

DATA SHEET

METAL GLAZED FILM RESISTORS

High Voltage, High Ohmic
HHV Series

±1%, ±5%

1/4W to 3W

RoHS compliant & Halogen Free

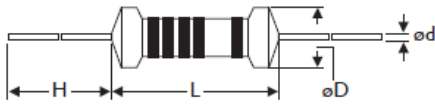


YAGEO



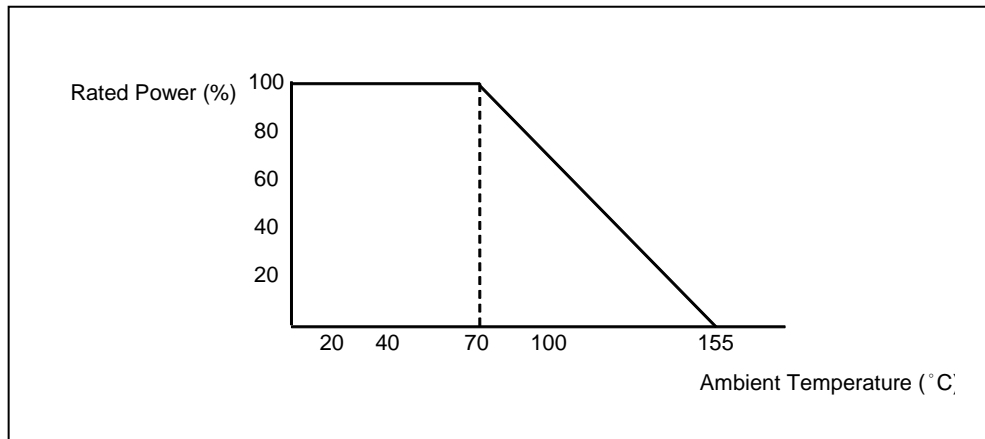
DIMENSIONS

Unit: mm



	Normal	Miniature	L	ψD	H	ϕd
HHV-25	HHV50S	6.3 ± 0.5	2.4 ± 0.2	28 ± 2.0	0.55 ± 0.05	
HHV-50	HHV1SS	9.0 ± 0.5	3.3 ± 0.3	26 ± 2.0	0.55 ± 0.05	
HHV1WS	HHV2SS	11.5 ± 1.0	4.5 ± 0.5	35 ± 2.0	0.8 ± 0.05	
HHV2WS	HHV3SS	15.5 ± 1.0	5.0 ± 0.5	33 ± 2.0	0.8 ± 0.05	

DERATING CURVE



ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	HHV-25	HHV50S	HHV-50	HHV1SS	HHV1WS	HHV2SS	HHV2WS	HHV3SS
Power Rating at 70 °C	1/4W	1/2W	1/2W	1W	1W	2W	2W	3W
Maximum Working Voltage(DC)	1,600V	1,600V	3,500V	3,500V	5,000V	5,000V	7,000V	7,000V
Maximum Overload Voltage(DC)	3,000V	3,000V	7,000V	7,000V	10,000V	10,000V	14,000V	14,000V
Voltage Proof on Insulation (Silicone Type)	300V	300V	500V	500V	600V	600V	600V	600V
Voltage Proof on Insulation (Epoxy Type)	500V	500V	500V	500V	700V	700V	700V	700V
Resistance Range	100KΩ ~ 68MΩ for E24 & E96 series value							
Operating Temp. Range	- 55°C to +155°C							
Temperature Coefficient	±200ppm/°C							

Note: For resistance value out of above range is by request.

TEST AND REQUIREMENTS

TEST	TEST METHOD	PROCEDURE	APPRAISE
Short Time Overload	IEC 60115-1 4.13	2.5 times RCWV for 5 sec.(Not more than maximum overload voltage)	±2.0%+0.05Ω
Voltage Proof on Insulation	IEC 60115-1 4.7	In V-Block for 60 sec. test voltage as above table	No Breakdown
Temperature Coefficient	IEC 60115-1 4.8	Between -55°C to +155°C	By Type
Insulation Resistance	IEC 60115-1 4.6	In V-Block for 60 sec.	>10,000MΩ
Solderability	IEC 60115-1 4.17	245±5°C for 3±0.5 Sec.	95% Min. coverage
Solvent Resistance of Marking	IEC 60115-1 4.30	IPA for 5±0.5 Min. with ultrasonic	No deterioration of coatings and markings
Robustness of Terminations	IEC 60115-1 4.16	Direct load for 10 Sec. in the direction of the terminal leads	≥2.5Kg(24.5N)
Periodic-pulse Overload	IEC 60115-1 4.39	4 times RCWV(or Umax., whichever less) 10,000 cycles (1 Sec. on, 25 Sec.off)	±1.0%+0.05Ω
Damp Heat Steady State	IEC 60115-1 4.24	40±2°C,90-95% RH for 56 days, loaded with 0.1 times RCWV(or Umax., whichever less)	±5.0%+0.05Ω
Endurance at 70°C	IEC 60115-1 4.25	70±2°C at RCWV(or Umax., whichever less) for 1,000 Hr.(1.5 Hr.on,0.5 Hr. off)	±5.0%+0.05Ω
Temperature Cycling	IEC 60115-1 4.19	-55°C → Room Temp. → +155°C → Room Temp.(5 cycles)	±1.0%+0.05Ω
Resistance to Soldering Heat	IEC 60115-1 4.18	260±3°C for 10±1 Sec., immersed to a point 3±0.5mm from the body	±1.0%+0.05Ω
Accidental Overload Test (Only for silicone lacquer type)	IEC 60115-1 4.26	4 times RCWV(or Umax., whichever less) for 1 Min.	No evidence of flaming or arcing

Note:.

RCWV (Rated Continuous Working Voltage):

The DC or AC (rms) continuous working voltage corresponding to the rated power is determined by the following formula:

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

or max. working voltage whichever is less

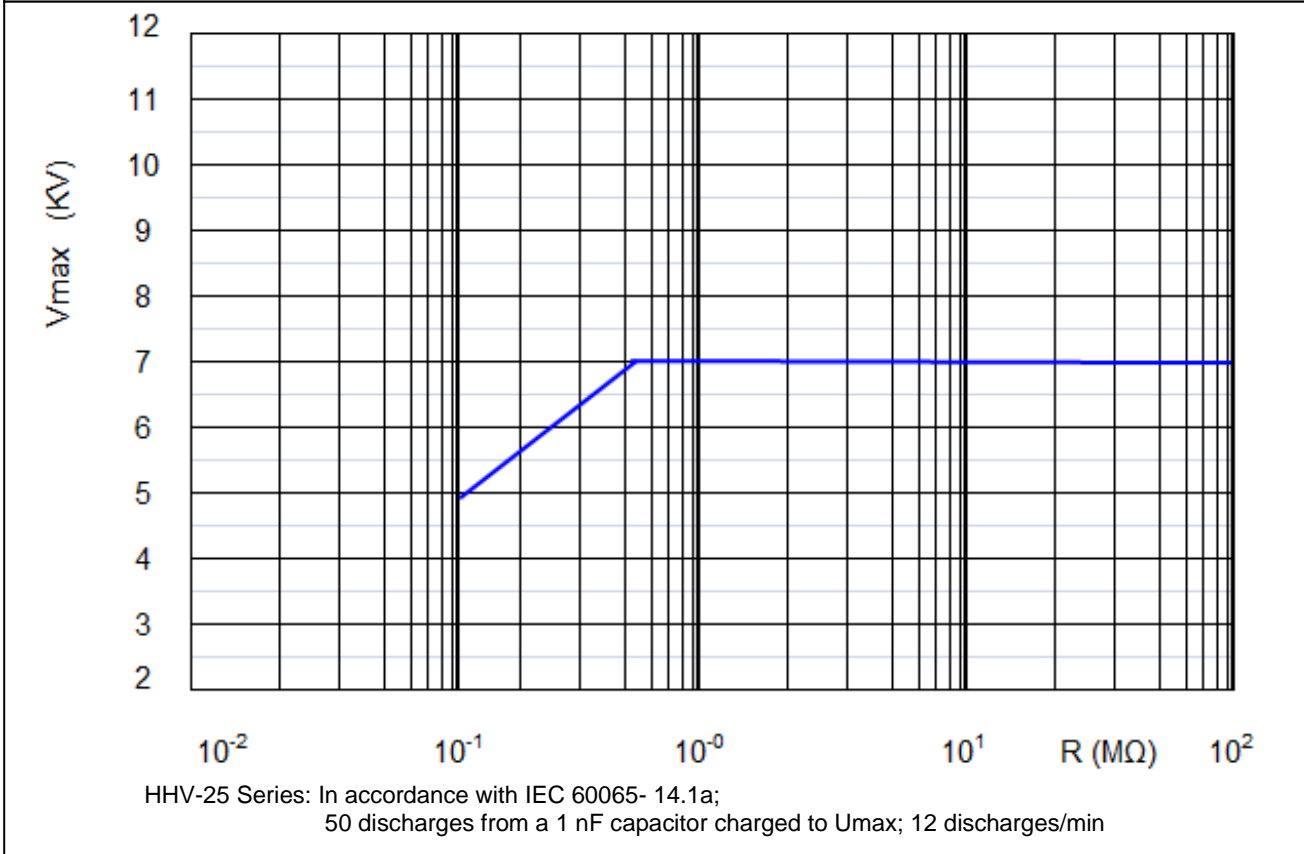
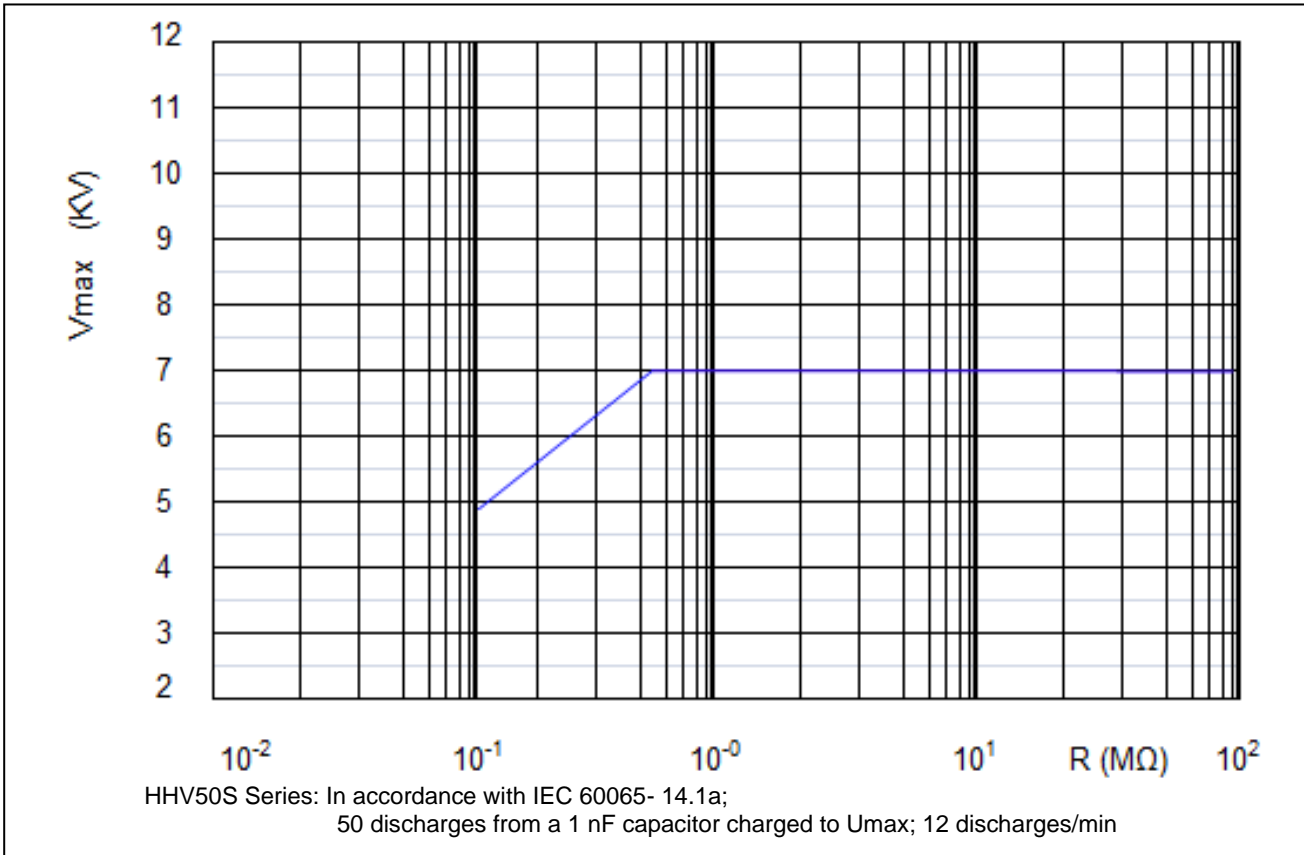
Where

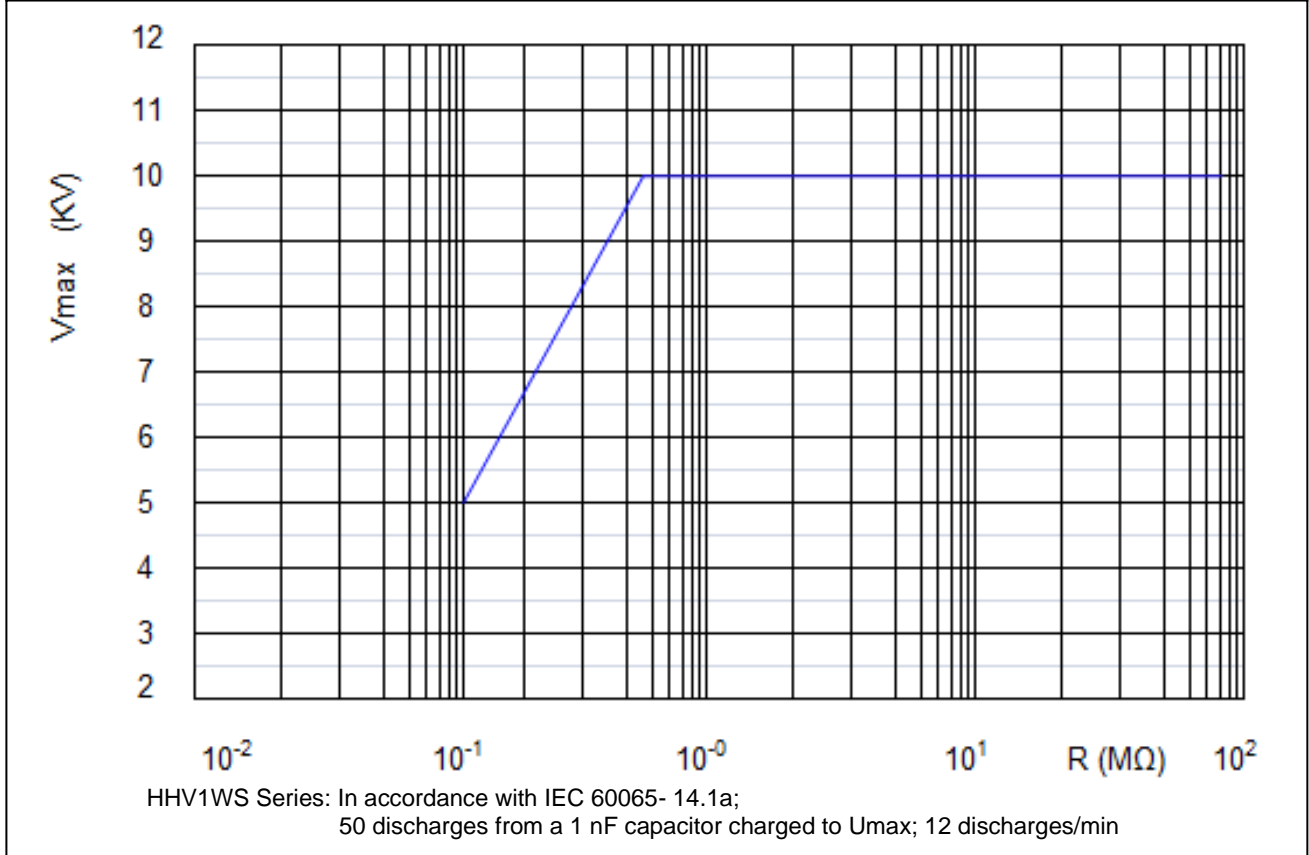
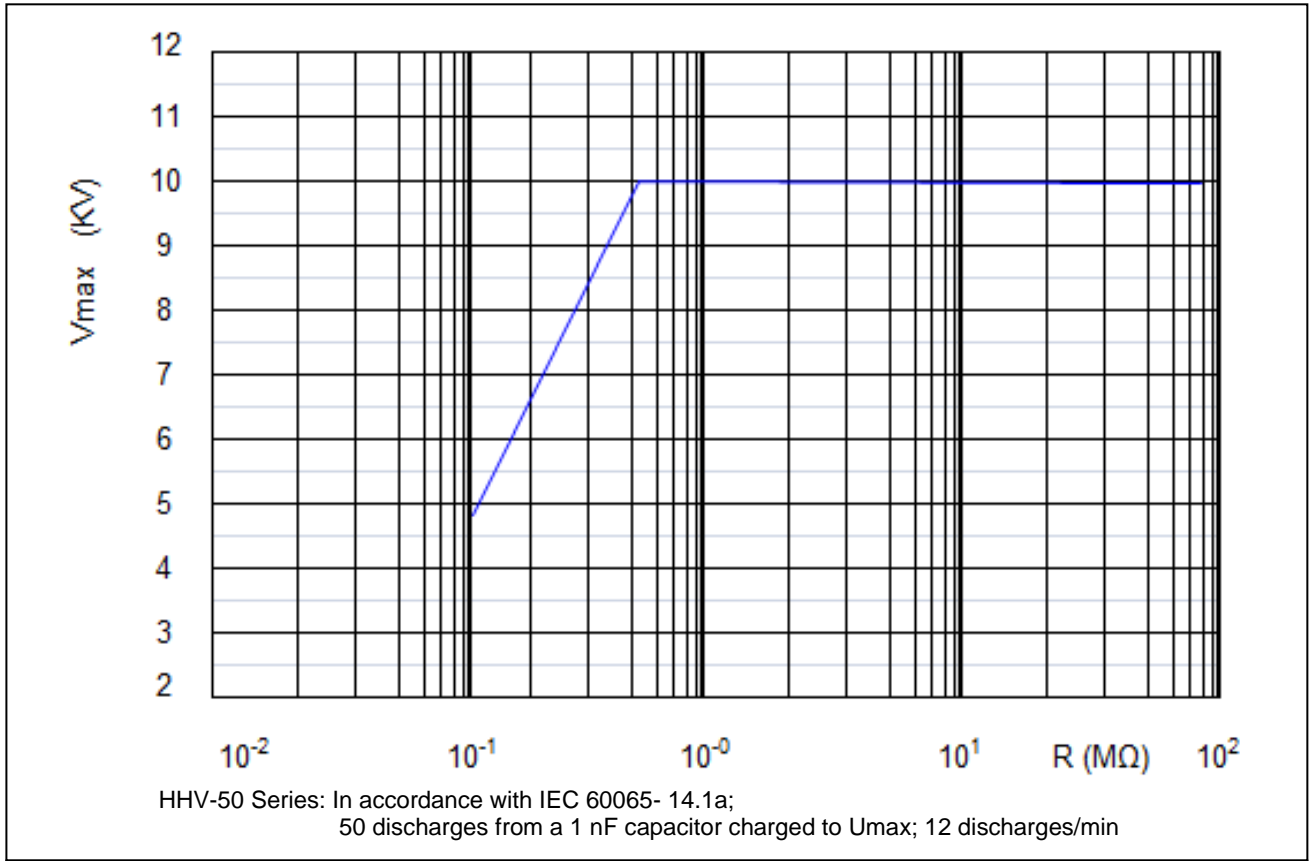
V=Continuous rated DC or
AC (rms) working voltage (V)

P=Rated power (W)

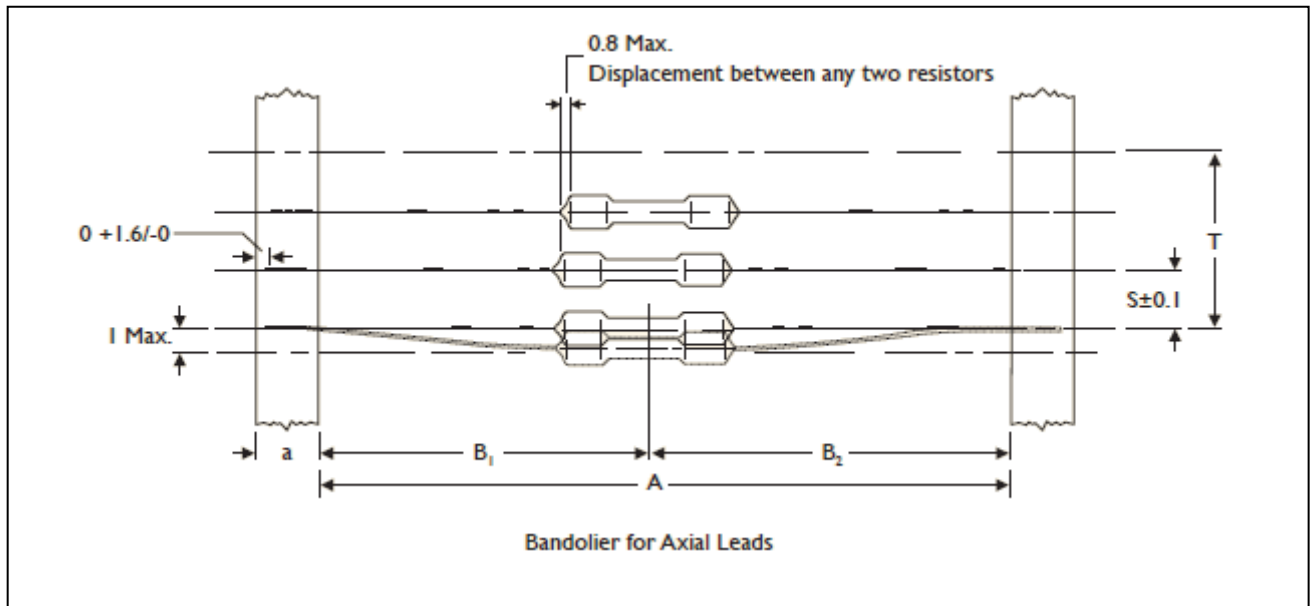
R=Resistance value (Ω)

PULSE DIAGRAMS





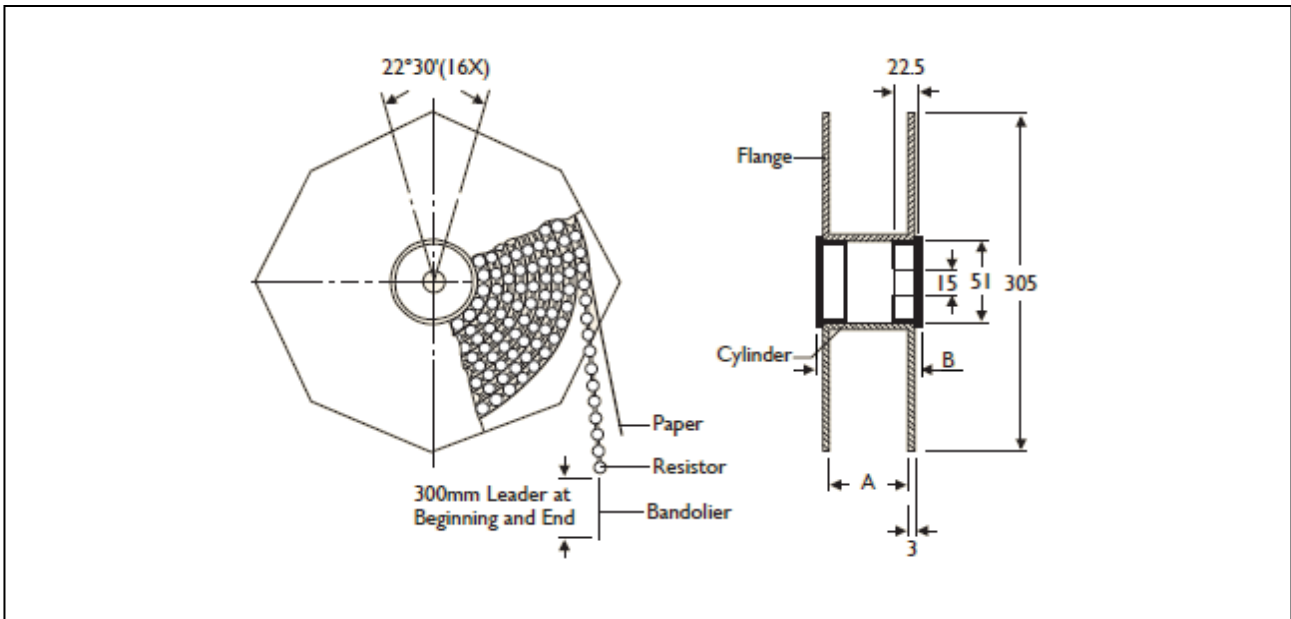
AXIAL / REEL TAPE SPECIFICATION



Unit: mm

Normal	Miniature	a	A	B1-B2 (Max.)	S (spacing)	T (max. deviation of spacing)
HHV-25	HHV50S	6 ± 0.5	52.4 ± 1.5	1.2	5	1 mm per 10 spacing, 0.5 mm per 5 spacing
			26.0 ± 1.5	1		
HHV-50	HHV1SS	6 ± 0.5	52.4 ± 1.5	1.2	5	
HHV1WS	HHV2SS	6 ± 0.5	73.0 ± 1.5	1.5	5	
			52.4 ± 1.5	1.2		
HHV2WS	HHV3SS	6 ± 0.5	73.0 ± 1.5	1.5	10	
			52.4 ± 1.5	1.2		

TAPE ON REEL PACKING

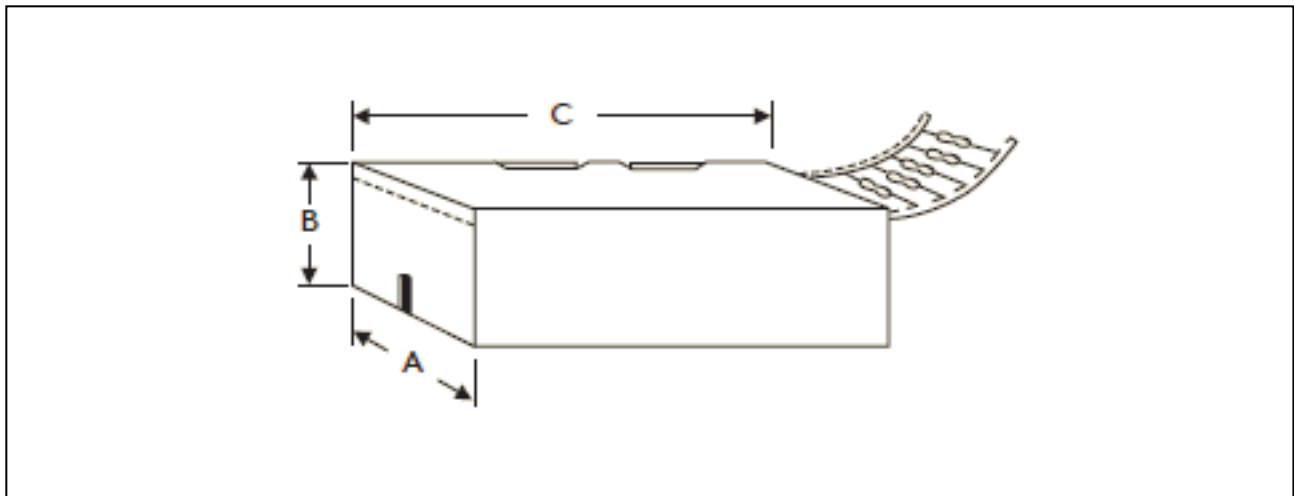


TYPE

Unit: mm/piece

Normal	Miniature	Across Flange(A)	B	Quantity Per Reel
HHV-25	HHV50S	40	49	5,000
HHV-25	HHV50S	66.5	75.5	5,000
HHV-50	HHV1SS	66.5	75.5	2,500
HHV1WS	HHV2SS	87	96	2,000
HHV2WS	HHV3SS	87	96	1,000

TAPE ON BOX PACKING



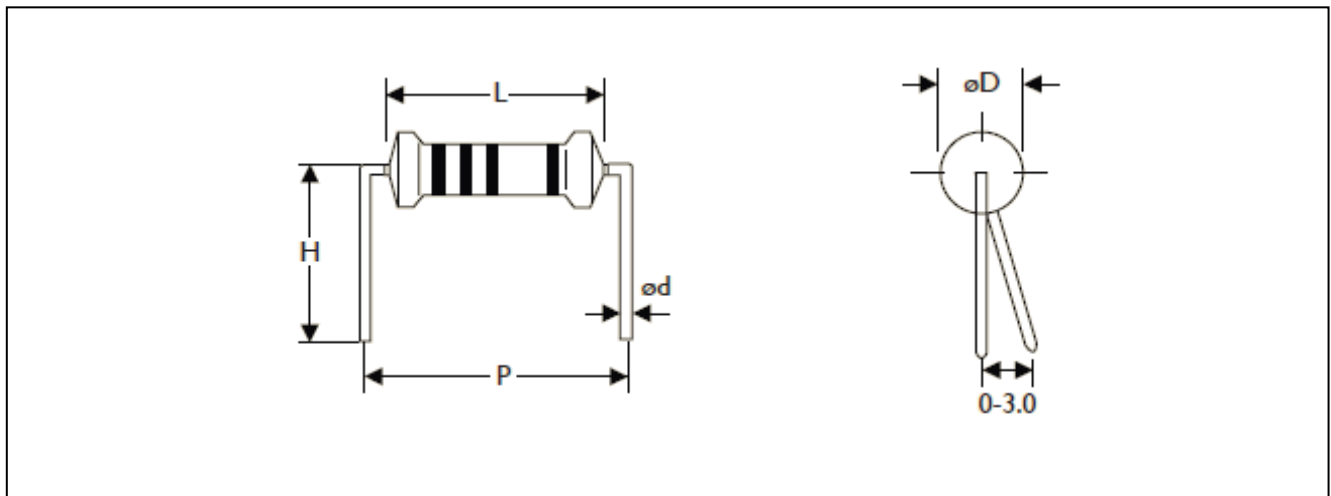
TYPE		DIMENSIONS			Unit: mm/piece
Normal	Miniature	A	B	C	Quantity Per Box
HHV-25	HHV50S	48	102	255	5,000
HHV-25	HHV50S	81	104	260	5,000
HHV-50	HHV1SS	73	45	258	1,000
HHV1WS	HHV2SS	81	91	260	1,000
HHV1WS	HHV2SS	103	78	260	1,000
HHV2WS	HHV3SS	81	91	260	1,000
HHV2WS	HHV3SS	103	94	260	1,000

BULK PACKING

Normal	Miniature	Piece/Per Inner Box	Bag/Per Inner Box	Piece Per Bag
HHV-25	HHV50S	10,000	10	1,000
HHV-50	HHV1SS	5,000	5	1,000
HHV1WS	HHV2SS	2,000	4	500
HHV2WS	HHV3SS	1,000	2	500

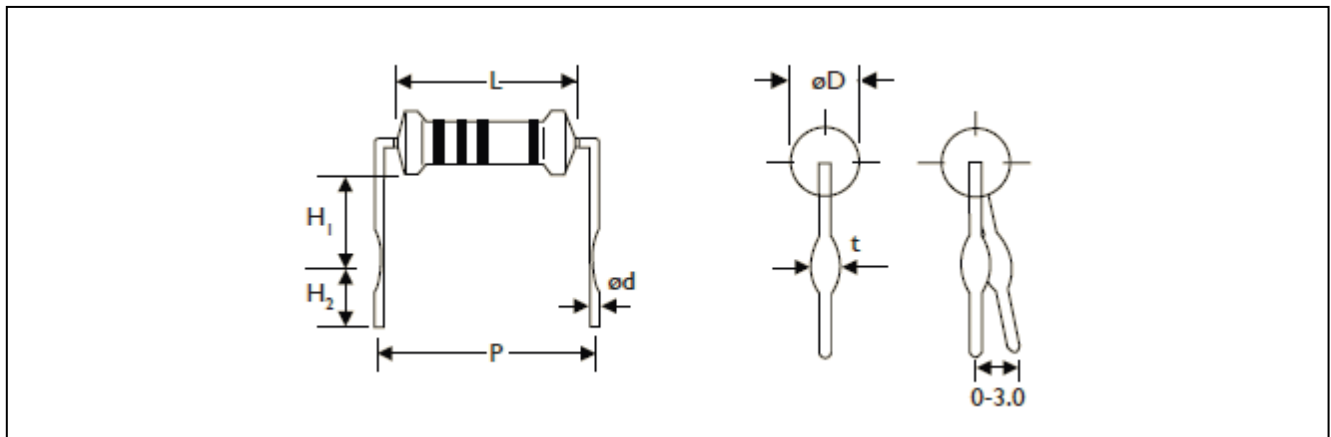
FORMING

M TYPE



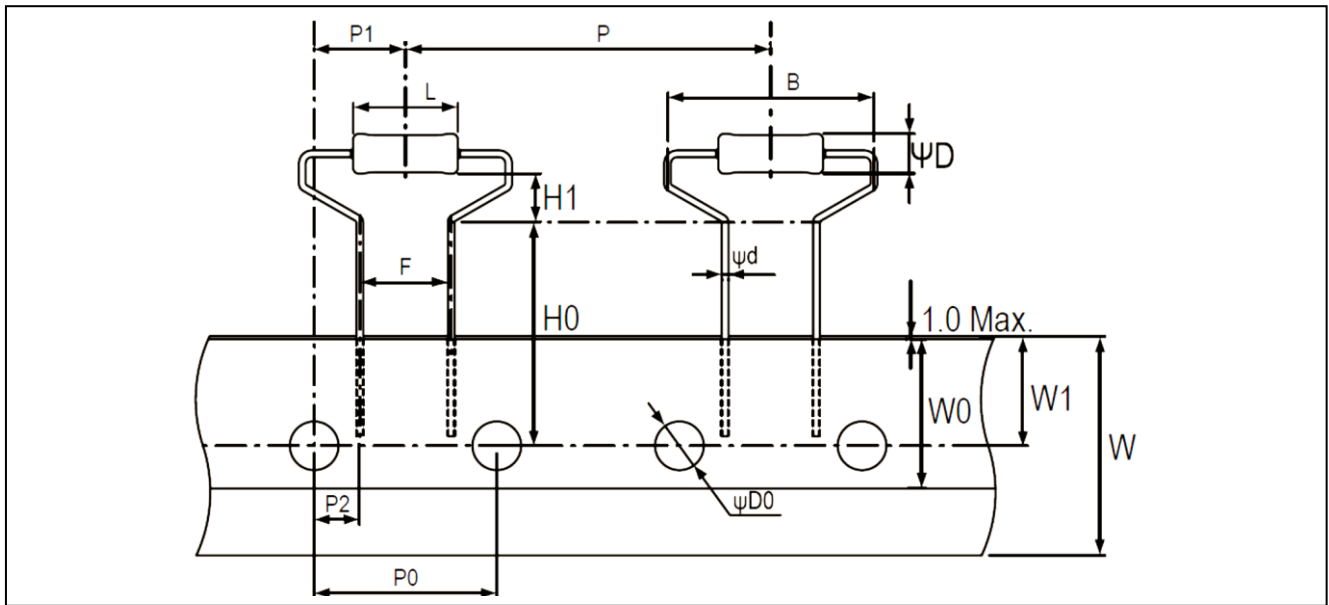
TYPE		DIMENSIONS					Unit: mm
Normal	Miniature	L	ψD	ψd	P	H	
HHV-25	HHV50S	6.3 ± 0.5	2.4 ± 0.2	0.55 ± 0.05	10.0 ± 1	10.0 ± 1	
HHV-50	HHV1SS	9.0 ± 0.5	3.3 ± 0.3	0.55 ± 0.05	12.5 ± 1	10.0 ± 1	
HHV1WS	HHV2SS	11.5 ± 1.0	4.5 ± 0.5	0.8 ± 0.05	15.0 ± 1	12.5 ± 1	
HHV2WS	HHV3SS	15.5 ± 1.0	5.0 ± 0.5	0.8 ± 0.05	20.0 ± 1	15.0 ± 1	

MB TYPE



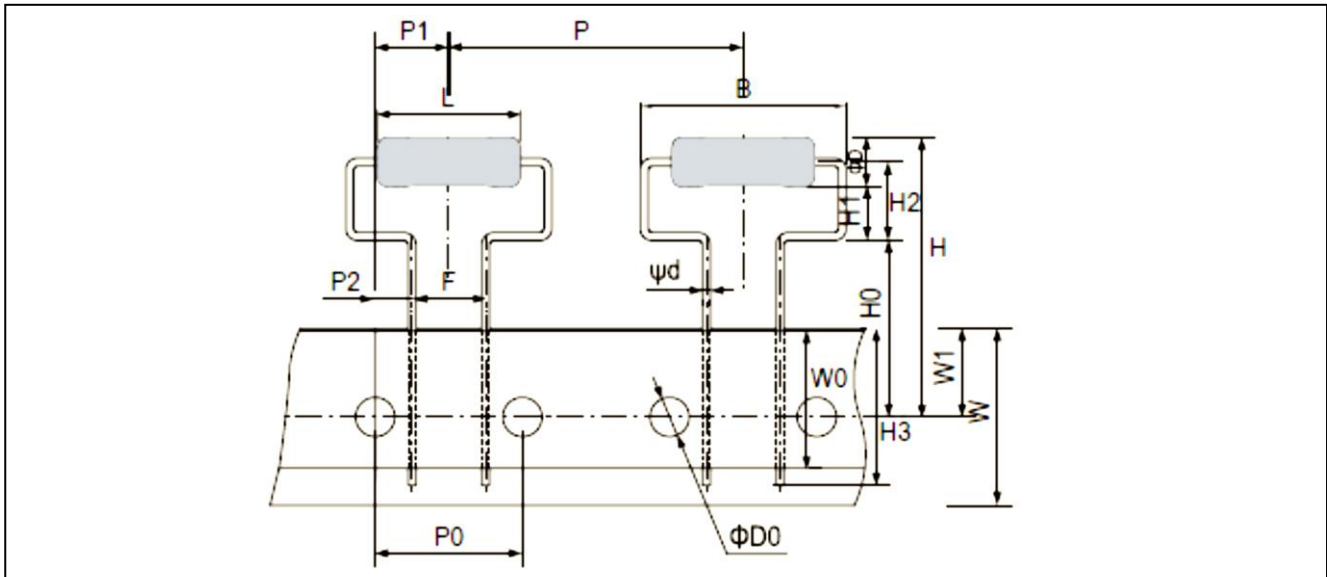
TYPE		DIMENSIONS							Unit: mm
Normal	Miniature	L	ψD	ψd	P	H1	H2	t	
HHV-25	HHV50S	6.3 ± 0.5	2.4 ± 0.2	0.55 ± 0.05	10.0 ± 1	6.0 ± 1	5.0 ± 1	1.2 ± 0.2	
HHV-50	-	9.0 ± 0.5	3.3 ± 0.3	0.55 ± 0.05	12.5 ± 1	6.0 ± 1	5.0 ± 1	1.2 ± 0.2	
-	HHV1SS	9.0 ± 0.5	3.3 ± 0.3	0.8 ± 0.05	12.5 ± 1	6.0 ± 1	5.0 ± 1	1.4 ± 0.2	
HHV1WS	HHV2SS	11.5 ± 1.0	4.5 ± 0.5	0.8 ± 0.05	15.0 ± 1	6.0 ± 1	5.0 ± 1	1.4 ± 0.2	
HHV2WS	HHV3SS	15.5 ± 1.0	5.0 ± 0.5	0.8 ± 0.05	20.0 ± 1	10.0 ± 1	5.0 ± 1	1.4 ± 0.2	

MHA TYPE



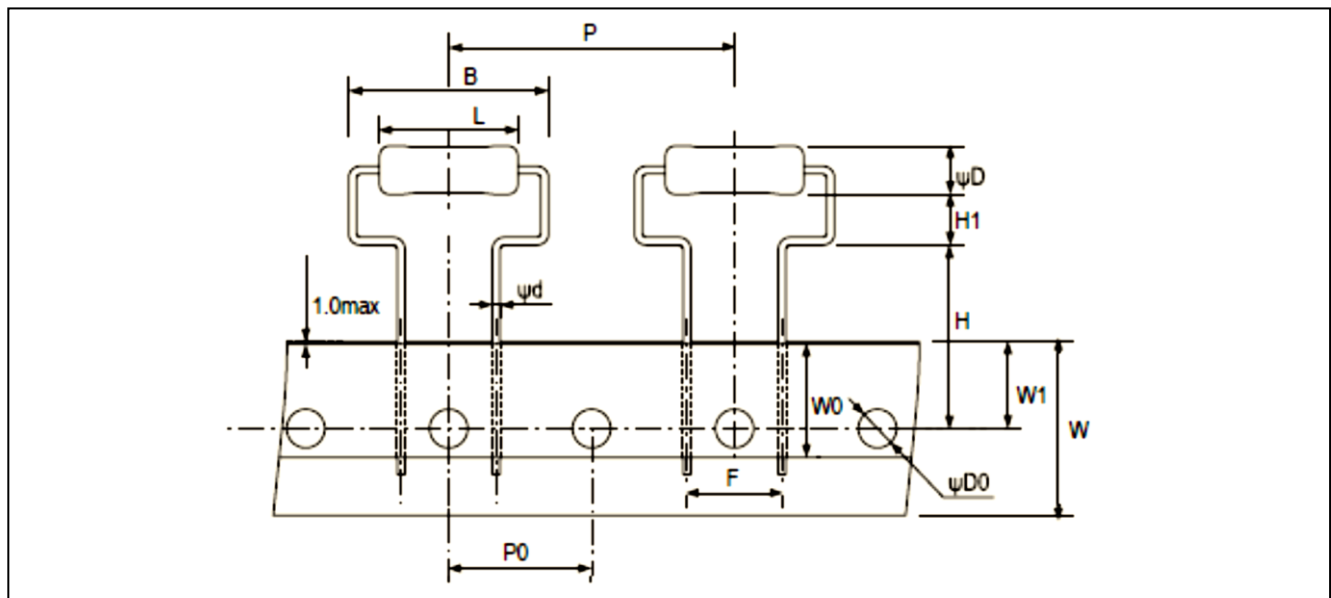
TYPE		DIMENSIONS								Unit: mm
Normal	Miniature	L	ψD	ψd	B	H0	H1	P	P0	
		9.0±0.5	3.3±0.3	0.55±0.05	17.5Max	19.0±1.0	4.0±1.0	30.0±1.0	15.0±0.3	
HHV-50	HHV1SS	P1	P2	F	W	W0	W1	$\psi D0$		
		7.5±1.0	3.75±0.5	7.5±0.5	18.0±0.5	5.0Min	9.0±0.5	4.0±0.2		

MHB TYPE



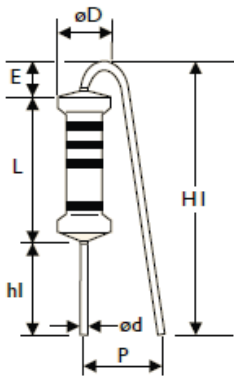
TYPE		DIMENSIONS								Unit: mm
Normal	Miniature	L	ψD	ψd	B	H	H0	H1	H2	H3
		15.5±1.0	5.0±0.5	0.8±0.05	21.0Max.	30Max.	18.0±1.0	5.5(Ref.)	8.0±1.5	16Max.
HHV2WS	HHV3SS	P	P0	P1	P2	F	W	W0	W1	ψD0
		30.0±1.0	15.0±0.3	7.5±1.0	3.75±0.8	7.5±0.5	18.0±0.5	5.0Min.	9.0±0.5	4.0±0.3

MHC TYPE

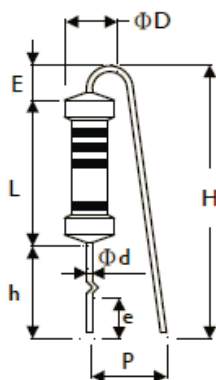


TYPE		DIMENSIONS								Unit: mm
Normal	Miniature	L	ψD	ψd	B	H	H1	P	P0	
		15.5±1.0	5.0±0.5	0.8±0.05	21.0Max.	19.0±1.0	5.25±1.0	30.0±1.0	15.0±0.3	
HHV2WS	HHV3SS	F	W	W0	W1	ψD0				
		10.0±0.5	18.0±0.5	5.0Min.	9.0±0.5	4.0±0.2				

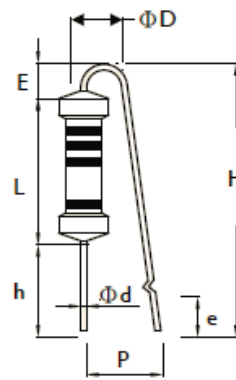
F TYPE



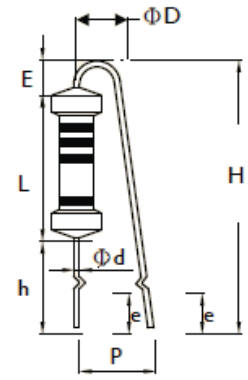
FK TYPE



FFK TYPE

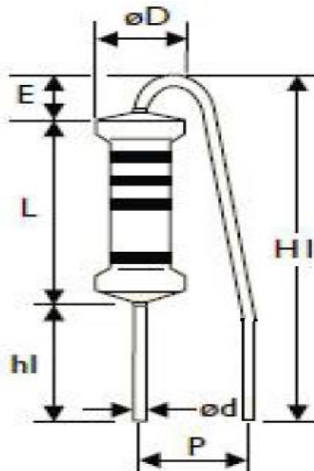


FKK TYPE



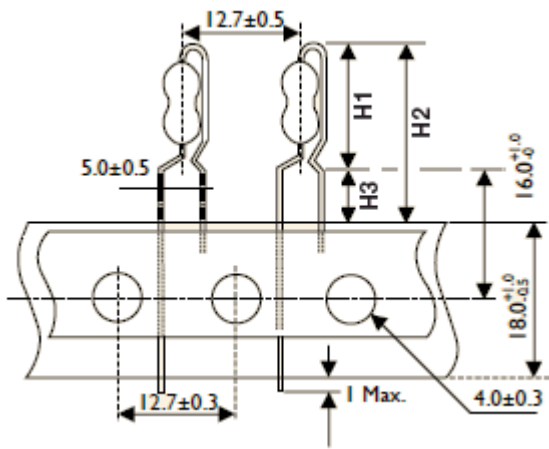
TYPE		DIMENSIONS										Unit: mm
Normal	Miniature	L	ψD	ψd	P	h	H Max.	hl	HI Max.	E Max.	e	
HHV-50	HHV1SS	9.0±0.5	3.3±0.3	0.55±0.05	6±1	8±1	22	5±1	18.5	3.5	3.5±1	
HHV1WS	HHV2SS	11.5±1	4.5±0.5	0.8±0.05	6±1	8±1	24	5±1	20	3.5	3.5±1	
HHV2WS	HHV3SS	15.5±1	5.0±0.5	0.8±0.05	8±1	8±1	28	5±1	25	3.5	3.5±1	

FB- TYPE (for -25&50S)

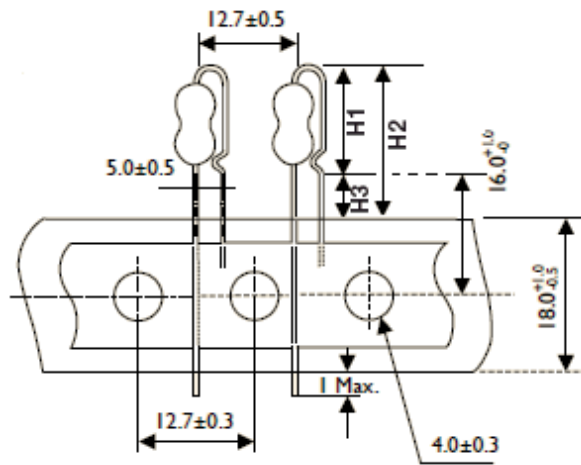


TYPE		DIMENSIONS							Unit: mm
Normal	Miniature	L	ψD	ψd	P	hl	HI	E Max.	
HHV-25	HHV50S	6.3 ± 0.5	2.4 ± 0.2	0.55 ± 0.05	6±1	5.5±0.5	13.5±0.5	3.5	

PN TYPE (Taping Pack)



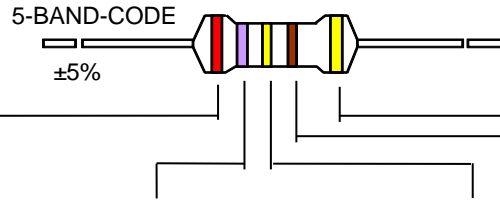
AV TYPE (Taping Pack)



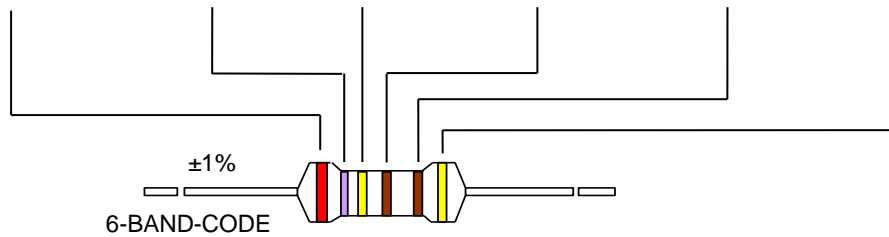
TYPE		DIMENSIONS			Unit: mm
Normal	Miniature	H1 Max.	H2 Max.	H3 Max.	
HHV-25	HHV50S	13	21.5	8.5	
HHV-50	HHV1SS	17	25.5	8.5	
HHV1WS	HHV2SS	19	27.5	8.5	

TYPE		DIMENSIONS			Unit: mm
Normal	Miniature	H1 Max.	H2 Max.	H3 Max.	
HHV-25	HHV50S	11.5	20	8.5	
HHV-50	HHV1SS	14.5	23	8.5	
HHV1WS	HHV2SS	17.5	26	8.5	

MARKING



COLOR	1st BAND	2nd BAND	3rd BAND	MULTIPLIER	TOLERANCE
BLACK	0	0	0	1Ω	
BROWN	1	1	1	10Ω	± 1 % (F)
RED	2	2	2	100Ω	
ORANGE	3	3	3	1KΩ	
YELLOW	4	4	4	10KΩ	HHV Series
GREEN	5	5	5	100KΩ	
BLUE	6	6	6	1MΩ	
VIOLET	7	7	7	10MΩ	
GREY	8	8	8		
WHITE	9	9	9		
GOLD				0.1Ω	± 5 % (J)
SILVER				0.01Ω	



REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 0	Aug.2, 2021	-	- First issue of this specification
Version 1	Aug.31, 2022	-	- Add FB- forming code to -25&50S

“ Yageo reserves all the rights for revising the content of this datasheet without further notification, as long as the products itse If are unchanged. Any product change will be announced by PCN.”

LEGAL DISCLAIMER

Yageo, its distributors and agents (collectively, "Yageo"), hereby disclaims any and all liabilities for any errors, inaccuracies or incompleteness contained in any product related information, including but not limited to product specifications, datasheets, pictures and/or graphics. Yageo may make changes, modifications and/or improvements to product related information at any time and without notice.

Yageo makes no representation, warranty, and/or guarantee about the fitness of its products for any particular purpose or the continuing production of any of its products. To the maximum extent permitted by law, Yageo disclaims (i) any and all liability arising out of the application or use of any Yageo product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for a particular purpose, non-infringement and merchantability.

Yageo statements regarding the suitability of products for certain types of applications are based on Yageo's knowledge of typical operating conditions for such types of applications in a generic nature. Such statements are neither binding statements of Yageo nor intended to constitute any warranty concerning the suitability for a specific customer application or use. They are intended for use only by customers with requisite knowledge and experience for determining whether Yageo products are the correct products for their application or use. In addition, unpredictable and isolated cases of product failure may still occur, therefore, customer application or use of Yageo products which requires higher degree of reliability or safety, shall employ additional protective safeguard measures to ensure that product failure would not result in personal injury or property damage.

Yageo products are not designed for application or use in medical, life-saving, or life-sustaining devices or for any other application or use in which the failure of Yageo products could result in personal injury or death. Customers using or selling Yageo products not expressly indicated for above-mentioned purposes shall do so at their own risk and agree to fully indemnify Yageo and hold Yageo harmless.

Information provided here is intended to indicate product specifications only. Yageo reserves all the rights for revising this content without further notification, as long as products are unchanged. Any product change will be announced by PCN.

单击下面可查看定价，库存，交付和生命周期等信息

[>>Yageo\(国巨\)](#)