistor And It Needs To Be Resistant To Heat And Flame, Then A Cement Resistor Is A Good Design Choice. Cement Resistors Are Made Of Resistance Wire Wound On An Alkali-free Ceramic Core, Plus A Layer Of Heat-resistant, Moisture-resistant And Non-corrosive Protective Materials. The Wire Wound Resistors Are Then Placed In Square Ceramic Packages Sealed With Special Non-flammable And Heat-resistant Cement.

Image shown is a representation only. Exact specifications should be obtained from the product dimension.

MAIN FEATURE

- Dip Cement Resistors General Purpose SQM Series, Type B, 2 Leads
- Wide Resistance Value Range and Tolerance: ±1% or ±5%
- Power Rated Wattage Range 1W~10W
- Very Small, Robust And Reliable
- High Temperature Stability
- Ceramic Flame Retardant Package, Sealed With Special Cement
- The Recommended Washing Method Is Alcohol
- Excellent Pulse Load Capability
- Moisture Sensitivity Level (MSL) 1
- Short Lead Time
- Cross Competitors Parts and More
- REACH/RoHS/RoHS III Compliant and Halogen Free (HF)

APPLICATION

- Home Application, Consumer Electronics and Computer
- Power Application
- Telecommunications Equipment

ELECTRICAL CHARBCTERISTICS

- See Page 4 ~Page 6 for Different Part Code
- All Products Parameters are Subject To NextGen Components' Final Confirmation.

HOW TO ORDER

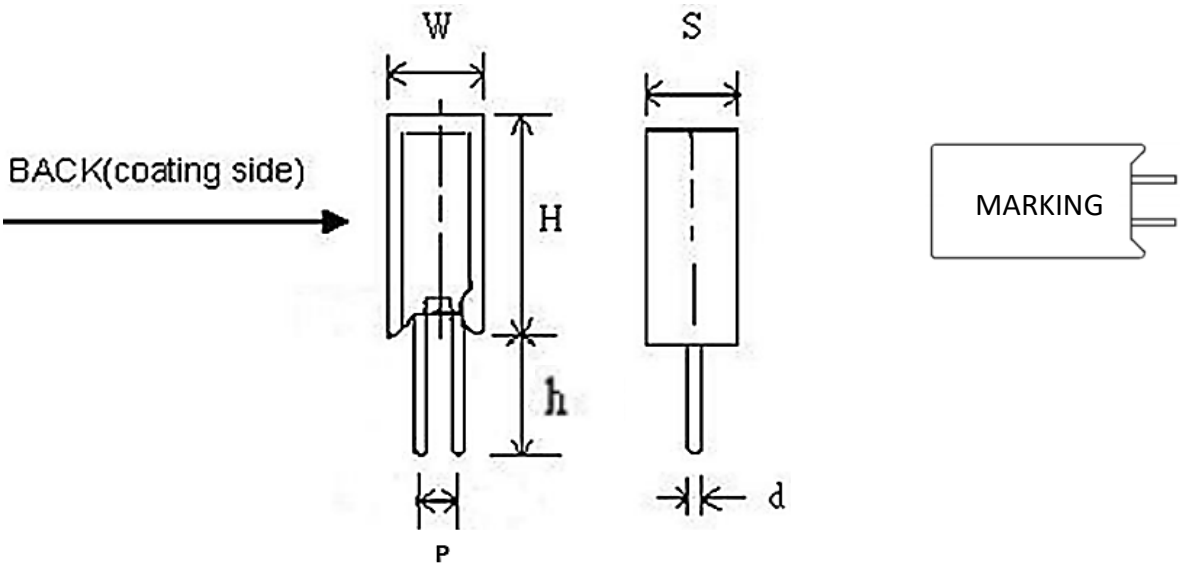
- Please Follow Up Part Code Guide And Indicate NextGen Part Code SQM10WB330RJL1 For RFQ and Order.

PART CODE GUIDE

RFQ
Request For Quotation

CODE	NAME	KEY SPECIFICATION OPTION
SQM	Product Series	Dip Type Cement Resistors General Purpose 2 Leads, Shape of Type Form M
10WB	Power Rated Wattage	1W: Power Rated Wattage 1W; 2W: Power Rated Wattage 2W; 3W: Power Rated Wattage 3W; 5W: Power Rated Wattage 5W; 7W: Power Rated Wattage 7W; 10W: Power Rated Wattage 10W 10WB: Power Rated Wattage 10W Type B 10WS: Power Rated Wattage 10W Type S
330R	Nominal Resistance Value	Ω, KΩ Are Its Unit Which Be In Accordance With JIS-C6409 Article 6 (EIA RS-196A) Series. Letter "10R" indicates resistance value 10Ω. Letter "10K" indicates resistance value 10KΩ 0R1: 0.1Ω; 0R27: 0.27Ω; 0R56: 0.56Ω; 0R68: 0.68Ω; 0R82: 0.82Ω; 1R: 1Ω; 1R5:1.5Ω; 1R8:1.8Ω; 2R2:2.2Ω; 2R7:2.7Ω; 3R:3Ω; 3R3:3.3Ω; 4R7: 4.7Ω; 5R: 5Ω; 9R7: 9.7Ω; 10R: 10Ω; 15R: 15Ω; 22R: 22Ω; 27R: 27Ω; 33R: 33Ω; 47R: 47Ω; 51R: 51Ω; 56R: 56Ω; 75R: 75Ω; 100R: 100Ω; 150R: 150Ω; 200R: 200Ω; 220R: 220Ω; 240R: 240Ω; 270R: 270Ω; 330R: 330Ω; 510R: 510Ω; 1K: 1KΩ; 2K: 2KΩ; 2K4: 2.4KΩ; 6K: 6KΩ; 10K: 10KΩ; 11K: 11KΩ; 27K: 27KΩ; 47K: 47KΩ; 54K: 54KΩ; 68K: 68KΩ; 100K: 100KΩ; 120K: 120KΩ
J	Tolerance	It Is Measured By Bridge-method At Room Temperature And Expressed By A Capital Letter. Wire Wound: F: ±1%; G: ±2%; J: ±5% (standard) Power Film: G: ±2%; J: ±5% (standard)
L1	Internal Control	Letter A~Z, a~z or Digits (0~9)
XX	Special/Custom Parameters	Blank: N/A; XX: Letter A~Z, a~z or Digits (0~9) for Special/Custom Parameters

DIMENSION - Unit: mm



PRODUCT SERIES	POWER RATED WATTAGE	DIMENSION (MM)						RESISTANCE RANGE (Ω)	
		H	W ±1.0	S	d ±0.1	h	P	WIRE WOUND	POWER FILM
SQM	1W	10±1.5	10	5±1.0	0.6	3.5 ±1.0	5.0 +2/-1	0.1~47	48~10K
SQM	2W	20±1.5	11	7±1.0	0.65	3.5 ±1.0	5.0 +2/-1	0.1~82	83~10K
SQM	3W	25±1.5	8	8±1.0	0.8	3.5 ±1.0	5.0 +2/-1	0.1~150	151~50K
SQM	5W	25±1.5	13	9±1.0	0.8	3.5 ±1.0	5.0 +2/-1	0.1~150	151~50K
SQM (B)	10W	35±1.0	20	12±0.3	1.0	3.5 ±0.5	11±0.3	0.1~2400	301~100K
SQM (S)	10W	35±1.5	16	12±1.0	0.8	3.5 ±1.0	5.0 +2/-1	0.1~300	301~100K
SQM	7W	39±1.5	13	9±1.0	0.8	3.5 ±1.0	7.5 +2/-1	0.1~430	431~50K
SQM	10W	52±1.5	13	9±1.0	0.8	3.5 ±1.0	5.0 +2/-1	0.1~470	471~75K

ELECTRICAL CHARACTERISTICS - Ta = 25℃

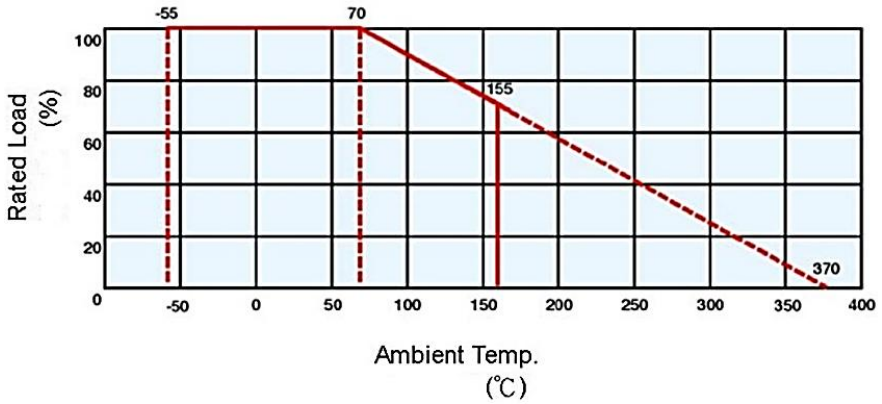
PART CODE	POWER RATED WATTAGE	NOMINAL RESISTANCE VALUE	TOL.	OPERATING TEMP. RANGE
	W	Ω	%	℃
SQM3W10RJL0001	3.0	10	±5	-55 ~ +155
SQM5W0R27FL001	5.0	0.27	±1	-55 ~ +155
SQM5W0R68JL001	5.0	0.68	±5	-55 ~ +155
SQM5W0R82JL001	5.0	0.82	±5	-55 ~ +155
SQM5W100KJL001	5.0	100K	±5	-55 ~ +155
SQM5W120KJL001	5.0	120K	±5	-55 ~ +155
SQM5W150RJL001	5.0	150	±5	-55 ~ +155
SQM5W15RJL0001	5.0	15	±5	-55 ~ +155
SQM5W1R5JL0001	5.0	1.5	±5	-55 ~ +155
SQM5W1R8JL0001	5.0	1.8	±5	-55 ~ +155
SQM5W220RJL001	5.0	220	±5	-55 ~ +155
SQM5W22RJL0001	5.0	22	±5	-55 ~ +155
SQM5W2K4JL0001	5.0	2.4K	±5	-55 ~ +155
SQM5W2KJL00001	5.0	2K	±5	-55 ~ +155
SQM5W2R7JL0001	5.0	2.7	±5	-55 ~ +155
SQM5W3R3JL0001	5.0	3.3	±5	-55 ~ +155
SQM5W3RJL00001	5.0	3	±5	-55 ~ +155
SQM5W47KJL0001	5.0	47K	±5	-55 ~ +155
SQM5W4R7JL0001	5.0	4.7	±5	-55 ~ +155
SQM5W510RJL001	5.0	510	±5	-55 ~ +155

ELECTRICAL CHARACTERISTICS - Ta = 25℃

PART CODE	POWER RATED WATTAGE	NOMINAL RESISTANCE VALUE	TOL.	OPERATING TEMP. RANGE
	W	Ω	%	℃
SQM5W56RJL0001	5.0	56	±5	-55 ~ +155
SQM5W5RJL00001	5.0	5	±5	-55 ~ +155
SQM5W68KJL0001	5.0	68K	±5	-55 ~ +155
SQM7W11KJL0001	7.0	11K	±5	-55 ~ +155
SQM7W150RJL001	7.0	150	±5	-55 ~ +155
SQM10W150RJL01	10	150	±5	-55 ~ +155
SQM10WS22RJL01	10	22	±5	-55 ~ +155
SQM10WS27KJL01	10	27K	±5	-55 ~ +155
SQM10WB330RJL1	10	330	±5	-55 ~ +155
SQM10WS330RJL1	10	330	±5	-55 ~ +155
SQM10WS33RJL01	10	33	±5	-55 ~ +155
SQM10WS54KJL01	10	54K	±5	-55 ~ +155
SQM10WS75RJL01	10	75	±5	-55 ~ +155
SQM10WS9R7JL01	10	9.7	±5	-55 ~ +155

RATED POWER

Rated power is the value of Max load wattage specified at the ambient temperature of 70℃, and shall meet the functions of electrical and mechanical performance. When the ambient temperature surpasses above mentioned temperature, the value declines as per following DERATING CURVE.



RATED VOLTAGE

It is calculated through the following formula:

where V: rated voltage (V)

P: rated power (W)

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

R: total nominal resistance (Ω)

However, in case the voltage calculated exceeds the maximum load voltage, such the maximum load voltage shall be regarded as its rated voltage, means whichever less.

STRUCTURE

TERMINAL: IT IS MADE OF HOT–DIPPED TIN COATED COPPER WIRE

Stuffing: Stuffing is made by flameproof cement (resistant to 800℃) which is solid enough to be free from looseness, crack and easy breakage.

Marking: Marking is made on the surface, including Power Rating Code, Resistance Value, Tolerance Code and Internal Control code

MECHANICAL PERFORMANCE

Terminal tensile: To fix the resistor body, a static load of 4.5kg. is to be gradually applied into the terminal for 10 seconds without causing any looseness and fall.

Twist withstand: To bend the lead wire at the point of about of 6mm from resistor body to 90°, then catch the wire at 1.2±0.4mm apart from the bent point end and turn it (clockwise) by 360 degrees perpendicular to the resistor axis at speed of 5 seconds per turn, and do the same counterclockwise again which constitute a whole turn. Repeat the turn for 2 times without causing any break and looseness.

ELECTRICAL PERFORMANCE

RESISTANCE TEMPERATURE COEFFICIENT:

It shall be within ±300ppm/℃ and if the ohmic value is under 1Ω the T.C. shall be within ±600ppm/℃. T.C. (ppm/℃) =[(R2 - R1)÷R1]×[1÷(T2 - T1)]×106

where R1: resistance value at reference temperature; R2: resistance value at test temp. ;

T1: reference temp. ; T2: test temp.

TEMPERATURE CYCLE:

Following temp. cycles are to be made 5 times and then put at room temp. for one hour, the resistance value change rate between pre-and-post test shall be within ±1%.

STEPS	TEMPERATURE (℃)	TIMES (MINUTES)
1	-55 ±3	30
2	Room Temperature	3
3	155 ±3	30
4	Room Temperature	3

SHORT TIME OVERLOAD:

When the resistors are applied 10 times (Power Film: 5 times) as much as rated wattage for 5 seconds continuously, it shows no evidence of arc, flame...etc. Removing the voltage and place the resistors to the normal condition for 30 minutes, the resistance value change rate between pre-and-post test shall be within ±2%.

INSULATION CHARACTER:

Resistors are located in a V-shaped metal trough. Using the DC 500V megger instrument 2 poles to clutch either side of lead wires and metal trough, measuring the Insulation Resistance which shall be over 1000MΩ.

VOLTAGE WITHSTANDING:

Resistors are located in a V-shaped metal trough. Applying AC 1000V for one minute and should find no physical damage to the resistors, such as arc, char ...etc.

LOAD LIFE:

The resistors arrayed are sent into the 70℃ oven, applying rated voltage at the cycle of 1.5 hours ON, 0.5 hour OFF for 1000+48 -0 hours in total. Then, after removing the voltage, take the resistors out of the oven and left under normal temp. for one hour cooling. The resistance value change rate between pre-and-post test shall be within ±5%.

MOISTURE-PROOF LOAD LIFE:

The resistors arrayed are placed into a constant temp./humidity oven at the temp. of 40±2℃ and the humidity of 90～95%, rated power is applied for 1.5 hours and cut off for 0.5 hour. The similar cycle will be repeated for 1000+48 -0 hours in total (including cut-off time). Then remove the voltage, taking the resistors out of the oven and leaving them at room temp. for one hour. The resistance value change rate between pre-and-post test shall be within ±5%. There also shall be no evidence of remarkable change on appearance, and the marking shall not be illegible.

SOLDER-ABILITY:

The leads with flux are dipped in a melted solder of 235±5℃ for 2 seconds, more than 95% of the circumference of the lead wires shall be covered with solder.

RESISTANCE TO SOLDERING HEAT:

Two leads are together dipped in a melted solder of 270 ±5℃ for 10 ±1 seconds, or 350 ±10℃ for 3.5 ±0.5 seconds, Then remove the resistors and leaving them at room temp. for one hour. The resistance value change rate between pre-and-post test shall be within ±1%.

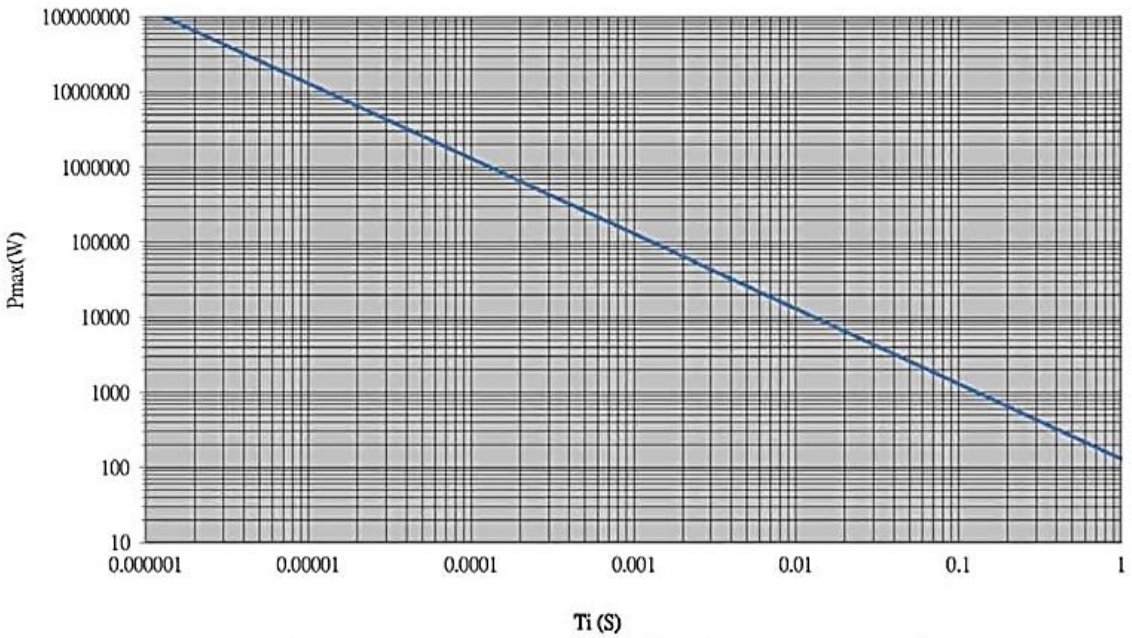
NONFLAMMABILITY:

The resistors are applied the power of 16 times the rated wattage for 5 min. and shall not get flame.

STORAGE CONDITIONS:

The resistors with appropriate package would have a preservative duration of 1 year, under the following conditions. T=5℃ ~ 35℃ and H=40% ~ 75%

PULSE PERFORMANCE for part Code QM10WB330RJL1



Maximum permissible peak pulse power(Pmax) as a fuction of pulse duration(Ti)

PRECAUTIONS IN USE OF RESISTORS

1. If the resistor is used in equipment which request extremely high reliability such as automotive, airplane, satellite, medical device, etc. Please contact us in advance, we will test and confirm it to you.
2. In the process of using a resistor, please derate the power rating according to the derating curve when the ambient temperature is above the rated temperature.
3. A flameproof resistor will not flame or fire but it may emit smoke or red heat when an overload is applied.
4. When a resistor is molded or coated by resin material, the deterioration of the resistor by thermal stress or resin may affect its characteristics. Therefore, please confirm the performance and reliability with us in advance. Moreover, the resistance to moisture and corrosion may deteriorate after the resin absorbs moisture.
5. When the resistor is coated, potted and molded by resin material, the curing stress of the resin may cause a peeling of the protective coating and a crack of the solder fillet. Therefore, please use the resin material which has smaller curing stress and make a judge before using.
6. When a power exceeding the rated power is applied in a short time, we cannot guarantee the safety only that the average power is below the rated power. Please contact us and advise the voltage or current waveform to us for making a judge.
7. The flame retardant resistors are weaker against mechanical stress than general resistors due to the special coating. Please do not apply impact, vibration or pinching with pliers or tweezers to the resistor body. Never apply any external force to the protective coating until drying is fully completed after washing.
8. Avoid stocking the resistors under high temperature, moisture, direct sunlight and corrosion environment. The most suitable temperature and moisture is 5 ~ 35℃ / 40 ~ 70%.

PACKAGE INFORMATION – Packed In Bulk

PRODUCT SERIES	POWER RATED WATTAGE	QUANTITY PER INNER BOX (PCS)
SQM	1W	-
SQM	2W	-
SQM	3W	500
SQM	5W	500
SQM (B)	10W	240
SQM (S)	10W	240
SQM	7W	250
SQM	10W	300

IMPORTANT NOTES AND DISCLAIMER

1. ROHS COMPLIANCE: The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained can be obtained at Download Center.
2. REACH COMPLIANCE: REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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5. *NextGen* makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, not does *NextGen* assume any liability for application assistance or customer product design.
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7. *NextGen* products are not authorized for use as critical components in life support devices or systems without express written approval by *NextGen.*
8. *NextGen* requires that customers first obtain an RMA (Returned Merchandise Authorization) number prior to returning any products. Returns must be made within 30 days of the date of invoice, be in the original packaging, unused and like-new condition. At the time of quoting or purchasing, a product may say that it is Non-Cancelable/ Non-Returnable (NCNR). These products are not returnable and not refundable.