

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		
600V - IGBT3 (Trench)												
SKM145GB066D	195	150	1.46	8.5	5.5	0.3	150	1.40	3.5	0.5	2	
SKM195GB066D	265	200	1.46	14	8	0.22	200	1.40	5.6	0.4	2	
SKM300GB066D	390	300	1.45	7.5	11.5	0.15	350	1.38	10.5	0.25	3	
SKM400GB066D	500	400	1.45	8	16	0.12	450	1.40	14	0.2	3	
SKM600GB066D	760	600	1.45	7.5	29.5	0.08	700	1.40	25	0.125	3	
SKM200GARL066T ²⁾	280	200	1.45	2.24	7.89	0.21	270	1.45	4	0.39	5	
SKM300GARL066T ²⁾	393	300	1.45	3.5	10.1	0.15	421	1.54	4	0.28	5	
SKM400GARL066T ¹⁾	504	400	1.45	4.48	15.78	0.12	421	1.54	8	0.28	5	
SKM150MLI066TAT ¹⁾	200	150	1.45	1.7	5.1	0.29	200	1.35	2	0.52	5	
SKM200MLI066TAT ²⁾	280	200	1.45	2.53	6.82	0.21	270	1.4	4	0.39	5	
SKM300MLI066TAT ²⁾	400	300	1.45	3.5	10.1	0.15	324	1.35	4	0.25	5	
600V - NPT IGBT (Standard)												
SKM75GAL063D ³⁾	100	75	2.1	3	2.5	0.35	75	1.55	0.53	0.72	2	
SKM300GAL063D ³⁾	400	300	2.1	14	13	0.09	250	1.65	4	0.25	3	
SKM75GAR063D ³⁾	100	75	2.1	3	2.5	0.35	75	1.55	0.53	0.72	2	
SKM300GAR063D ³⁾	400	300	2.1	14	13	0.09	250	1.65	4	0.25	3	
SKM50GB063D ³⁾	70	50	2.10	2.5	1.8	0.5	75	1.35	0.48	1	2	
SKM75GB063D ³⁾	100	75	2.1	3	2.5	0.35	75	1.55	0.53	0.72	2	
SKM100GB063D ³⁾	130	100	2.1	4	3	0.27	100	1.55	1.5	0.6	2	
SKM200GB063D ³⁾	260	200	2.1	11	7.5	0.14	200	1.55	2.1	0.3	3	
SKM300GB063D ³⁾	400	300	2.1	14	13	0.09	250	1.65	4	0.25	3	
650V - IGBT3 (Trench)												
SKM195GAL07E3 ²⁾	266	200	1.46	6.3	8.3	0.22	217	1.39	4.2	0.4	2	
SKM300GAL07E3 ²⁾	382	300	1.45	3	14	0.15	335	1.40	6.4	0.25	3	
SKM195GAR07E3 ²⁾	266	200	1.46	6.3	8.3	0.22	217	1.39	4.2	0.4	2	
SKM300GAR07E3 ²⁾	382	300	1.45	3	14	0.15	335	1.40	6.4	0.25	3	
SKM195GB07E3 ²⁾	266	200	1.46	6.3	8.3	0.22	217	1.39	4.2	0.4	2	
SKM300GB07E3 ²⁾	382	300	1.45	3	14	0.15	335	1.40	6.4	0.25	3	
SKM400GB07E3 ²⁾	506	400	1.45	4	17	0.12	449	1.39	12	0.19	3	
SKM600GB07E3 ²⁾	758	600	1.45	4.7	37	0.08	770	1.40	9.3	0.104	3	
1200V - NPT IGBT (Ultrafast)												
SKM600GA125D	580	400	3.3	30	22	0.041	500	2.00	24	0.09	4	
SKM800GA125D	760	600	3.20	88	48	0.03	720	2.3	28	0.07	4	
SKM200GAL125D	200	150	3.3	14	8	0.09	200	2.06	8	0.25	3	
SKM400GAL125D	400	300	3.3	17	18	0.05	390	2.06	16	0.125	3	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 11) Values at T_j=150°C

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		
1200V - NPT IGBT (Ultrafast)												
SKM200GAR125D	200	150	3.3	14	8	0.09	200	2.06	8	0.25	3	
SKM400GAR125D	400	300	3.3	17	18	0.05	390	2.06	16	0.125	3	
SKM100GB125DN	100	75	3.3	9	3.5	0.18	95	2.06	4	0.5	2N	
SKM200GB125D	200	150	3.3	14	8	0.09	200	2.06	8	0.25	3	
SKM300GB125D	300	200	3.3	16	11	0.075	260	2.00	13	0.18	3	
SKM400GB125D	400	300	3.3	17	18	0.05	390	2.06	16	0.125	3	
SKM25GAH125D ²⁾	39	25	3.20	3.9	1.6	0.56	47	2.13	1.1	1	6	
SKM25GD125D ²⁾	39	25	3.20	3.9	1.6	0.56	47	2.13	1.1	1	6	
SKM50GD125D ²⁾	73	50	3.20	8	3.2	0.32	77	2.00	2.1	0.6	6	
SKM25GD125D ²⁾	39	25	3.20	3.9	1.6	0.56	47	2.13	1.1	1	6	
1200V - IGBT3 (Trench)												
SKM600GA126D	660	400	1.70	39	64	0.055	490	1.60	41	0.125	4	
SKM800GA126D	910	600	1.70	65	95	0.042	703	1.60	59	0.09	4	
SKM195GAL126D	220	150	1.71	16	24.5	0.16	143	2.00	5.8	0.32	2	
SKM200GAL126D	260	150	1.71	18	24	0.13	200	1.60	18	0.3	3	
SKM400GAL126D	470	300	1.69	29	48	0.08	352	1.60	27	0.18	3	
SKM600GAL126D	660	400	1.70	39	64	0.055	490	1.60	41	0.125	3	
SKM195GB126D	220	150	1.71	16	24.5	0.16	143	2.00	5.8	0.32	2	
SKM200GB126D	260	150	1.71	18	24	0.13	200	1.60	18	0.3	3	
SKM300GB126D	310	200	1.70	21	33	0.12	250	1.60	18	0.25	3	
SKM400GB126D	470	300	1.69	29	48	0.08	352	1.60	27	0.18	3	
SKM600GB126D	660	400	1.70	39	64	0.055	490	1.60	41	0.125	3	
1200V - V-IGBT												
SKM300GA12V	420	300	1.84	23	33	0.11	353	2.17	21	0.17	4	
SKM400GA12V	612	400	1.74	39	42	0.072	440	2.20	26	0.14	4	
SKM600GA12V	908	600	1.75	76	76	0.049	707	2.14	43	0.086	4	
SKM150GAL12V	231	150	1.75	13.5	14.2	0.19	189	2.14	8.9	0.31	2	
SKM200GAL12VL2 ²⁾	299	200	1.86	24	22	0.14	189	2.14	8.5	0.31	2	
SKM400GAL12V	612	400	1.74	39	42	0.072	440	2.20	26	0.14	3	
SKM150GAR12V ¹⁾	231	150	1.75	13.5	14.2	0.19	189	2.14	8.9	0.31	2	
SKM400GAR12V	612	400	1.74	39	42	0.072	440	2.20	26	0.14	3	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 11) Values at T_j=150°C



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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		
1200V - V-IGBT												
SKM50GB12V	77	50	1.84	4.9	4.5	0.53	65	2.22	2.8	0.84	2	
SKM75GB12V	114	75	1.84	6.7	7.1	0.38	97	2.17	4.2	0.58	2	
SKM100GB12V	159	100	1.75	10.7	8.7	0.27	121	2.20	5.7	0.48	2	
SKM150GB12V	231	150	1.75	13.5	14.2	0.19	189	2.14	8.9	0.31	2	
SKM150GB12VG	222	150	1.86	10	16.5	0.2	187	2.17	11	0.31	3	
SKM200GB12V	311	200	1.76	14	22	0.14	229	2.20	13	0.26	3	
SKM300GB12V	420	300	1.84	23	33	0.11	353	2.17	21	0.17	3	
SKM400GB12V	612	400	1.74	39	42	0.072	440	2.20	26	0.14	3	
1200V - IGBT4 (Trench)												
SKM300GA12E4	422	300	1.85	23.4	35	0.11	353	2.17	22.2	0.17	4	
SKM400GA12E4	616	400	1.80	28	59	0.072	461	2.20	37	0.13	4	
SKM600GA12E4	913	600	1.80	74	84	0.049	707	2.14	38	0.086	4	
SKM900GA12E4	1305	900	1.83	130	121	0.035	871	2.31	53	0.07	4	
SKM600GAE12E4 ¹⁾	913	600	1.80	81	83	0.049	54	2.41	47	1	5	
SKM200GAL12E4	313	200	1.80	21	27	0.14	229	2.20	13	0.26	3	
SKM300GAL12E4	422	300	1.85	27	39	0.11	353	2.17	23	0.17	3	
SKM400GAL12E4	616	400	1.80	33	56	0.072	461	2.20	30.5	0.13	3	
SKM200GAR12E4	313	200	1.80	21	27	0.14	229	2.20	13	0.26	3	
SKM300GAR12E4	422	300	1.85	27	39	0.11	353	2.17	23	0.17	3	
SKM400GAR12E4	616	400	1.80	33	56	0.072	461	2.20	30.5	0.13	3	
SKM200GB12E4	313	200	1.80	21	27	0.14	229	2.20	13	0.26	3	
SKM300GB12E4	422	300	1.85	27	39	0.11	353	2.17	23	0.17	3	
SKM400GB12E4	616	400	1.80	33	56	0.072	461	2.20	30.5	0.13	3	
SKM450GB12E4	700	450	1.84	32	60	0.062	461	2.31	28	0.13	3	
SKM600GB12E4 ¹⁾	860	600	1.80	75	84	0.049	623	2.12	38	0.095	3	
SKM450GM12E4 ¹⁾	700	450	1.84	32	60	0.062	461	2.31	28	0.13	3	
SKM1200MLI12TE4 ²⁾	2082	1200	1.80	108	189	0.021	1065	2.46	76	0.057	10	
SKM1200MLI12BE4 ²⁾	2082	1200	1.80	108	189	0.021	1065	2.46	76	0.057	10	
1200V - IGBT4 Fast (Trench)												
SKM300GA12T4	422	300	1.85	23.4	26	0.11	353	2.17	22.2	0.17	4	
SKM400GA12T4	616	400	1.80	28	44	0.072	461	2.20	37	0.13	4	
SKM600GA12T4	913	600	1.80	74	63	0.049	707	2.14	38	0.086	4	

Footnotes: 1) Sample status / 2) In production new / 3) Not for new designs / 11) Values at T_j=150°C

IGBT Modules / SEMITRANS

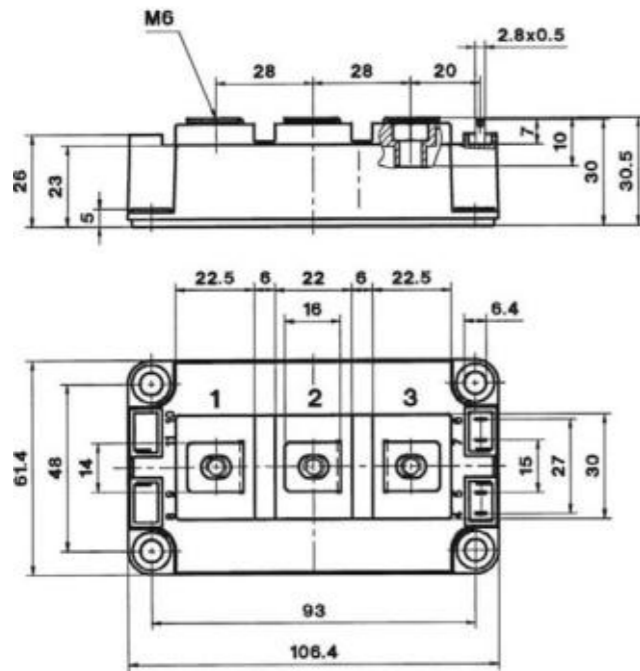
Type	IGBT					Diode					Module	Circuit
	$I_c @ T_c = 25^\circ\text{C}$ A	I_{cnom} A	$V_{CE(sat)} @ T_j = 25^\circ\text{C typ.}$ V	E_{on} mJ	E_{off} mJ	$R_{th(j-c)}$ K/W	$I_f @ T_c = 25^\circ\text{C}$ A	$V_f @ T_j = 25^\circ\text{C typ.}$ V	E_{rr} mJ	$R_{th(j-c)}$ K/W		
1200V - IGBT4 Fast (Trench)												
SKM50GAL12T4	81	50	1.85	5.5	4.5	0.53	65	2.22	3.6	0.84	2	
SKM100GAL12T4	160	100	1.80	15	10.2	0.27	121	2.20	5.9	0.48	2	
SKM150GAL12T4	232	150	1.81	19.2	15.8	0.19	189	2.14	13	0.31	2	
SKM200GAL12T4	313	200	1.80	21	20	0.14	229	2.20	13	0.26	3	
SKM300GAL12T4	422	300	1.85	27	29	0.11	353	2.17	23	0.17	3	
SKM400GAL12T4	616	400	1.80	33	42	0.072	461	2.20	30.5	0.13	3	
SKM600GAL12T4 ¹⁾	913	600	1.80	74	63	0.049	662	2.12	38	0.086	3	
SKM150GAR12T4	232	150	1.81	19.2	15.8	0.19	189	2.14	13	0.31	2	
SKM400GAR12T4	616	400	1.80	33	42	0.072	461	2.20	30.5	0.13	3	
SKM600GAR12T4 ¹⁾	913	600	1.80	74	63	0.049	662	2.12	38	0.086	3	
SKM50GB12T4	81	50	1.85	5.5	4.5	0.53	65	2.22	3.8	0.84	2	
SKM75GB12T4	115	75	1.85	11	6.9	0.38	97	2.17	4.7	0.58	2	
SKM100GB12T4	160	100	1.80	15	10.2	0.27	121	2.20	5.9	0.48	2	
SKM100GB12T4G	154	100	1.90	16.1	8.6	0.29	118	2.22	6	0.49	3	
SKM150GB12T4	232	150	1.81	19.2	15.8	0.19	189	2.14	13	0.31	2	
SKM150GB12T4G	223	150	1.85	18.7	14.1	0.2	183	2.17	9	0.32	3	
SKM200GB12T4	313	200	1.80	21	20	0.14	229	2.20	13	0.26	3	
SKM300GB12T4	422	300	1.85	27	29	0.11	353	2.17	23	0.17	3	
SKM400GB12T4	616	400	1.80	33	42	0.072	461	2.20	30.5	0.13	3	
SKM450GB12T4 ²⁾	699	450	1.84	32	49	0.062	461	2.31	28	0.13	3	
SKM600GB12T4 ¹⁾	860	600	1.80	75	60	0.049	623	2.12	38	0.095	3	
SKM150GM12T4G	229	150	1.85	19.2	15.8	0.19	187	2.17	13	0.31	3	
SKM200GM12T4	313	200	1.80	21	20	0.14	229	2.20	13	0.26	3	
SKM300GM12T4	422	300	1.85	27	29	0.11	353	2.17	23	0.17	3	
SKM400GM12T4	616	400	1.80	33	42	0.072	461	2.20	30.5	0.13	3	
SKM300GBD12T4	422	300	1.85	27	29	0.11	56	2.41	30.5	0.94	3	
1200V - IGBT4 High Speed (Trench) (new product series, target data)												
SKM100GAL12F4 ¹⁾	142	100	2.05	10	7	0.27	113	2.53	3.8	0.48	2	
SKM400GAL12F4 ¹⁾	548	400	2.06	26	28	0.072	408	2.53	20	0.14	3	
SKM100GAR12F4 ¹⁾	142	100	2.05	10	7	0.27	113	2.53	3.8	0.48	2	
SKM400GAR12F4 ¹⁾	548	400	2.06	26	28	0.072	408	2.53	20	0.14	3	
SKM75GB12F4 ¹⁾	103	75	2.08	7	5	0.38	94	2.42	3	0.58	2	
SKM100GB12F4 ¹⁾	142	100	2.05	10	7	0.27	113	2.53	3.8	0.48	2	
SKM150GB12F4 ¹⁾	201	150	2.05	14	10	0.2	176	2.42	5.8	0.32	2	
SKM150GB12F4G ¹⁾	201	150	2.05	14	10	0.2	176	2.42	5.8	0.32	3	
SKM200GB12F4 ¹⁾	279	200	2.06	15	14	0.14	214	2.53	8.5	0.26	3	
SKM300GB12F4 ¹⁾	380	300	2.06	21	21	0.11	337	2.42	15	0.17	3	
SKM400GB12F4 ¹⁾	548	400	2.06	26	28	0.072	408	2.53	20	0.14	3	

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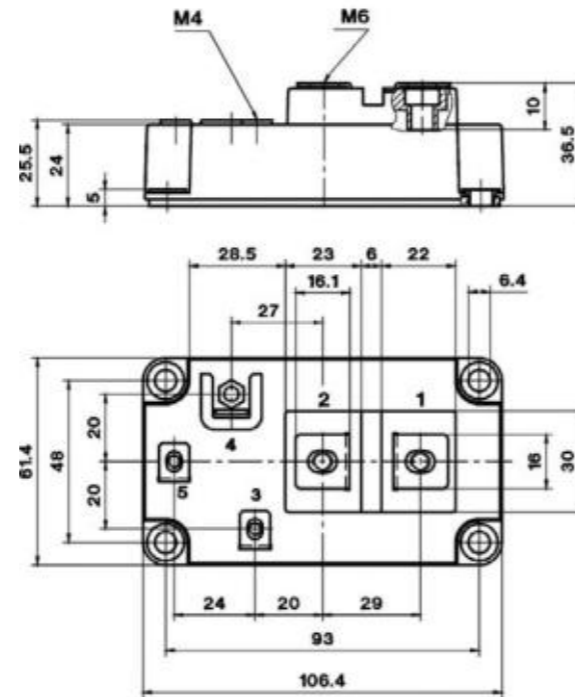
IGBT Modules / SEMITRANS

Cases

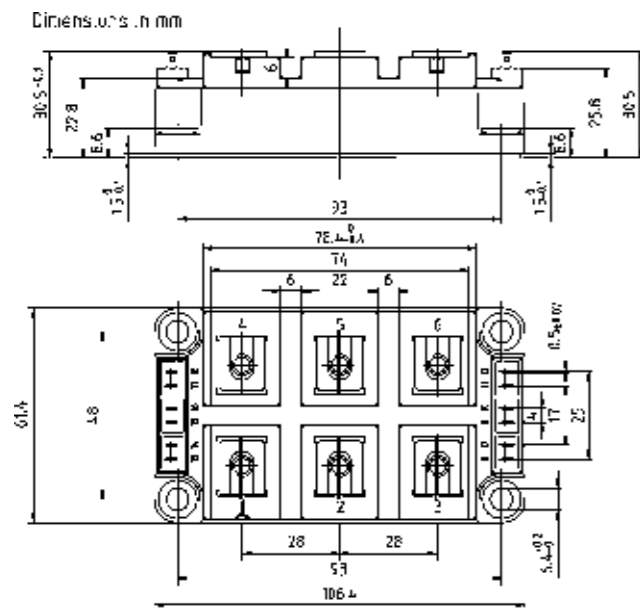
SEMISTRANS 3



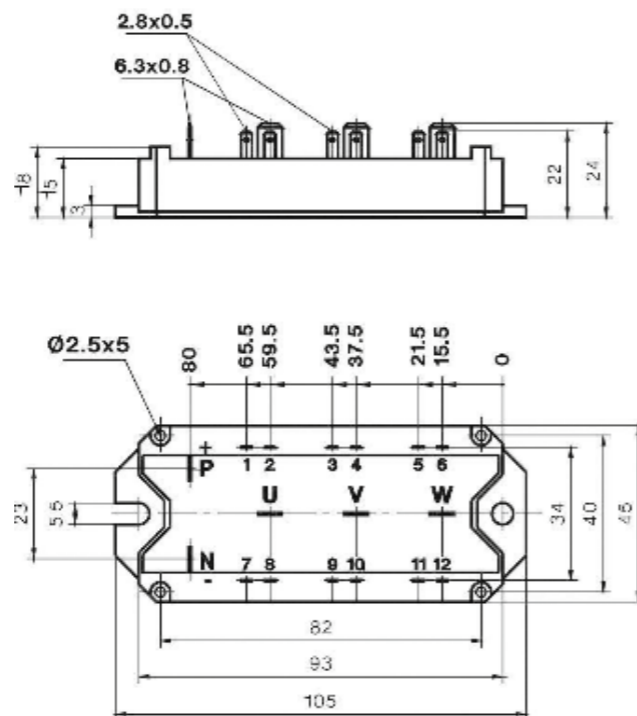
SEMISTRANS 4



SEMISTRANS 5



SEMISTRANS 6

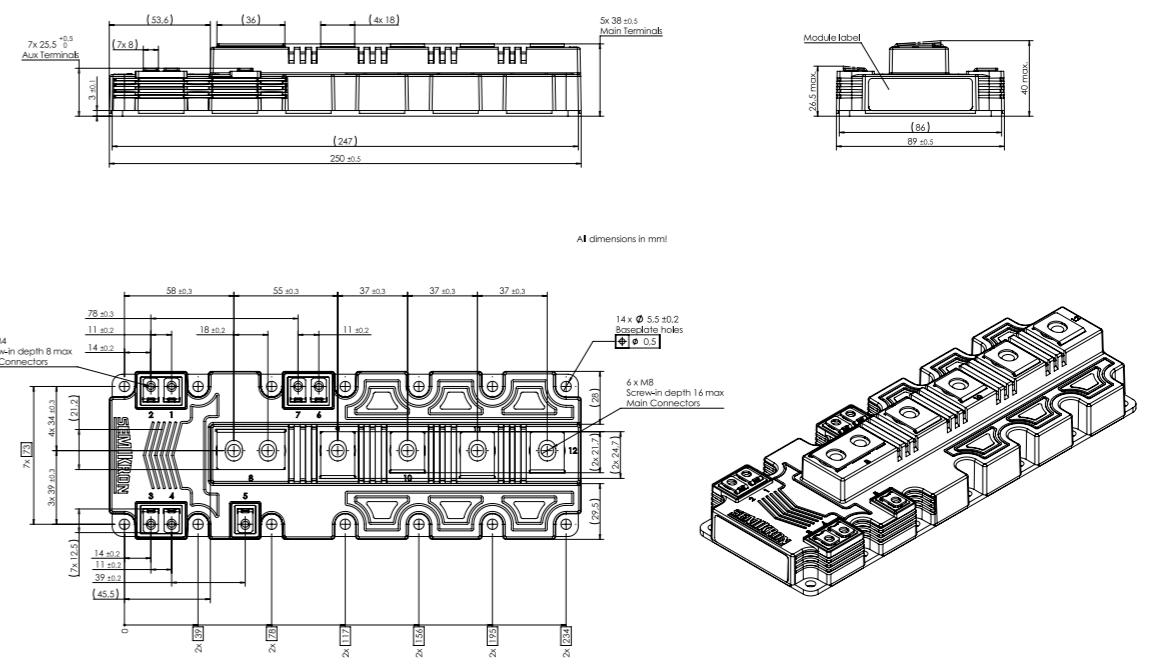


Dimensions in mm

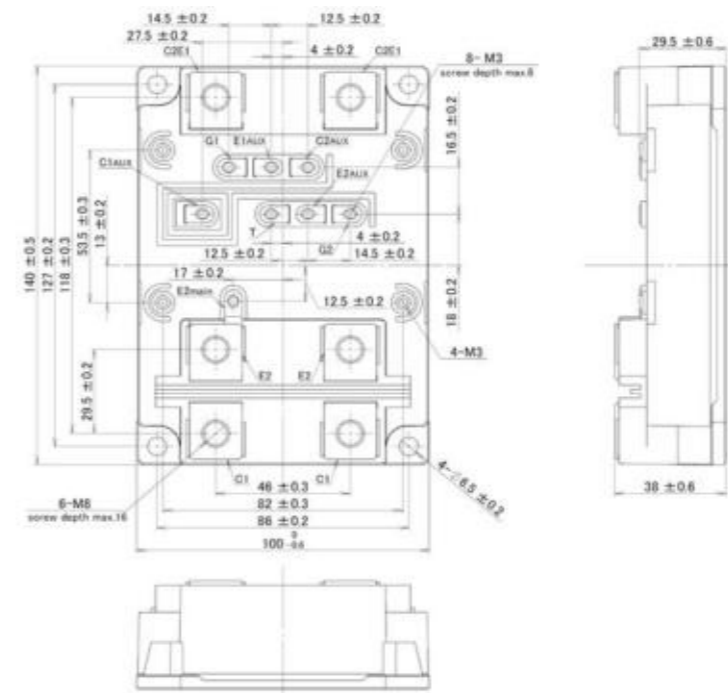
IGBT Modules / SEMITRANS

Cases

SEMISTRANS 10



SEMISTRANS 20



Dimensions in mm