

Metal Oxide Varistors

High Temperature Application (up to 125°C)



MVR-H Series
(High Temperature)

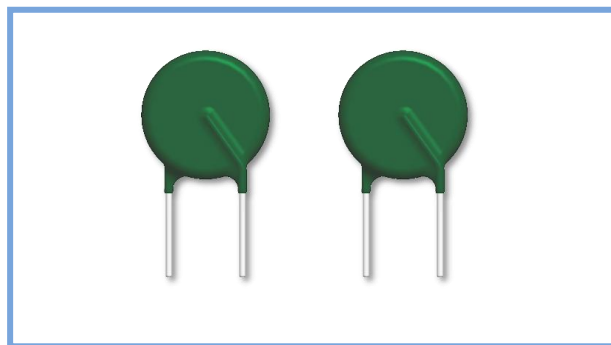
MERITEK

FEATURES

- RoHS & Halogen-free compliant
- Body size: $\Phi 5\text{mm} \sim \Phi 20\text{mm}$
- Wide continuous voltage range: $130V_{AC} \sim 465V_{AC}$
- Operating temperature range : $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$
- Storage temperature range: $-40^{\circ}\text{C} \sim +150^{\circ}\text{C}$
- Comply with UL1449 3rd SPD Type 5

APPLICATIONS

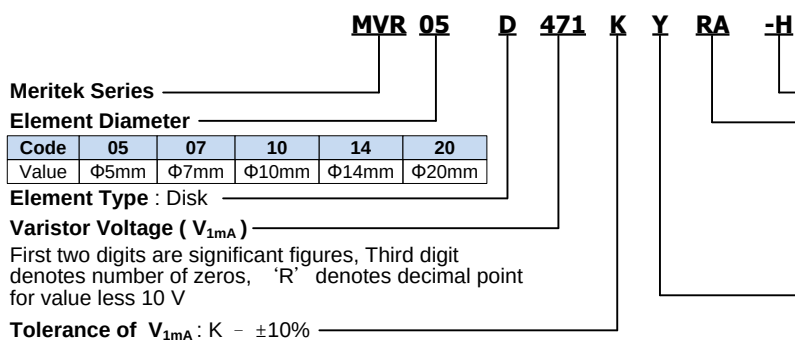
- Power supply
- Home appliance
- Industrial equipment
- LED driver
- Photovoltaic industry



C **RA** **US** E326004

DVE 40043602

PART NUMBER SYSTEM



Coating : silicon

Packaging

Code	Blank	RA	RB
Type	Bulk	Tape&Reel (hole pitch 12.7mm)	Tape&Reel (hole pitch 15.0mm)
	C	AA	AB
	Bulk & Cut Lead	Tape&Ammo (hole pitch 12.7mm)	Tape&Ammo (hole pitch 15.0mm)

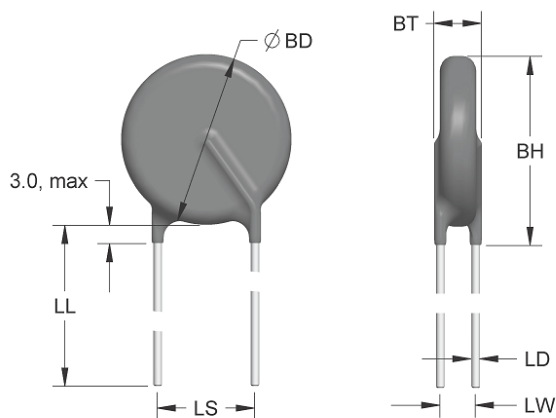
Lead Type

Code	Blank	Y
Type	Straight Lead	Y Kink Lead

DIMENSIONS

STRAIGHT LEAD

Dim	BD	LL, min.	LD	LS	BH, max.
05D	5.0~7.5	26.5	0.6 $\pm$ 0.02	5.0 $\pm$ 1.0	9.0
07D	6.4~9.6	26.5	0.6 $\pm$ 0.02	5.0 $\pm$ 1.0	11.0(07D201~621) 11.5(07D681~751)
10D	9.6~14.4	26.5	0.8 $\pm$ 0.02	7.5 $\pm$ 1.0	15.0(10D201~751)
14D	12.0~18.0	26.5	0.8 $\pm$ 0.02	7.5 $\pm$ 1.0	18.5(14D201~511) 19.0(14D561~751)
20D	16.8~25.2	22.5	1.0 $\pm$ 0.02	10.0 $\pm$ 1.0	25.5(20D201~511) 26.0(20D561~751)



All Dimension in mm

BT, LW refer to specification table

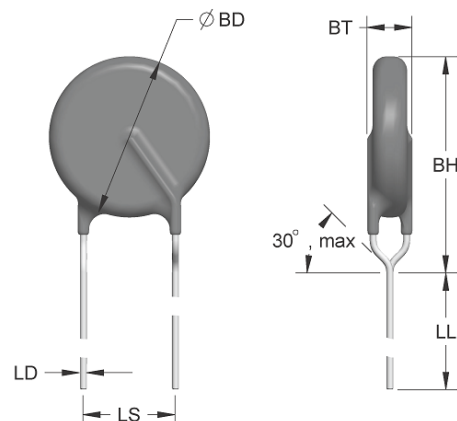
Y-KINK LEAD

Dim	BD	LL, min.	LD	LS	BH, max.
05D	5.0~7.5	20.0	0.6 $\pm$ 0.02	5.0 $\pm$ 1.0	9.5
07D	6.4~9.6	20.0	0.6 $\pm$ 0.02	5.0 $\pm$ 1.0	14.5
10D	9.6~14.4	20.0	0.8 $\pm$ 0.02	7.5 $\pm$ 1.0	16.0
14D	12.0~18.0	20.0	0.8 $\pm$ 0.02	7.5 $\pm$ 1.0	19.0
20D	16.8~25.2	20.0	1.0 $\pm$ 0.02	10.0 $\pm$ 1.0	29.5

All Dimension in mm

BT, refer to specification table

LL is suggested to 3.5 $\pm$ 0.5mm, if customer needs short lead (cut lead)



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SPECIFICATIONS

MVR05D

Parameter	Symbol	Value
Maximum surge current (8/20us)	I_{MAX}	400A
Nominal discharge current ¹	I_n	100A
Rated power	P	0.1W

NOTE:

1. Nominal discharge current is the specification defined in UL 1449 3rd and use 8/20us current waveform to test varistor

Part number MVR05D	Varistor voltage	Max. continuous voltage		Max. clamping voltage		Max. energy	Reference capacitance	Dimension	
	$V_{1mA}(@1mA_{DC})$	$V_{AC(rms)}$	V_{DC}	V_P	$I_P(8/20us)$	$W_{MAX}(10/1000us)$	$C_P(@1kHz)$	BT	LW±1.0
	(V)	(V)	(V)	(V)	(A)	(J)	(pF)	(mm)	
201-H	200 (180~220)	130	170	355	5	3.5	65	3.20~4.80	1.5
221-H	220 (198~242)	140	180	385	5	8.5	60	3.36~5.04	1.5
241-H	240 (216~264)	150	200	415	5	9.0	55	3.44~5.16	1.6
271-H	270 (243~297)	175	225	475	5	10.5	50	3.52~5.28	1.7
301-H	300 (270~330)	195	250	525	5	11	50	3.60~5.40	1.9
331-H	330 (297~363)	215	275	585	5	13	45	3.76~5.64	2.0
361-H	360 (324~396)	230	300	620	5	16	45	3.92~5.88	2.1
391-H	390 (351~429)	250	320	675	5	17	40	4.00~6.00	2.3
431-H	430 (387~473)	275	350	745	5	20	35	4.16~6.24	2.3
471-H	470 (423~517)	300	385	810	5	21	30	4.24~6.36	2.4
511-H	510 (459~561)	320	410	878	5	16	30	4.40~6.60	2.6
561-H	560 (504~616)	350	450	962	5	18	30	4.56~6.84	2.8
621-H	620 (558~682)	395	510	1050	5	18	25	4.88~7.32	3.0

MVR07D

Parameter	Symbol	Value
Maximum surge current (8/20us)	I_{MAX}	1750A
Nominal discharge current ¹	I_n	500A
Rated power	P	0.25W

NOTE:

1. Nominal discharge current is the specification defined in UL 1449 3rd and use 8/20us current waveform to test varistor

Part number MVR07D	Varistor voltage	Max. continuous voltage		Max. clamping voltage		Max. energy	Reference capacitance	Dimension	
	$V_{1mA}(@1mA_{DC})$	$V_{AC(rms)}$	V_{DC}	V_P	$I_P(8/20us)$	$W_{MAX}(10/1000us)$	$C_P(@1kHz)$	BT	LW±1.0
	(V)	(V)	(V)	(V)	(A)	(J)	(pF)	(mm)	
201-H	200 (180~220)	130	170	340	10	17.5	140	3.20~4.80	1.5
221-H	220 (198~242)	140	180	360	10	19	130	3.28~4.92	1.5
241-H	240 (216~264)	150	200	395	10	21	120	3.44~5.16	1.6
271-H	270 (243~297)	175	225	455	10	24	110	3.52~5.28	1.7
301-H	300 (270~330)	195	250	500	10	26	105	3.60~5.40	1.9
331-H	330 (297~363)	215	275	550	10	28	100	3.76~5.64	2.0
361-H	360 (324~396)	230	300	595	10	32	95	3.92~5.88	2.1
391-H	390 (351~429)	250	320	650	10	35	85	4.00~6.00	2.3
431-H	430 (387~473)	275	350	710	10	40	80	4.16~6.24	2.3
471-H	470 (423~517)	300	385	775	10	42	70	4.24~6.36	2.4
511-H	510 (459~561)	320	410	845	10	45	65	4.40~6.60	2.6
561-H	560 (504~616)	350	450	930	10	45.5	60	4.56~6.84	2.8
621-H	620 (558~682)	395	510	1020	10	50	55	4.88~7.32	3.0
681-H	680 (612~748)	420	560	1120	10	50.5	50	5.04~7.56	3.2
751-H	750 (675~825)	465	615	1235	10	51	45	5.20~7.80	3.5

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MVR10D

Parameter	Symbol	Value
Maximum surge current (8/20us)	I_{MAX}	3500A
Nominal discharge current ¹	I_n	1000A
Rated power	P	0.4W

NOTE:

1. Nominal discharge current is the specification defined in UL 1449 3rd and use 8/20us current waveform to test varistor

Part number	Varistor voltage	Max. continuous voltage		Max. clamping voltage		Max. energy	Reference capacitance	Dimension	
	$V_{1mA}(@1mA)$	$V_{AC(rms)}$	V_{DC}	V_P	I_P (8/20us)	W_{MAX} (10/1000us)	C_P (@1kHz)	BT	LW±1.0
MVR10D	(V)	(V)	(V)	(V)	(A)	(J)	(pF)	(mm)	
201-H	200 (180~220)	130	170	340	25	35	290	3.60~5.40	1.7
221-H	220 (198~242)	140	180	360	25	39	270	3.68~5.52	1.7
241-H	240 (216~264)	150	200	395	25	42	240	3.84~5.76	1.8
271-H	270 (243~297)	175	225	455	25	49	230	3.92~5.88	1.9
301-H	300 (270~330)	195	250	500	25	53	210	4.00~6.00	2.1
331-H	330 (297~363)	215	275	550	25	58	200	4.16~6.24	2.2
361-H	360 (324~396)	230	300	595	25	65	190	4.24~6.36	2.3
391-H	390 (351~429)	250	320	650	25	70	175	4.32~6.48	2.5
431-H	430 (387~473)	275	350	710	25	80	160	4.40~6.60	2.5
471-H	470 (423~517)	300	385	775	25	85	150	4.64~6.96	2.6
511-H	510 (459~561)	320	410	845	25	92	130	4.88~7.32	2.8
561-H	560 (504~616)	350	450	930	25	92	120	4.96~7.44	3.0
621-H	620 (558~682)	395	510	1020	25	92	110	5.12~7.68	3.2
681-H	680 (612~748)	420	560	1120	25	92	100	5.28~7.92	3.4
751-H	750 (675~825)	465	615	1235	25	100	90	5.44~8.16	3.7

MVR14D

Parameter	Symbol	Value
Maximum surge current (8/20us)	I_{MAX}	6000A
Nominal discharge current ¹	I_n	3000A
Rated power	P	0.6W

NOTE:

1. Nominal discharge current is the specification defined in UL 1449 3rd and use 8/20us current waveform to test varistor

Part number	Varistor voltage	Max. continuous voltage		Max. clamping voltage		Max. energy	Reference capacitance	Dimension	
	$V_{1mA}(@1mA)$	$V_{AC(rms)}$	V_{DC}	V_P	I_P (8/20us)	W_{MAX} (10/1000us)	C_P (@1kHz)	BT	LW±1.0
MVR14D	(V)	(V)	(V)	(V)	(A)	(J)	(pF)	(mm)	
201-H	200 (180~220)	130	170	340	50	70	700	3.60~5.40	1.7
221-H	220 (198~242)	140	180	360	50	78	640	3.68~5.52	1.7
241-H	240 (216~264)	150	200	395	50	84	580	3.84~5.76	1.8
271-H	270 (243~297)	175	225	455	50	99	520	3.92~5.88	1.9
301-H	300 (270~330)	195	250	500	50	105	480	4.00~6.00	2.1
331-H	330 (297~363)	215	275	550	50	115	450	4.16~6.24	2.2
361-H	360 (324~396)	230	300	595	50	130	430	4.24~6.36	2.3
391-H	390 (351~429)	250	320	650	50	140	390	4.32~6.48	2.5
431-H	430 (387~473)	275	350	710	50	155	370	4.40~6.60	2.5
471-H	470 (423~517)	300	385	775	50	175	320	4.64~6.96	2.6
511-H	510 (459~561)	320	410	845	50	190	290	4.88~7.32	2.8
561-H	560 (504~616)	350	450	930	50	190	260	4.96~7.44	3.0
621-H	620 (558~682)	395	510	1020	50	190	240	5.12~7.68	3.2
681-H	680 (612~748)	420	560	1120	50	190	230	5.28~7.92	3.4
751-H	750 (675~825)	465	615	1235	50	210	220	5.44~8.16	3.7

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MVR20D

Parameter	Symbol	Value
Maximum surge current (8/20us)	I_{MAX}	10000A
Nominal discharge current ¹	I_n	5000A
Rated power	P	1.0W

NOTE:

1. Nominal discharge current is the specification defined in UL 1449 3rd and use 8/20us current waveform to test varistor

Part number MVR20D	Varistor voltage	Max. continuous voltage		Max. clamping voltage		Max. energy	Reference capacitance	Dimension	
	$V_{1mA}(@1mA_{DC})$	$V_{AC(rms)}$	V_{DC}	V_P	$I_P (8/20us)$	$W_{MAX} (10/1000us)$	$C_P (@1kHz)$	BT	LW±1.0
	(V)	(V)	(V)	(V)	(A)	(J)	(pF)	(mm)	
201-H	200 (180~220)	130	170	340	100	140	1460	3.84~5.76	1.9
221-H	220 (198~242)	140	180	360	100	155	1320	3.92~5.88	1.9
241-H	240 (216~264)	150	200	395	100	168	1200	4.08~6.12	2.0
271-H	270 (243~297)	175	225	455	100	190	1100	4.16~6.24	2.1
301-H	300 (270~330)	195	250	500	100	210	1000	4.24~6.36	2.3
331-H	330 (297~363)	215	275	550	100	228	950	4.32~6.48	2.4
361-H	360 (324~396)	230	300	595	100	255	900	4.40~6.60	2.5
391-H	390 (351~429)	250	320	650	100	275	800	4.48~6.72	2.7
431-H	430 (387~473)	275	350	710	100	303	700	4.56~6.84	2.7
471-H	470 (423~517)	300	385	775	100	350	620	4.88~7.32	2.8
511-H	510 (459~561)	320	410	845	100	382	530	5.12~7.68	3.0
561-H	560 (504~616)	350	450	930	100	382	480	5.20~7.80	3.2
621-H	620 (558~682)	395	510	1020	100	382	450	5.36~8.04	3.4
681-H	680 (612~748)	420	560	1120	100	382	440	5.52~8.28	3.6
751-H	750 (675~825)	465	615	1235	100	420	420	5.68~8.52	3.9