

# IGBT Modules / SEMITRANS

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Type	IGBT						Diode				Module		Circuit
	$I_c @ T_c = 25^\circ\text{C}$	$I_{cnom}$	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$	$E_{on}$	$E_{off}$	$R_{th(j-c)}$	$I_f @ T_c = 25^\circ\text{C}$	$V_f @ T_j = 25^\circ\text{C typ.}$	$E_{rr}$	$R_{th(j-c)}$	Case	$R_{th(c-s)}$	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W		K/W	
<b>600V - IGBT3 (Trench)</b>													
SKM145GB066D	195	150	1.45	8.5	5.5	0.3	150	1.40	3.5	0.5	2	0.05	
SKM195GB066D	265	200	1.45	14	8	0.22	200	1.40	5.6	0.4	2	0.05	
SKM300GB066D	390	300	1.45	7.5	11.5	0.15	350	1.38	10.5	0.25	3	0.038	
SKM400GB066D	500	400	1.45	8	16	0.12	450	1.40	14	0.2	3	0.038	
SKM600GB066D	760	600	1.45	7.5	29.5	0.08	700	1.38	25	0.125	3	0.038	
SKM200GARL066T <sup>1)</sup>	280	200	1.45	2.24	7.89	0.21	270	1.45	4	0.39	5	0.038	
SKM300GARL066T <sup>1)</sup>	400	300	1.45	3.5	10.1	0.15	400	1.45	4	0.26	5	0.038	
SKM400GARL066T <sup>1)</sup>	504	400	1.45	4.48	15.78	0.12	421	1.54	8	0.28	5	0.038	
SKM150MLI066TAT <sup>1)</sup>	200	150	1.45	1.7	5.1	0.29	200	1.35	2	0.52	5	0.038	
SKM200MLI066TAT <sup>1)</sup>	280	200	1.45	2.53	6.82	0.21	270	1.4	4	0.39	5	0.038	
SKM300MLI066TAT <sup>1)</sup>	400	300	1.45	3.5	10.1	0.15	324	1.35	4	0.25	5	0.038	
<b>600V - NPT IGBT (Standard)</b>													
SKM75GAL063D	100	75	2.1	3	2.5	0.35	75	1.55	0.53	0.72	2	0.05	
SKM300GAL063D	400	300	2.1	14	13	0.09	250	1.65	4	0.25	3	0.038	
SKM75GAR063D	100	75	2.1	3	2.5	0.35	75	1.55	0.53	0.72	2	0.05	
SKM300GAR063D	400	300	2.1	14	13	0.09	250	1.65	4	0.25	3	0.038	
SKM50GB063D	70	50	2.10	2.5	1.8	0.5	75	1.35	0.48	1	2	0.05	
SKM75GB063D	100	75	2.1	3	2.5	0.35	75	1.55	0.53	0.72	2	0.05	
SKM100GB063D	130	100	2.1	4	3	0.27	100	1.55	1.5	0.6	2	0.05	
SKM200GB063D	260	200	2.1	11	7.5	0.14	200	1.55	2.1	0.3	3	0.038	
SKM300GB063D	400	300	2.1	14	13	0.09	250	1.65	4	0.25	3	0.038	
<b>1200V - V-IGBT</b>													
SKM150GAL12V	231	150	1.75	13.5	14.2	0.19	189	2.14	8.9	0.31	2	0.05	
SKM400GAL12V	612	400	1.75	39	42	0.072	440	2.20	26	0.14	3	0.038	
SKM400GAR12V	612	400	1.75	39	42	0.072	440	2.20	26	0.14	3	0.038	
SKM300GA12V	420	300	1.85	23	33	0.11	353	2.17	21	0.17	4	0.038	
SKM400GA12V	612	400	1.75	39	42	0.072	440	2.20	26	0.14	4	0.038	
SKM600GA12V	908	600	1.75	76	76	0.049	707	2.14	43	0.086	4	0.038	
SKM50GB12V	77	50	1.85	5	4	0.53	65	2.22	3.6	0.84	2	0.05	
SKM75GB12V	114	75	1.85	6.7	7.1	0.38	97	2.17	4.2	0.58	2	0.05	
SKM100GB12V	159	100	1.75	10.7	8.7	0.27	121	2.20	5.7	0.48	2	0.05	
SKM150GB12V	231	150	1.75	13.5	14.2	0.19	189	2.14	8.9	0.31	2	0.05	
SKM150GB12VG	222	150	1.85	10	16.5	0.2	187	2.17	11	0.31	3	0.038	

Footnotes: 1) New product

# IGBT Modules / SEMITRANS

Type	IGBT						Diode				Module		Circuit
	$I_C @ T_C = 25^\circ\text{C}$	$I_{Cnom}$	$V_{CE(sat)} @ T_J = 25^\circ\text{C typ.}$	$E_{on}$	$E_{off}$	$R_{th(j-c)}$	$I_F @ T_C = 25^\circ\text{C}$	$V_F @ T_J = 25^\circ\text{C typ.}$	$E_{rr}$	$R_{th(j-c)}$	Case	$R_{th(j-c)}$	
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W		K/W	
<b>1200V - V-IGBT</b>													
SKM200GB12V	311	200	1.75	14	22	0.14	229	2.20	13	0.26	3	0.038	
SKM300GB12V	420	300	1.85	23	33	0.11	353	2.17	21	0.17	3	0.038	
SKM400GB12V	612	400	1.75	39	42	0.072	440	2.20	26	0.14	3	0.038	
<b>1200V - IGBT4 (Trench)</b>													
SKM200GAL12E4	313	200	1.80	21	27	0.14	229	2.20	13	0.26	3	0.038	
SKM300GAL12E4	422	300	1.85	27	39	0.11	353	2.17	23	0.17	3	0.038	
SKM400GAL12E4	616	400	1.80	33	56	0.072	440	2.20	30.5	0.14	3	0.038	
SKM200GAR12E4	313	200	1.80	21	27	0.14	229	2.20	13	0.26	3	0.038	
SKM300GAR12E4	422	300	1.85	27	39	0.11	353	2.17	23	0.17	3	0.038	
SKM400GAR12E4	616	400	1.80	33	56	0.072	440	2.20	30.5	0.14	3	0.038	
SKM300GA12E4	422	300	1.85	23.4	35	0.11	353	2.17	22.2	0.17	4	0.038	
SKM400GA12E4	616	400	1.80	28	59	0.072	440	2.20	37	0.14	4	0.038	
SKM600GA12E4	913	600	1.80	74	84	0.049	707	2.14	38	0.086	4	0.038	
SKM900GA12E4	1305	900	1.83	130	121	0.035	871	2.31	53	0.07	4	0.038	
SKM200GB12E4	313	200	1.80	21	27	0.14	229	2.20	13	0.26	3	0.038	
SKM300GB12E4	422	300	1.85	27	39	0.11	353	2.17	23	0.17	3	0.038	
SKM400GB12E4	616	400	1.80	33	56	0.072	440	2.20	30.5	0.14	3	0.038	
SKM450GB12E4	700	450	1.82	32	60	0.062	440	2.31	28	0.14	3	0.038	
SKM450GM12E4 <sup>1)</sup>	700	450	1.82	32	60	0.062	440	2.31	28	0.14	3	0.038	
<b>1200V - IGBT4 Fast (Trench)</b>													
SKM50GAL12T4	81	50	1.85	5.5	4.5	0.53	65	2.22	3.6	0.84	2	0.05	
SKM100GAL12T4	160	100	1.80	15	10.2	0.27	121	2.20	5.9	0.48	2	0.05	
SKM150GAL12T4	232	150	1.80	19.2	15.8	0.19	189	2.14	13	0.31	2	0.05	
SKM200GAL12T4	313	200	1.80	21	20	0.14	229	2.20	13	0.26	3	0.038	
SKM300GAL12T4	422	300	1.85	27	29	0.11	353	2.17	23	0.17	3	0.038	
SKM400GAL12T4	616	400	1.80	33	42	0.072	440	2.20	30.5	0.14	3	0.038	
SKM150GAR12T4	232	150	1.80	19.2	15.8	0.19	189	2.14	13	0.31	2	0.05	
SKM400GAR12T4	616	400	1.80	33	42	0.072	440	2.20	30.5	0.14	3	0.038	
SKM300GA12T4	422	300	1.85	23.4	26	0.11	353	2.17	22.2	0.17	4	0.038	
SKM400GA12T4	616	400	1.80	28	44	0.072	440	2.20	37	0.14	4	0.038	
SKM600GA12T4	913	600	1.80	74	63	0.049	707	2.14	38	0.086	4	0.038	
SKM50GB12T4	81	50	1.85	5.5	4.5	0.53	65	2.22	3.8	0.84	2	0.05	
SKM75GB12T4	115	75	1.85	11	6.9	0.38	97	2.17	4.7	0.58	2	0.05	
SKM100GB12T4	160	100	1.80	15	10.2	0.27	121	2.20	5.9	0.48	2	0.05	
SKM100GB12T4G	154	100	1.85	16.1	8.6	0.29	118	2.22	6	0.49	3	0.038	
SKM150GB12T4	232	150	1.80	19.2	15.8	0.19	189	2.14	13	0.31	2	0.05	

Footnotes: 1) New product

# IGBT Modules / SEMITRANS

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Type	IGBT						Diode				Module		
	$I_C @ T_C = 25^\circ\text{C}$	$I_{Cnom}$	$V_{CE(sat)} @ T_J = 25^\circ\text{C typ.}$	$E_{on}$	$E_{off}$	$R_{th(j-c)}$	$I_F @ T_C = 25^\circ\text{C}$	$V_F @ T_J = 25^\circ\text{C typ.}$	$E_{rr}$	$R_{th(j-c)}$	Case	$R_{th(c-s)}$	Circuit
	A	A	V	mJ	mJ	K/W	A	V	mJ	K/W	K/W	K/W	
<b>1200V - IGBT4 Fast (Trench)</b>													
SKM150GB12T4G	223	150	1.85	18.7	14.1	0.2	183	2.17	9	0.32	3	0.038	
SKM200GB12T4	313	200	1.80	21	20	0.14	229	2.20	13	0.26	3	0.038	
SKM300GB12T4	422	300	1.85	27	29	0.11	353	2.17	23	0.17	3	0.038	
SKM400GB12T4	616	400	1.80	33	42	0.072	440	2.20	30.5	0.14	3	0.038	
SKM150GM12T4G	229	150	1.85	19.2	15.8	0.19	187	2.17	13	0.31	3	0.038	
SKM200GM12T4	313	200	1.80	21	20	0.14	229	2.20	13	0.26	3	0.038	
SKM300GM12T4	422	300	1.85	27	29	0.11	353	2.17	23	0.17	3	0.038	
SKM400GM12T4	616	400	1.80	33	42	0.072	440	2.20	30.5	0.14	3	0.038	
SKM300GBD12T4	422	300	1.85	27	29	0.11	56	2.41	30.5	0.94	3	0.038	
<b>1200V - IGBT3 (Trench)</b>													
SKM195GAL126D	220	150	1.70	16	24.5	0.16	170	2.00	5.8	0.32	2	0.05	
SKM200GAL126D	260	150	1.70	18	24	0.13	200	1.60	18	0.3	3	0.038	
SKM400GAL126D	470	300	1.70	29	48	0.08	400	1.60	27	0.18	3	0.038	
SKM600GAL126D	660	400	1.70	39	64	0.055	490	1.60	41	0.125	3	0.038	
SKM600GA126D	660	400	1.70	39	64	0.055	490	1.60	41	0.125	4	0.038	
SKM800GA126D	960	600	1.70	65	95	0.042	680	1.69	59	0.09	4	0.038	
SKM195GB126D	220	150	1.70	16	24.5	0.16	170	2.00	5.8	0.32	2	0.05	
SKM200GB126D	260	150	1.70	18	24	0.13	200	1.60	18	0.3	3	0.038	
SKM300GB126D	310	200	1.70	21	33	0.12	250	1.60	18	0.25	3	0.038	
SKM400GB126D	470	300	1.70	29	48	0.08	400	1.64	27	0.18	3	0.038	
SKM600GB126D	660	400	1.70	39	64	0.055	490	1.60	41	0.125	3	0.038	
<b>1200V - NPT IGBT (Ultrafast)</b>													
SKM200GAL125D	200	150	3.3	14	8	0.09	200	2.06	8	0.25	3	0.038	
SKM400GAL125D	400	300	3.3	17	18	0.05	390	2.06	16	0.125	3	0.038	
SKM200GAR125D	200	150	3.3	14	8	0.09	200	2.06	8	0.25	3	0.038	
SKM400GAR125D	400	300	3.3	17	18	0.05	390	2.06	16	0.125	3	0.038	
SKM600GA125D	580	400	3.3	30	22	0.041	500	2.00	24	0.09	4	0.038	
SKM800GA125D	760	600	3.20	88	48	0.03	720	2.3	28	0.07	4	0.038	
SKM100GB125DN	100	75	3.3	9	3.5	0.18	95	2.06	4	0.5	2N	0.05	
SKM200GB125D	200	150	3.3	14	8	0.09	200	2.06	8	0.25	3	0.038	
SKM300GB125D	300	200	3.3	16	11	0.075	260	2.00	13	0.18	3	0.038	
SKM400GB125D	400	300	3.3	17	18	0.05	390	2.06	16	0.125	3	0.038	

Footnotes: 1) New product

# IGBT Modules / SEMITRANS

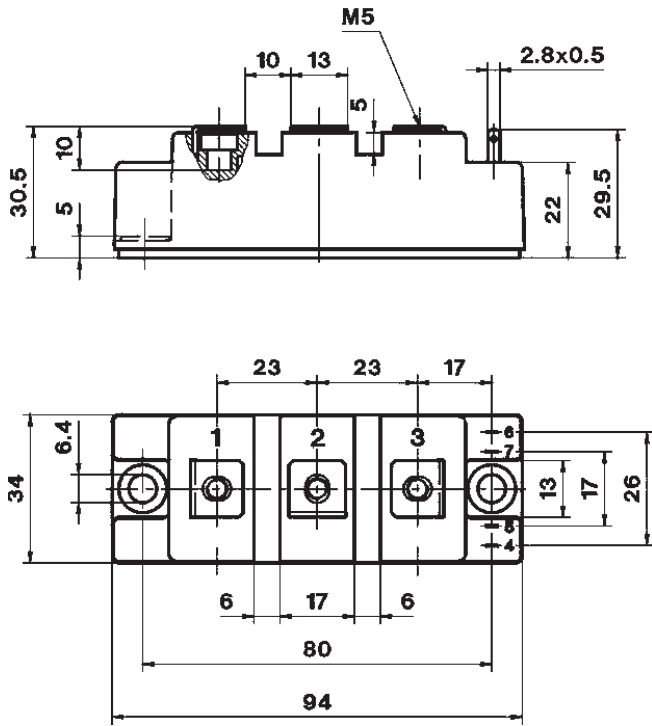
Type	IGBT						Diode				Module		Circuit
	$I_c @ T_c = 25^\circ\text{C}$ A	$I_{cnom}$ A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	$E_{on}$ mJ	$E_{off}$ mJ	$R_{th(j-c)}$ K/W	$I_F @ T_c = 25^\circ\text{C}$ A	$V_F @ T_j = 25^\circ\text{C typ.}$ V	$E_{rr}$ mJ	$R_{th(j-c)}$ K/W	Case	$R_{th(c-s)}$ K/W	
<b>1200V - NPT IGBT (Ultrafast)</b>													
SKM25GD125D <sup>1)</sup>	39	25	3.20	3.9	1.6	0.56	47	2.13	1.1	1	6	0.05	
SKM50GD125D <sup>1)</sup>	73	50	3.20	8	3.2	0.32	77	2.00	2.1	0.6	6	0.05	
SKM25GAH125D <sup>1)</sup>	39	25	3.20	3.9	1.6	0.56	47	2.13	1.1	1	6	0.05	
<b>1700V - IGBT3 (Trench)</b>													
SKM145GAL176D	160	100	2.00	60	38	0.19	140	1.6	27.5	0.36	2	0.05	
SKM200GAL176D	260	150	2.00	93	58	0.12	210	1.70	31	0.25	3	0.038	
SKM400GAL176D	432	300	2.00	170	118	0.075	440	1.70	78	0.125	3	0.038	
SKM400GAR176D	432	300	2.00	170	118	0.075	440	1.70	78	0.125	3	0.038	
SKM600GA176D	660	400	2.00	255	155	0.044	600	1.6	102	0.09	4	0.038	
SKM800GA176D	830	600	2.00	335	245	0.04	630	1.6	155	0.07	4	0.038	
SKM75GB176D	80	50	2.00	25	18	0.38	80	1.70	14.5	0.55	2	0.05	
SKM100GB176D	125	75	2.00	44	28.5	0.24	100	1.6	21.4	0.45	2	0.05	
SKM145GB176D	160	100	2.00	60	38	0.19	140	1.6	27.5	0.36	2	0.05	
SKM200GB176D	260	150	2.00	93	58	0.12	210	1.70	31	0.25	3	0.038	
SKM400GB176D	432	300	2.00	170	118	0.075	440	1.70	78	0.125	3	0.038	
<b>1700V - NPT IGBT (Standard)</b>													
SKM200GAL173D	220	150	3.4	95	45	0.1	150	2.2	21	0.32	3	0.038	
SKM200GAR173D	220	150	3.4	95	45	0.1	150	2.2	21	0.32	3	0.038	
SKM400GA173D	440	300	3	180	10	0.05	300	2.2	46	0.17	4	0.038	

Footnotes: 1) New product

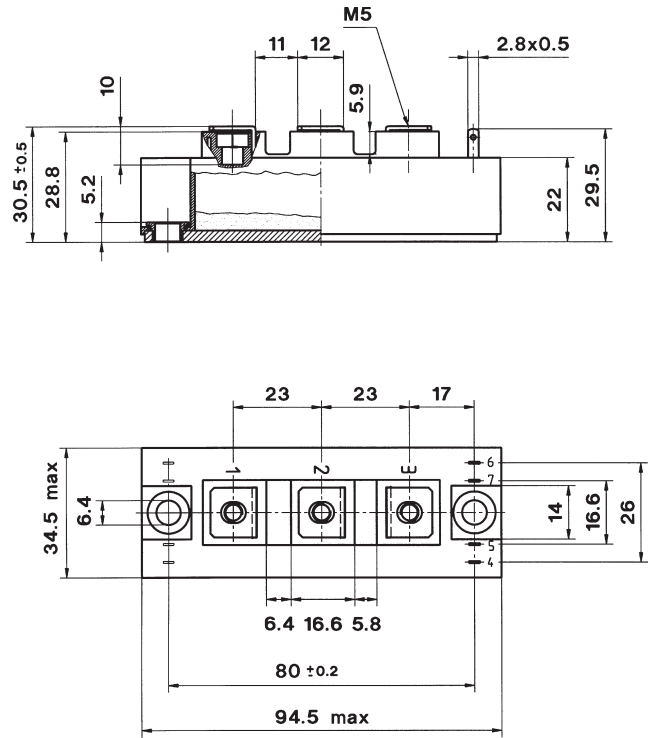
# IGBT Modules / SEMITRANS

## Cases

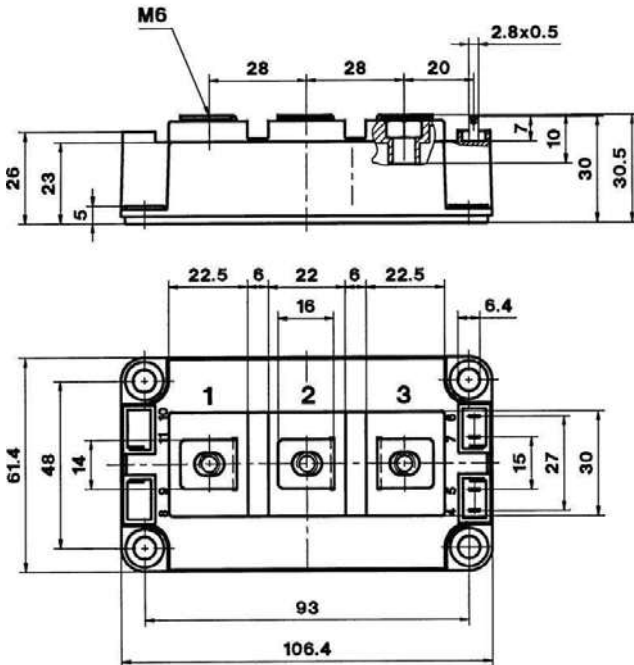
SEMISTRANS 2



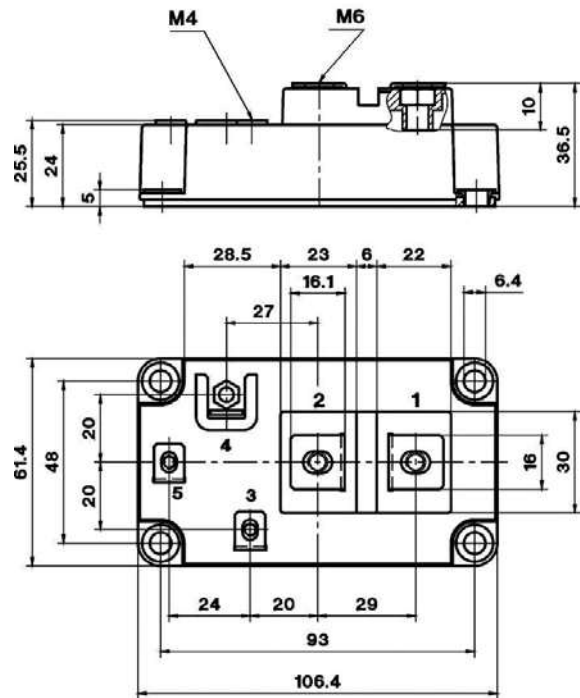
SEMISTRANS 2N



SEMISTRANS 3



SEMISTRANS 4



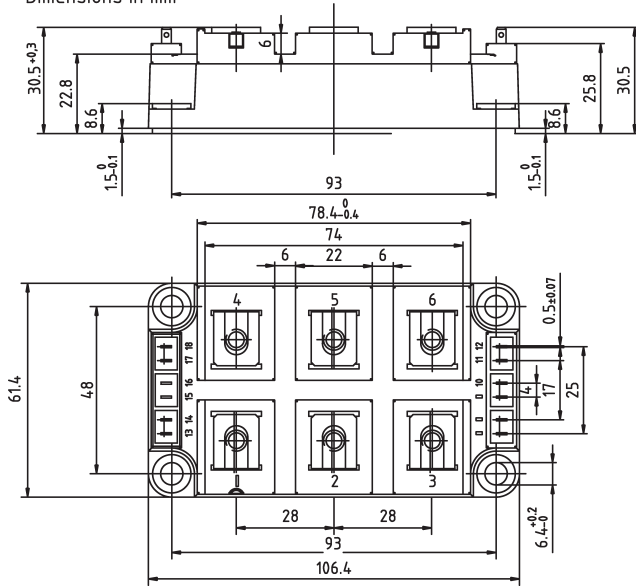
Dimensions in mm

# IGBT Modules / SEMITRANS

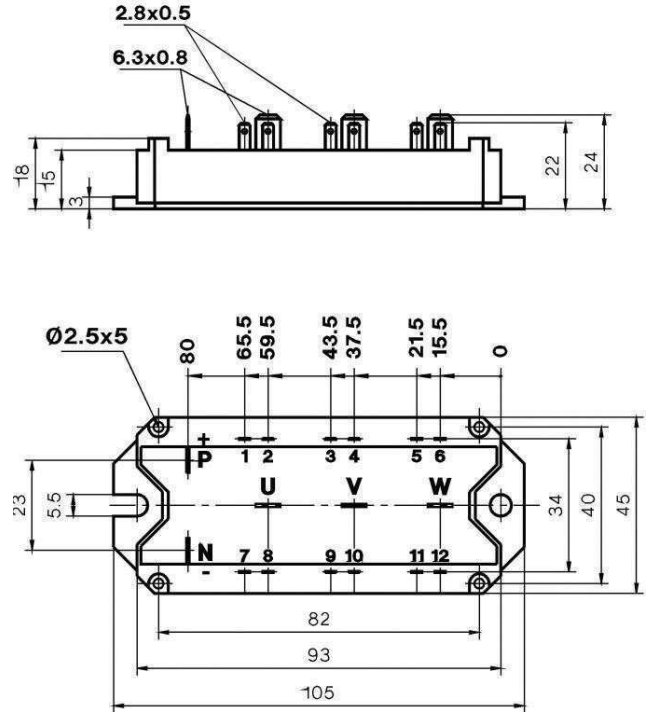
## Cases

### SEMISTRANS 5

Dimensions in mm



### SEMISTRANS 6



Dimensions in mm