

# HU · Snap-In · 6000h/105 °C

## Standard Performances · Compact Design

### > Specifications · Spezifikationen

Items	Characteristics
Temperature range	-40°C ~ + 105°C (200VDC - 250VDC) -25°C ~ + 105°C (400VDC - 550VDC)
Capacitance tolerance (at 20°C)	Standard +/- 20%, -10%/+30% on request
Surge voltage	Repetitive max. 30 sec per 6 Minutes
Leakage current max. I <sub>L</sub> (20°C, 5 min)	0.02 • C • V <sub>r</sub> [μA] or 3 mA, which is smaller.
Useful life	6000h at 105°C
Field failure rate	0.5 FIT = 0.5 • 10 <sup>-9</sup> Failures/hour
RoHS conform	Directive 2011/65/EU & (EU)2015/863
Specifications	JIS C 5101-4, AEC-Q200 qualified
Vibration	0.75mm, 10...55Hz, 10g, 3x2h



### > Outline Drawings · Bauformen

Refer to page 8 for available terminal shapes and dimensions. · Auf Seite 8 finden Sie die verfügbaren Bauformen und Maße.

### > Product Code · Bestellbezeichnung

**Example:** Series HU · 400 V · 330 μF ± 20 % · 30x30 mm · 2-pin terminal · without plate

Code	Description
<b>HU</b>	Type of series
<b>2G</b>	Rated voltage code (400V)
<b>331</b>	Capacitance code (330 μF)
<b>M</b>	Capacitance tolerance (± 20%)
<b>R</b>	Terminal symbol code (2-pin terminal)
<b>Z</b>	Diameter code (30 mm)
<b>S3</b>	Length code (30 mm)
<b>WEPC</b>	Outer design code (PET sleeve and PVC plate)

Rated voltage code		Capacitance tolerance		Diameter code		Length code			
Code	Voltage			Code	ØD	Code	L	Code	L
2D	200	M : ± 20%		W	20	S1	20	S10	65
2E	250	Q : -10% ~ +30%		X	22	S2	25	S11	70
2V	350			Y	25	S3	30	S12	75
2G	400			Z	30	S4	35	S13	80
420V	420			A	35	S5	40	S14	85
2W	450			B	40	S6	45	S15	90
2H	500			H	45	S7	50	S16	95
2L	550			C	50	S8	55	S17	100
						S9	60	S18	105

Rated VoltageCode (Surge Voltage) $V_r$ [V DC]	Capacitance $C_r$ [ $\mu$ F]	Ripple Current at 105°C/120Hz $I_r$ [A RMS]	Ripple Current at 40°C/120Hz [A RMS]	ESR (typ) at 20°C/100Hz [m $\Omega$ ]	Dissipation Factor at 20°C/100Hz Tan $\delta$	DxL [mm]	Product Code  # = variable value, see fixing code in the product code
<b>200 VDC</b> Code: 2D  Surge Voltage 250 VDC	330	1.07	2.46	330	0.15	22x25	HU2D331M#XS2
	390	1.24	2.85	280	0.15	22x30	HU2D391M#XS3
	470	1.31	3.01	240	0.15	25x25	HU2D471M#YS2
	560	1.58	3.63	200	0.15	22x35	HU2D561M#XS4
		1.52	3.50	200	0.15	25x30	HU2D561M#YS3
	680	1.83	4.21	160	0.15	22x40	HU2D681M#XS5
		1.77	4.07	160	0.15	25x35	HU2D681M#YS4
		1.60	3.68	160	0.15	30x25	HU2D681M#ZS2
	820	2.20	5.06	140	0.15	22x50	HU2D821M#XS7
		2.05	4.72	140	0.15	25x40	HU2D821M#YS5
		1.86	4.28	140	0.15	30x30	HU2D821M#ZS3
		1.52	3.50	140	0.15	35x25	HU2D821M#AS2
	1 000	2.37	5.45	110	0.15	25x45	HU2D102M#YS6
		2.17	4.99	110	0.15	30x35	HU2D102M#ZS4
		2.70	6.21	100	0.15	25x50	HU2D122M#YS7
	1 200	2.49	5.73	100	0.15	30x40	HU2D122M#ZS5
		1.94	4.46	100	0.15	35x30	HU2D122M#AS3
		2.91	6.69	80	0.15	30x45	HU2D152M#ZS6
	1 500	2.29	5.27	80	0.15	35x35	HU2D152M#AS4
		3.32	7.64	70	0.15	30x50	HU2D182M#ZS7
1 800	2.62	6.03	70	0.15	35x40	HU2D182M#AS5	
	3.02	6.95	50	0.15	35x45	HU2D222M#AS6	
<b>250 VDC</b> Code: 2E  Surge Voltage 300 VDC	220	0.95	2.19	440	0.15	22x25	HU2E221M#XS2
	330	1.30	2.99	290	0.15	20x35	HU2E331M#WS4
		1.24	2.85	290	0.15	22x30	HU2E331M#XS3
	390	1.19	2.74	290	0.15	25x25	HU2E331M#YS2
		1.42	3.27	250	0.15	22x35	HU2E391M#XS4
	470	1.37	3.15	250	0.15	25x30	HU2E391M#YS3
		1.65	3.80	210	0.15	22x40	HU2E471M#XS5
	560	1.42	3.27	210	0.15	30x25	HU2E471M#ZS2
		1.88	4.32	180	0.15	22x45	HU2E561M#XS6
	680	1.74	4.00	180	0.15	25x35	HU2E561M#YS4
		2.16	4.97	150	0.15	22x50	HU2E681M#XS7
		2.01	4.62	150	0.15	25x40	HU2E681M#YS5
		2.11	4.85	150	0.15	25x45	HU2E681M#YS6
	820	1.82	4.19	150	0.15	30x30	HU2E681M#ZS3
		1.52	3.50	150	0.15	35x25	HU2E681M#AS2
		2.41	5.54	120	0.15	25x50	HU2E821M#YS7
	1 000	2.10	4.83	120	0.15	30x35	HU2E821M#ZS4
		1.76	4.05	120	0.15	35x30	HU2E821M#AS3
		2.43	5.59	100	0.15	30x40	HU2E102M#ZS5
	1 200	2.04	4.69	100	0.15	35x35	HU2E102M#AS4
2.89		6.65	80	0.15	30x50	HU2E122M#ZS7	
1 500	2.34	5.38	80	0.15	35x40	HU2E122M#AS5	
	2.73	6.28	70	0.15	35x45	HU2E152M#AS6	
1 800	3.11	7.15	60	0.15	35x50	HU2E182M#AS7	

Additional designs on request · Weitere Designs auf Anfrage

Rated VoltageCode (Surge Voltage) $V_r$ [V DC]	Capacitance $C_r$ [ $\mu$ F]	Ripple Current at 105°C/120Hz $I_r$ [A RMS]	Ripple Current at 40°C/120Hz [A RMS]	ESR (typ) at 20°C/100Hz [m $\Omega$ ]	Dissipation Factor at 20°C/100Hz Tan $\delta$	DxL [mm]	Product Code  # = variable value, see fixing code in the product code
400 VDC Code: 2G  Surge Voltage 450 VDC	120	0.77	1.77	800	0.20	22x25	HU2G121M#XS2
	150	0.92	2.12	640	0.20	22x30	HU2G151M#XS3
	180	1.05	2.42	540	0.20	22x35	HU2G181M#XS4
		0.99	2.28	540	0.20	25x25	HU2G181M#YS2
	220	1.11	2.55	440	0.20	22x30	HU2G221M#XS3
		1.22	2.81	440	0.20	22x40	HU2G221M#XS5
		1.10	2.53	440	0.20	25x25	HU2G221M#YS2
		1.16	2.67	440	0.20	25x30	HU2G221M#YS3
	270	1.29	2.97	360	0.20	22x35	HU2G271M#XS4
		1.40	3.22	360	0.20	22x45	HU2G271M#XS6
		1.28	3.46	360	0.20	25x30	HU2G271M#YS3
		1.35	3.11	360	0.20	25x35	HU2G271M#YS4
		1.28	2.94	360	0.20	30x25	HU2G271M#ZS2
	330	1.54	3.54	290	0.20	22x45	HU2G331M#XS6
		1.59	3.66	290	0.20	22x50	HU2G331M#XS7
		1.49	3.43	290	0.20	25x35	HU2G331M#YS4
		1.55	3.57	290	0.20	25x40	HU2G331M#YS5
		1.41	3.24	290	0.20	30x25	HU2G331M#ZS2
		1.49	3.43	290	0.20	30x30	HU2G331M#ZS3
		1.46	3.36	290	0.20	35x25	HU2G331M#AS2
	390	1.73	3.98	250	0.20	22x50	HU2G391M#XS7
		1.68	3.86	250	0.20	25x40	HU2G391M#YS5
		1.74	4.00	250	0.20	25x45	HU2G391M#YS6
		1.62	3.72	250	0.20	30x30	HU2G391M#ZS3
		1.70	3.91	250	0.20	30x35	HU2G391M#ZS4
		1.59	3.66	250	0.20	35x25	HU2G391M#AS2
		1.87	4.30	250	0.20	35x30	HU2G391M#AS3
	470	1.92	4.41	210	0.20	25x45	HU2G471M#YS6
		1.98	4.55	210	0.20	25x50	HU2G471M#YS7
		1.86	4.28	210	0.20	30x35	HU2G471M#ZS4
		1.94	4.46	210	0.20	30x40	HU2G471M#ZS5
		1.84	4.23	210	0.20	35x30	HU2G471M#AS3
	560	2.16	4.97	180	0.20	25x50	HU2G561M#YS7
		2.11	4.85	180	0.20	30x40	HU2G561M#ZS5
		2.19	5.04	180	0.20	30x45	HU2G561M#ZS6
		2.01	4.62	180	0.20	35x30	HU2G561M#AS3
		2.09	4.81	180	0.20	35x35	HU2G561M#AS4
	680	2.41	5.54	150	0.20	30x45	HU2G681M#ZS6
		2.48	5.70	150	0.20	30x50	HU2G681M#ZS7
		2.31	5.31	150	0.20	35x35	HU2G681M#AS4
		2.40	5.52	150	0.20	35x40	HU2G681M#AS5
	770	2.51	5.77	132	0.20	35x50	HU2G771M#AS7
	820	2.81	6.46	120	0.20	30x55	HU2G821M#ZS8
		2.63	6.05	120	0.20	35x40	HU2G821M#AS5

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Rated VoltageCode (Surge Voltage) $V_r$ [V DC]	Capacitance $C_r$ [μF]	Ripple Current at 105°C/120Hz $I_r$ [A RMS]	Ripple Current at 40°C/120Hz [A RMS]	ESR (typ) at 20°C/100Hz [mΩ]	Dissipation Factor at 20°C/100Hz Tan δ	DxL [mm]	Product Code  # = variable value, see fixing code in the product code
<b>400 VDC</b> Code: 2G  Surge Voltage 450 VDC	<b>820</b>	2.72	6.26	120	0.20	35x45	HU2G821M#AS6
		2.78	6.39	120	0.20	35x50	HU2G821M#AS7
	<b>1 000</b>	2.86	6.58	120	0.20	35x60	HU2G102M#AS9
	<b>1 200</b>	3.44	7.91	80	0.20	35x75	HU2G122M#AS12
	<b>1 500</b>	3.93	9.04	80	0.20	35x100	HU2G152M#AS17
		3.99	9.18	80	0.20	40x75	HU2G152M#BS12
	<b>1 800</b>	4.47	10.28	60	0.20	40x100	HU2G182M#BS17
<b>420 VDC</b> Code: 420V  Surge Voltage 470 VDC	<b>100</b>	0.71	1.63	1020	0.20	22x25	HU420V101M#XS2
	<b>120</b>	0.77	1.77	850	0.20	22x25	HU420V101M#XS2
	<b>150</b>	0.87	2.00	680	0.20	22x25	HU420V151M#XS2
		0.92	2.12	680	0.20	22x30	HU420V151M#XS3
	<b>180</b>	0.90	2.07	680	0.20	25x25	HU420V151M#YS2
		1.01	2.32	570	0.20	22x30	HU420V181M#XS3
	<b>220</b>	1.05	2.42	570	0.20	22x35	HU420V181M#XS4
		1.05	2.42	570	0.20	25x30	HU420V181M#YS3
	<b>270</b>	1.17	2.69	470	0.20	22x35	HU420V221M#XS4
		1.22	2.81	470	0.20	22x40	HU420V221M#XS5
		1.21	2.78	470	0.20	25x35	HU420V221M#YS4
		1.15	2.65	470	0.20	30x25	HU420V221M#ZS2
	<b>330</b>	1.35	3.11	380	0.20	22x40	HU420V271M#XS5
		1.40	3.22	380	0.20	22x45	HU420V271M#XS6
		1.35	3.11	380	0.20	25x35	HU420V271M#YS4
		1.28	2.94	380	0.20	30x25	HU420V271M#ZS2
	<b>390</b>	1.38	3.17	380	0.20	35x25	HU420V271M#AS2
		1.54	3.54	310	0.20	22x45	HU420V331M#XS6
		1.59	3.66	310	0.20	22x50	HU420V331M#XS7
		1.55	3.57	310	0.20	25x40	HU420V331M#YS5
		1.61	3.70	310	0.20	25x45	HU420V331M#YS6
		1.49	3.43	310	0.20	30x30	HU420V331M#ZS3
		1.56	3.59	310	0.20	30x35	HU420V331M#ZS4
	<b>470</b>	1.46	3.36	310	0.20	35x25	HU420V331M#AS2
		1.74	4.00	270	0.20	25x45	HU420V391M#YS6
		1.80	4.14	270	0.20	25x50	HU420V391M#YS7
		1.62	3.73	270	0.20	30x30	HU420V391M#ZS3
		1.76	4.05	270	0.20	30x40	HU420V391M#ZS5
		1.59	3.66	270	0.20	35x25	HU420V391M#AS2
	<b>520</b>	1.67	3.84	270	0.20	35x30	HU420V391M#AS3
		1.98	4.55	220	0.20	25x50	HU420V471M#YS7
		1.86	4.28	220	0.20	30x35	HU420V471M#ZS4
		1.94	4.46	220	0.20	30x40	HU420V471M#ZS5
		2.00	4.60	220	0.20	30x45	HU420V471M#ZS6
		1.84	4.23	220	0.20	35x30	HU420V471M#AS3
		1.92	4.42	220	0.20	35x35	HU420V471M#AS4
		2.18	5.01	190	0.20	30x45	HU420V521M#ZS6

Additional designs on request · Weitere Designs auf Anfrage

Rated VoltageCode (Surge Voltage) $V_r$ [V DC]	Capacitance $C_r$ [ $\mu$ F]	Ripple Current at 105°C/120Hz $I_r$ [A RMS]	Ripple Current at 40°C/120Hz [A RMS]	ESR (typ) at 20°C/100Hz [m $\Omega$ ]	Dissipation Factor at 20°C/100Hz Tan $\delta$	DxL [mm]	Product Code  # = variable value, see fixing code in the product code
<b>420 VDC</b> Code: 420V  Surge Voltage 470 VDC	<b>560</b>	2.27	5.22	190	0.20	25x60	HU420V561M#YS9
		2.11	4.85	190	0.20	30x40	HU420V561M#ZS5
		2.25	5.18	190	0.20	30x50	HU420V561M#ZS7
		2.09	4.81	190	0.20	35x35	HU420V561M#AS4
		2.18	5.01	190	0.20	35x40	HU420V561M#AS5
	<b>680</b>	2.48	5.70	150	0.20	30x50	HU420V681M#ZS7
		2.40	5.52	150	0.20	35x40	HU420V681M#AS5
		2.48	5.70	150	0.20	35x45	HU420V681M#AS6
		2.56	5.89	150	0.20	35x50	HU420V681M#AS7
	<b>720</b>	2.55	5.86	140	0.20	35x45	HU420V721M#AS6
	<b>820</b>	2.81	6.46	130	0.20	30x55	HU420V821M#ZS8
		2.72	6.26	130	0.20	35x45	HU420V821M#AS6
		2.80	6.44	130	0.20	35x50	HU420V821M#AS7
	<b>920</b>	2.96	6.81	120	0.20	35x60	HU420V921M#AS9
	<b>1000</b>	3.25	7.48	110	0.20	35x60	HU420V103M#AS9
		3.30	7.59	110	0.20	40x56	HU420V103M#BS8
	<b>1200</b>	3.57	8.21	90	0.20	40x75	HU420V122M#BS12
		3.46	7.96	90	0.20	35x80	HU420V122M#AS13
	<b>1500</b>	4.07	9.36	70	0.20	40x100	HU420V152M#BS17
	<b>1600</b>	4.20	9.66	70	0.20	40x100	HU420V162M#BS17
<b>1800</b>	4.45	10.24	67	0.20	40x100	HU420V182M#BS17	
<b>450 VDC</b> Code: 2W  Surge Voltage 500 VDC	<b>100</b>	0.71	1.63	1020	0.20	20x30	HU2W101M#WS3
		0.71	1.63	1020	0.20	22x25	HU2W101M#XS2
		0.75	1.73	1020	0.20	22x30	HU2W101M#XS3
		0.72	1.66	1020	0.20	30x20	HU2W101M#ZS1
	<b>120</b>	0.82	1.89	850	0.20	22x30	HU2W121M#XS3
		0.81	1.86	850	0.20	25x25	HU2W121M#YS2
		0.92	2.12	680	0.20	22x30	HU2W151M#XS3
	<b>150</b>	0.96	2.21	680	0.20	22x35	HU2W151M#XS4
		0.90	2.07	680	0.20	25x25	HU2W151M#YS2
		1.01	2.32	570	0.20	22x30	HU2W181M#XS3
	<b>180</b>	1.05	2.42	570	0.20	22x35	HU2W181M#XS4
		1.09	2.51	570	0.20	22x40	HU2W181M#XS5
		0.99	2.28	570	0.20	25x25	HU2W181M#YS2
		1.05	2.42	570	0.20	25x30	HU2W181M#YS3
		1.09	2.51	570	0.20	25x35	HU2W181M#YS4
		1.04	2.39	570	0.20	30x25	HU2W181M#ZS2
		1.17	2.69	470	0.20	22x35	HU2W221M#XS4
	<b>220</b>	1.22	2.81	470	0.20	22x40	HU2W221M#XS5
		1.25	2.88	470	0.20	22x45	HU2W221M#XS6
		1.16	2.67	470	0.20	25x30	HU2W221M#YS3
1.21		2.78	470	0.20	25x35	HU2W221M#YS4	
1.15		2.65	470	0.20	30x25	HU2W221M#ZS2	
<b>270</b>	1.40	3.22	380	0.20	22x45	HU2W271M#XS6	

Additional designs on request · Weitere Designs auf Anfrage

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<b>450 VDC</b> Code: 2W  Surge Voltage 500 VDC	<b>270</b>	1.44	3.31	380	0.20	22x50	HU2W271M#XS7
		1.35	3.11	380	0.20	25x35	HU2W271M#YS4
		1.40	3.22	380	0.20	25x40	HU2W271M#YS5
		1.28	2.94	380	0.20	30x25	HU2W271M#ZS2
		1.35	3.11	380	0.20	30x30	HU2W271M#ZS3
		1.38	3.17	380	0.20	35x25	HU2W271M#AS2
	<b>330</b>	1.59	3.66	310	0.20	22x50	HU2W331M#XS7
		1.55	3.57	310	0.20	25x40	HU2W331M#YS5
		1.61	3.70	310	0.20	25x45	HU2W331M#YS6
		1.65	3.80	310	0.20	25x50	HU2W331M#YS7
		1.49	3.43	310	0.20	30x30	HU2W331M#ZS3
		1.56	3.59	310	0.20	30x35	HU2W331M#ZS4
		1.46	3.36	310	0.20	35x25	HU2W331M#AS2
		1.53	3.52	310	0.20	35x30	HU2W331M#AS3
	<b>390</b>	1.74	4.00	270	0.20	25x45	HU2W391M#YS6
		1.80	4.14	270	0.20	25x50	HU2W391M#YS7
		1.76	4.05	270	0.20	30x40	HU2W391M#ZS5
		1.70	3.91	270	0.20	30x35	HU2W391M#ZS4
		1.59	3.66	270	0.20	35x25	HU2W391M#AS2
	<b>470</b>	2.04	4.69	220	0.20	25x55	HU2W471M#YS8
		2.29	5.27	220	0.20	25x60	HU2W471M#YS9
		1.94	4.46	220	0.20	30x40	HU2W471M#ZS5
		2.00	4.60	220	0.20	30x45	HU2W471M#ZS6
		2.08	4.78	220	0.20	30x50	HU2W471M#ZS7
		1.84	4.23	220	0.20	35x30	HU2W471M#AS3
		1.92	4.42	220	0.20	35x35	HU2W471M#AS4
		1.99	4.58	220	0.20	35x40	HU2W471M#AS5
	<b>560</b>	2.27	5.22	190	0.20	25x60	HU2W561M#YS9
		2.25	5.18	190	0.20	30x50	HU2W561M#ZS7
		2.09	4.81	190	0.20	35x35	HU2W561M#AS4
		2.18	5.01	190	0.20	35x40	HU2W561M#AS5
		2.26	5.20	190	0.20	35x45	HU2W561M#AS6
	<b>680</b>	2.56	5.89	150	0.20	30x55	HU2W681M#ZS8
		2.48	5.70	150	0.20	35x45	HU2W681M#AS6
		2.55	5.87	150	0.20	35x50	HU2W681M#AS7
	<b>820</b>	2.87	6.60	130	0.20	30x60	HU2W821M#ZS9
		2.80	6.44	130	0.20	35x50	HU2W821M#AS7
	<b>1000</b>	3.25	7.48	110	0.20	35x60	HU2W102M#AS9
		3.15	7.25	110	0.20	35x70	HU2W102M#AS11
	<b>1200</b>	4.01	9.22	90	0.20	35x82	HU2W122M#AS13CC
		3.51	8.05	90	0.20	35x100	HU2W122M#AS17
		3.57	8.21	90	0.20	40x75	HU2W122M#BS12
		4.01	9.22	90	0.20	40x90	HU2W122M#BS15
	<b>1500</b>	4.07	9.36	70	0.20	40x100	HU2W152M#BS17
		4.00	9.20	70	0.20	46x97	HU2W152M#HL97
	<b>2200</b>	8.19	18.84	37	0.20	50x105	HU2W222M#CS18

Additional designs on request · Weitere Designs auf Anfrage

# HU · Snap-In · 6000h/105 °C

Rated VoltageCode (Surge Voltage) $V_r$ [V DC]	Capacitance $C_r$ [ $\mu$ F]	Ripple Current at 105°C/120Hz $I_r$ [A RMS]	Ripple Current at 40°C/120Hz [A RMS]	ESR (typ) at 20°C/100Hz [m $\Omega$ ]	Dissipation Factor at 20°C/100Hz Tan $\delta$	DxL [mm]	Product Code  # = variable value, see fixing code in the product code
500 VDC Code: 2H  Surge Voltage 550 VDC	56	0.42	0.97	1710	0.20	22x25	HU2H560M#XS2
	68	0.45	1.04	1410	0.20	22x25	HU2H680M#XS2
		0.48	1.10	1410	0.20	22x30	HU2H680M#XS3
		0.55	1.27	1410	0.20	25x25	HU2H680M#YS2
	82	0.53	1.22	1170	0.20	22x30	HU2H820M#XS3
		0.54	1.24	1170	0.20	25x25	HU2H820M#YS2
		0.57	1.31	1170	0.20	25x30	HU2H820M#YS3
	100	0.59	1.36	960	0.20	22x30	HU2H101M#XS3
		0.62	1.43	960	0.20	22x35	HU2H101M#XS4
		0.65	1.50	960	0.20	22x40	HU2H101M#XS5
		0.61	1.40	960	0.20	25x25	HU2H101M#YS3
		0.64	1.47	960	0.20	25x30	HU2H101M#YS4
		0.63	1.45	960	0.20	30x25	HU2H101M#ZS3
	120	0.69	1.59	800	0.20	22x35	HU2H121M#XS4
		0.72	1.66	800	0.20	22x40	HU2H121M#XS5
		0.71	1.63	800	0.20	25x30	HU2H121M#YS3
		0.74	1.70	800	0.20	25x35	HU2H121M#YS4
		0.75	1.73	800	0.20	30x25	HU2H121M#ZS2
	150	0.82	1.89	640	0.20	22x40	HU2H151M#XS5
		0.85	1.96	640	0.20	22x45	HU2H151M#XS6
		0.84	1.93	640	0.20	25x35	HU2H151M#YS4
		0.88	2.02	640	0.20	25x40	HU2H151M#YS6
		0.85	1.96	640	0.20	30x25	HU2H151M#ZS2
		0.90	2.07	640	0.20	30x30	HU2H151M#ZS3
	180	0.94	2.16	640	0.20	35x25	HU2H151M#AS2
		0.97	2.23	540	0.20	22x50	HU2H181M#XS7
		0.98	2.25	540	0.20	25x40	HU2H181M#YS5
		1.01	2.32	540	0.20	25x45	HU2H181M#YS6
		0.99	2.28	540	0.20	30x30	HU2H181M#ZS3
		1.04	2.39	540	0.20	30x35	HU2H181M#ZS4
		1.04	2.39	540	0.20	35x25	HU2H181M#AS2
	220	1.13	2.60	440	0.20	25x45	HU2H221M#YS6
		1.17	2.69	440	0.20	25x50	HU2H221M#YS7
		1.17	2.69	440	0.20	30x35	HU2H221M#ZS4
		1.21	2.78	440	0.20	30x40	HU2H221M#ZS5
		1.22	2.81	440	0.20	35x30	HU2H221M#AS3
	270	1.36	3.13	360	0.20	30x40	HU2H271M#ZS5
		1.41	3.24	360	0.20	30x45	HU2H271M#ZS6
		1.37	3.15	360	0.20	35x30	HU2H271M#AS3
		1.44	3.31	360	0.20	35x35	HU2H271M#AS4
	330	1.58	3.63	290	0.20	30x45	HU2H331M#ZS6
		1.63	3.75	290	0.20	30x50	HU2H331M#ZS7
1.61		3.70	290	0.20	35x35	HU2H331M#AS5	
1.67		3.84	290	0.20	35x40	HU2H331M#AS5	
390	1.79	4.12	250	0.20	30x50	HU2H391M#ZS7	

Additional designs on request · Weitere Designs auf Anfrage

Rated VoltageCode (Surge Voltage) $V_r$ [V DC]	Capacitance $C_r$ [μF]	Ripple Current at 105°C/120Hz $I_r$ [A RMS]	Ripple Current at 40°C/120Hz [A RMS]	ESR (typ) at 20°C/100Hz [mΩ]	Dissipation Factor at 20°C/100Hz Tan δ	DxL [mm]	Product Code  # = variable value, see fixing code in the product code
<b>500 VDC</b> Code: 2H  Surge Voltage 550 VDC	<b>390</b>	1.84	4.23	250	0.20	35x40	HU2H391M#AS5
		1.90	4.37	250	0.20	35x45	HU2H391M#AS6
	<b>470</b>	2.10	4.83	210	0.20	30x60	HU2H471M#ZS9
		2.12	4.88	210	0.20	35x45	HU2H471M#AS6
		2.18	5.01	210	0.20	35x50	HU2H471M#AS7
		<b>560</b>	2.53	5.82	180	0.20	35x60
<b>550 VDC</b> Code: 2L  Surge Voltage 600 VDC	<b>82</b>	0.59	1.18	2920	0.25	30x25	HU2L820M#ZS2
	<b>120</b>	0.77	1.54	1990	0.25	30x30	HU2L121M#ZS3
		0.80	1.60	1990	0.25	35x25	HU2L121M#AS2
	<b>150</b>	0.91	1.82	1600	0.25	30x35	HU2L151M#ZS4
		0.96	1.92	1600	0.25	35x30	HU2L151M#AS3
	<b>180</b>	1.05	2.10	1330	0.25	30x40	HU2L181M#ZS5
		1.11	2.22	1330	0.25	35x35	HU2L181M#AS4
	<b>220</b>	1.26	2.52	1090	0.25	30x50	HU2L221M#ZS7
		1.29	2.58	1090	0.25	35x40	HU2L221M#AS5
	<b>270</b>	1.50	3.00	890	0.25	35x45	HU2L271M#AS6
	<b>330</b>	1.73	3.46	730	0.25	35x50	HU2L331M#AS7
	<b>390</b>	2.00	4.00	620	0.25	35x60	HU2L391M#AS9

### > Ripple Current Multiplier · Wechselstrommultiplikator

Frequency [Hz]	50/60	120	300	1k	≥ 10k	Forced cooling [m/sec]	v < 1.0	v ≥ 1.0
Multiplier	0.70	1.00	1.18	1.34	1.45	Multiplier	1.0	1.1

Temperature [°C]	40	60	70	85	105	
Multiplier	2.3	2.0	1.8	1.4	1.0	
	200~500V	2.3	2.0	1.8	1.4	1.0
	550V	2.0	1.7	1.5	1.3	1.0



> Life Time Table · Brauchbarkeitsdauer – Tabelle

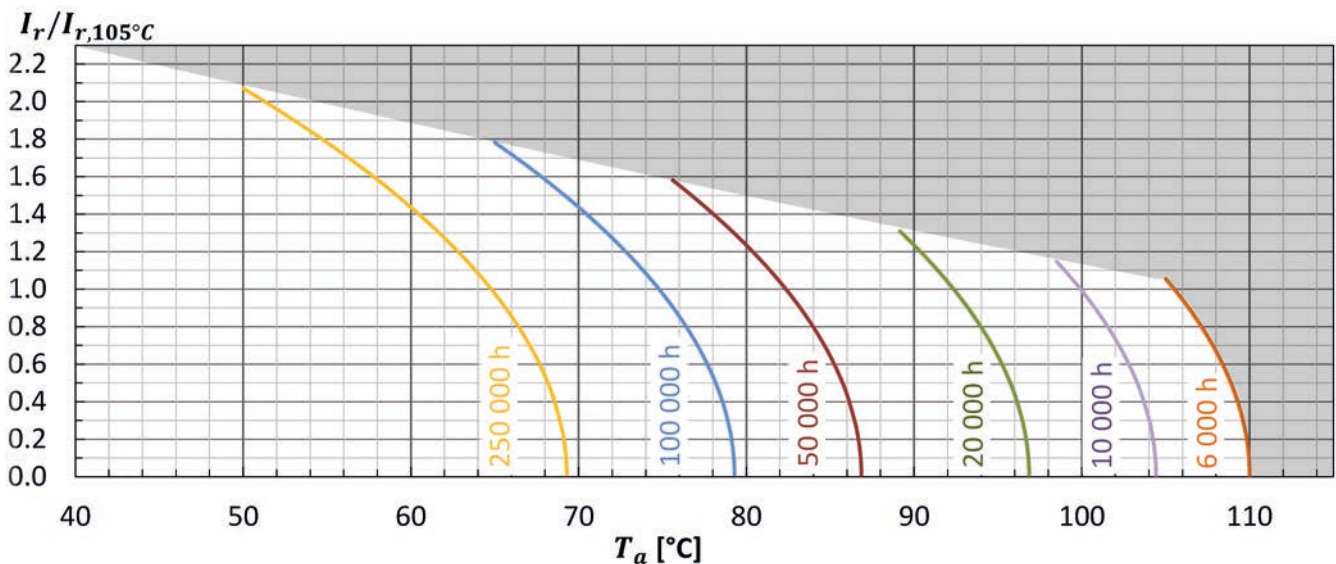
HU	Useful life as function of ambient temperature and ripple current														
	$I_r$ at 105°C	x 1.0	x 1.1	x 1.2	x 1.3	x 1.4	x 1.5	x 1.6	x 1.7	x 1.8	x 1.9	x 2.0	x 2.1	x 2.2	x 2.3
$T_a = 40^\circ\text{C}$	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
$T_a = 45^\circ\text{C}$	250	250	250	250	250	250	250	250	250	250	250	250	250	250	
$T_a = 50^\circ\text{C}$	250	250	250	250	250	250	250	250	250	250	250	250	238		
$T_a = 55^\circ\text{C}$	250	250	250	250	250	250	250	250	243	209	178				
$T_a = 60^\circ\text{C}$	250	250	250	250	250	231	203	177	154	132	113				
$T_a = 65^\circ\text{C}$	245	225	204	184	165	146	128	112	97	84					
$T_a = 70^\circ\text{C}$	155	142	129	116	104	92	81	71	62						
$T_a = 75^\circ\text{C}$	98	90	81	73	66	58	51								
$T_a = 80^\circ\text{C}$	62	56	51	46	41	37									
$T_a = 85^\circ\text{C}$	39	36	32	29	26										
$T_a = 90^\circ\text{C}$	24	22	20	19											
$T_a = 95^\circ\text{C}$	15	14	13												
$T_a = 100^\circ\text{C}$	9	9													
$T_a = 105^\circ\text{C}$	6														

khrs      Max. value limited to 250 000 hours.

> Life Time Graph · Brauchbarkeitsdauer – Diagramm

Useful life depending on ambient temperature  $T_a$  and ripple current operating conditions  $I_r$  versus rated ripple current at the upper category temperature  $I_{r, 105^\circ\text{C}, 120\text{Hz}}$

Brauchbarkeitsdauer in Abhängigkeit von Umgebungstemperatur  $T_a$  und Wechselstrombelastung  $I_r$  im Verhältnis zur max. Wechselstrombelastung bei oberer Kategorietemperatur  $I_{r, 105^\circ\text{C}, 120\text{Hz}}$



> Life Time Tests and Requirements · Anforderungen Brauchbarkeitsdauer

Life time test	Test procedure	Life time criteria
Endurance test	$T_a = 105^\circ\text{C}$ ; $V_r, I_r$ applied 4000 hours	$\Delta C/C \leq 20\%$ (of initial value) $\text{Tan}\delta \leq 200\%$ (of specified value) $I_L \leq$ specified value
Useful life	$T_a = 105^\circ\text{C}$ ; $V_r, I_r$ applied 6000 hours	$\Delta C/C \leq 30\%$ (of initial value) $\text{Tan}\delta < 300\%$ (of specified value) $I_L \leq$ specified value

Reference Specification: JIS C 5101-4, JIS C 5102, IEC 60384-4