

BGRV: rectangular type wirewound resistors with glass core (for automotive)
BWRV: rectangular type wirewound resistors with ceramic core (for automotive)
BSRV: rectangular type metal oxide film resistors (for automotive)



features

- High power resistors
- Uses flame-retardant insulated ceramic case
- Excellent in anti-pulse and inrush current
- Suitable for high reliability applications like automotive
- AEC-Q200 tested
- Products meet EU RoHS requirements



applications and ratings

Type	Power Rating	Pulse Energy Capacity (J)*	Resistance Range (Ω) E24		Style & Weight (g/1pcs)					
			J±5%	K±10%	S**	N**	Q	QA	QC	QE
BWRV3	3W	11	1~390	—	3.9	5.9	—	—	—	—
BWRV5	5W	17	1~390	—	5.1	7.2	—	—	—	—
BWRV7	7W	52	1~390	—	7.5	10.8	—	—	—	—
BWRV10	10W	100	1~390	—	10.2	15.0	—	—	—	—
BWRV15	15W	100	1~390	—	18.8	—	—	—	—	—
BWRV20	20W	180	1~390	—	23.3	—	—	—	—	—
BWRV40	40W (60W)	549	4.3~220	—	—	—	93.5	—	—	107.5
BGRV5	5W	16	10~390	5.1~9.1	—	—	6.2	—	—	—
BGRV7	7W	31	10~390	5.1~9.1	—	—	7.9	—	—	—
BGRV10	10W	60	10~390	5.1~9.1	—	—	10.7	14.5	—	—
BGRV15	15W	60	10~390	5.1~9.1	—	—	18.6	24.6	—	—
BGRV20	20W	95	10~390	5.1~9.1	—	—	22.1	28.1	—	—
BGRV30	30W	161	10~390	5.1~9.1	—	—	59.6	—	84.6	73.9
BGRV30TQW			10~100	5.1~9.1	—	—				
BGRV40	40W	226	10~390	5.1~9.1	—	—	70.6	—	105.0	95.0
BGRV40TQW			10~100	5.1~9.1	—	—				
BSRV3	3W	—	430~27k	—	3.9	5.9	—	—	—	—
BSRV5	5W	—	430~51k	—	5.1	7.2	6.2	—	—	—
BSRV7	7W	—	430~56k	—	7.5	10.8	7.9	—	—	—
BSRV10	10W	—	430~75k	—	10.2	15.0	10.7	14.5	—	—
BSRV15	15W	—	430~56k	—	18.8	—	18.6	24.6	—	—
BSRV20	20W	—	430~56k	—	23.3	—	22.1	28.1	—	—

* Average value between 10Ω~100Ω

** S Style and N Style lead terminal products are not compatible with the AEC-Q200 vibration test by only soldered PCB mounting.

When using the product, please take into account vibration measures such as fixing the product with silicone resin.

Type	Power Rating	Rated Ambient Temperature	Max. Working Voltage (V)			Max. Overload Voltage (V)			T.C.R. (x10 ⁻⁶ /K)			Operating Temperature Range
			BGRV	BWRV	BSRV	BGRV	BWRV	BSRV	BGRV	BWRV	BSRV	
B□RV3	3W	+70°C	—	E=√P·R	300	—	E=√P·R·10	600	±250	±300	-40°C to +155°C	
B□RV5	5W		350		700							
B□RV7	7W		500		1000							
B□RV10	10W		700		1400							
B□RV15	15W		700		1400							
B□RV20	20W		750		1500							
BGRV30	30W	+25°C	—	—	—	—	—	—	—	—		
BGRV40	40W		—	—	—	—	—	—	—			
BWRV40	40W (60W)***		—	E=√P·R	—	E=√P·R·10	—	—	±250	—		

Rated voltage= √Power Rating × Resistance value or Max. working voltage, whichever is lower.

Please consult with us in advance about custom-made products.

*** Please note that when used at a rated power of 60W, the surface temperature of the product will reach approximately 300°C.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

11/01/23

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ordering information

BGRV	30	T	Q		A	300	J
Type	Power Rating	Termination¹ Surface Material	Style²	Dimensional Accuracy³	Mounting Bracket	Nominal Resistance	Resistance Tolerance
BGRV: Wirewound (glass core) BWRV: Wirewound (ceramic core) BSRV: Metal oxide film	See table	C: SnCu T: Sn	Nil: S style N: N style Q: Q style	Nil: Standard W: High precision	Nil: None A: A style C: C style E: E style	3 digits	J: ±5% K: ±10%

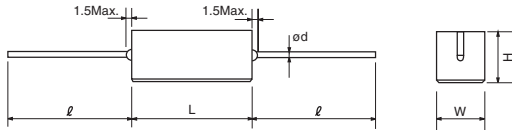
¹ Lead-Free plated terminal symbols. C (SnCu): S, N styles T(Sn): Q styles

² No indication on style means S style.

Contact us if you have a request for environmentally hazardous materials other than the substance specified by EU RoHS.

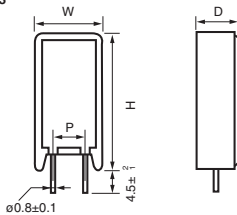
dimensions and construction

S Style³



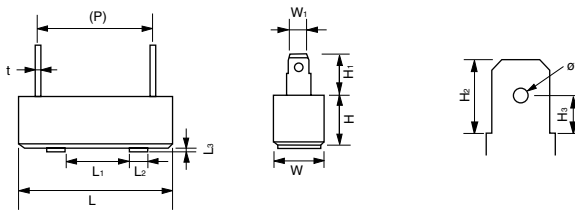
Type	Dimensions millimeters				
	L	W	H	ℓ	d
BWRV3C, BSRV3C	22±1.5	8±1.0	8±1.0	35±3	0.8±0.1
BWRV5C, BSRV5C		9.5±1.0	9.5±1.0		
BWRV7C, BSRV7C					
BWRV10C, BSRV10C	48±1.5				
BWRV15C, BSRV15C	63.5±1.5	12.5±1.5	12.5±1.5		

N Style³



Type	Dimensions millimeters			
	W	D	H	P
BWRV3CN, BSRV3CN	12±1.0	8±1.0	25±1.5	5 ⁺² ₋₁
BWRV5CN, BSRV5CN	13±1.0	9±1.0	25.5±1.5	
BWRV7CN, BSRV7CN			38.5±1.5	
BWRV10CN, BSRV10CN	16±1.0	12±1.0	35±1.5	7.5 ⁺² ₋₁

Q Style



³ S Style and N Style lead terminal products are not compatible with the AEC-Q200 vibration test only by soldered PCB mounting. When using the product, please take into account vibration measures such as fixing the product with silicone resin.

Type	Dimensions millimeters													
	L	L ₁	L ₂	L ₃	W	W ₁	H	H ₁	H ₂	(H ₃)	(P)	t	(øf)	
BGRV5TQ, BSRV5TQ	27±1.5	—	—	—	9.5±1.0	4.75±0.1	9.5±1.0	10.5±1.0	6.5	3.3	(15.0)	0.5	2.2	
BGRV7TQ, BSRV7TQ	35±1.5										(22.5)			
BGRV10TQ, BSRV10TQ	48±1.5	25±1.0	4.5	1.0±0.5	12.5±1.2	6.3±0.1	12.5±1.5	13.0±1.0	6.35	3.15	(35.0)	1.4		
BGRV15TQ, BSRV15TQ			7								(34.5)			
BGRV20TQ, BSRV20TQ	63.5±2	40±1.0	10		19.0±1.0	19.0±1.0	19.0±1.0	12.0±1.0	8.0	4.1	71±0.5	(49.5)	0.8	1.7
BGRV30TQ	75±1.0				(56.0)									
BGRV30TQW ⁴	75±0.5				56±0.5									
BGRV40TQ	90±1.0	40±1.0	19.0±1.0	19.0±0.5	19.0±1.0	19.0±0.5								
BGRV40TQW ⁴	90±0.5	40±0.5	19.0±0.5	19.0±0.5	19.0±0.5	19.0±0.5								
BWRV40TQ	91±1.0	40±0.5	20.0±0.5	20.0±0.5	20.0±0.5	20.0±0.5								

⁴ High-precision products

Parenthesized dimensions are for reference.

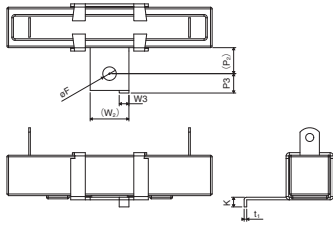
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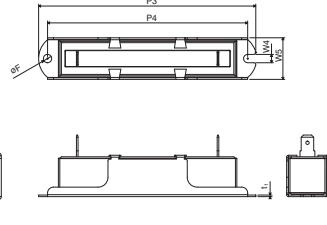
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dimensions and construction (continued)

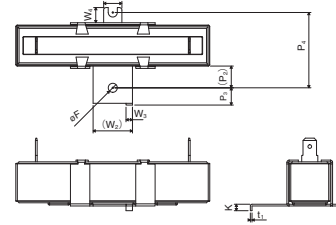
QA Style



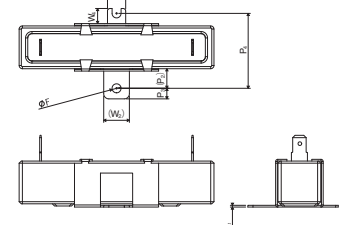
QC Style



QE Style (BGRV)



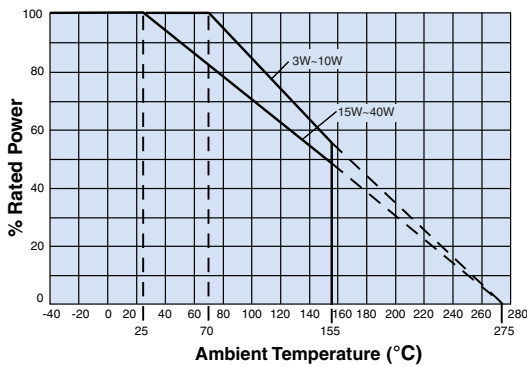
QE Style (BWRV40)



Type	Dimensions millimeters							K	t ₁	øF
	(P ₂)	P ₃	P ₄	(W ₂)	W ₃	(W ₄)	(W ₅)			
BGRV10TQA, BSRV10TQA	8.0	6.0±1.0	—	12.0	3.0±0.3	—	—	2.8±0.3	0.6	4.0
BGRV15TQA, BSRV15TQA								3.0±0.3		
BGRV20TQA, BSRV20TQA								—		
BGRV30TQC, BGRV30TQWC	—	110±1.0	101±1.0	—	—	4.2	21.0	—	0.8	4.2
BGRV40TQC, BGRV40TQWC								—		
BGRV30TQE, BGRV30TQWE	10.0	8.0±1.0	35.0±1.0	18.0	3.0±0.3	7.0	8.5	3.0±0.3	—	—
BGRV40TQE, BGRV40TQWE								—		
BWRV40TQE								8.1		

Parenthesized dimensions are for reference.

Derating Curve



environmental applications

Performance Characteristics

Parameter	Requirement Δ R ±%		Test Method
	Limit	Typical	
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	+25°C/+125°C
Resistance to Soldering Heat	1%: BWRV, BSRV 2%: BGRV	0.5%: BWRV, BSRV 1.0%: BGRV	350°C ± 10°C for 3.5 seconds 260°C ± 5°C for 10 seconds
Moisture Resistance	3%: BWRV, BGRV 5%: BSRV	2.0%: BWRV, BGRV 2.5%: BSRV	Power rating x 1/10, 40°C, 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance @ 25°C or 70°C	3%: BWRV 5%: BGRV, BSRV	2.0%: BWRV 2.5%: BGRV, BSRV	25°C or 70°C, rated voltage, 1000 hours, 1.5 hours ON, 0.5 hours OFF cycle