Thyristor / Diode Modules
With Proven Packages

The SEMIKRON thyristor/diode modules are available in different packages such as SEMIPACK, SEMiSTART, SEMIPONT, SEMiX and SEMITOP. Different contact technologies – soldered contact, bonded contact or pressure contact modules – are available.

The thyristor/diode modules come in a variety of dual and single topologies for virtually any phase control or rectifier application.

The product class offers a product range with voltages of up to 2200V. Thanks to the comprehensive product range, the optimum solution can be found for each application.

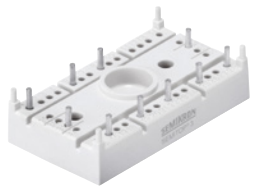
SEMITOP	106
SEMiX	108
SEMIPONT	110
SEMIPACK	111
SEMIPACK Fast	115
SEMiSTART	117

For detailed information please refer to data sheets.

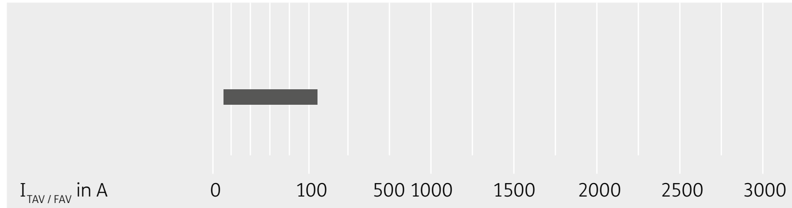
Further information: www.semikron.com/thyristor-diode-modules

SEMITOP®

Rectifier
Thyristor



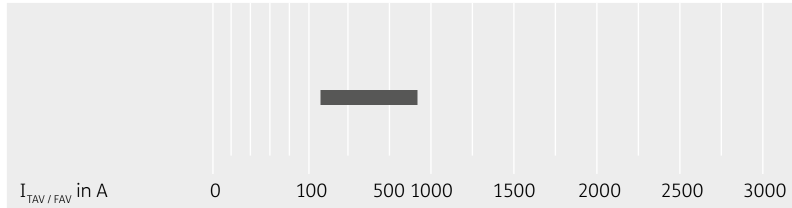
800V up to 1600V



SEMiX®

Rectifier
Thyristor

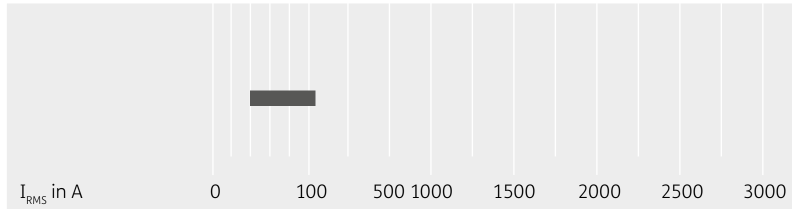
1600V up to 2200V



SEMIPONT®

Rectifier
Thyristor

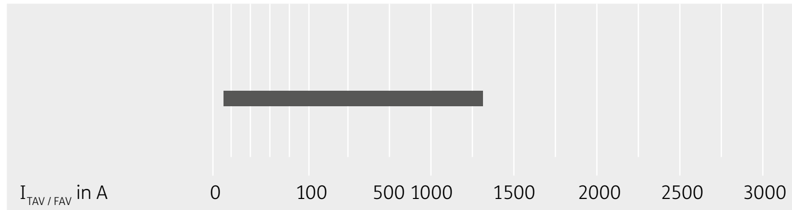
800V up to 2200V



SEMIPACK®

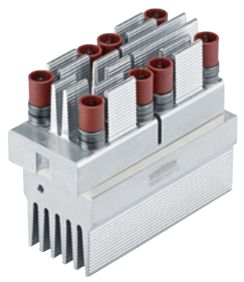
Rectifier
Thyristor

400V up to 2200V

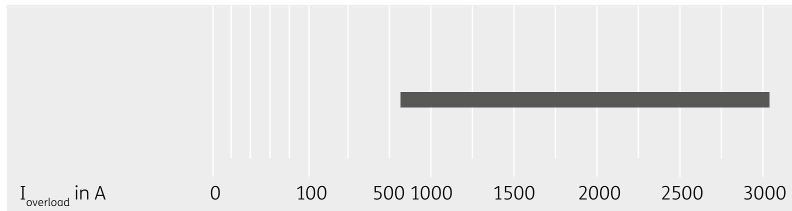


SEMiSTART®

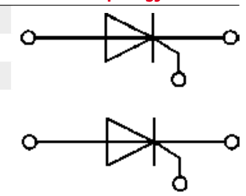
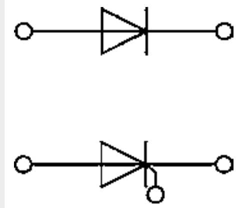
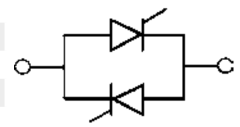
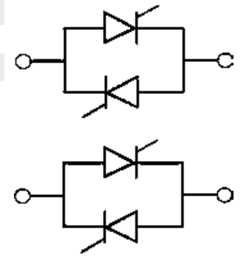
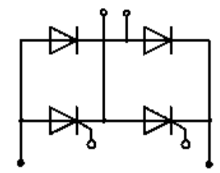
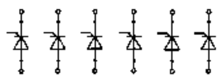
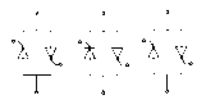
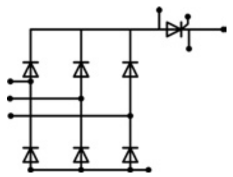
Thyristor



1400V up to 1800V



Thyristor / Diode Modules / SEMITOP

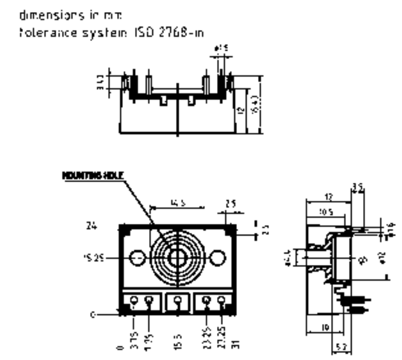
Type	V_{RRM} V_{DRM} V	I_{TAV} I_{FAV} @ T_S A	T_S °C	I_{TSM} I_{FSM} @ T_{jmax} A	$V_{T(TO)}$ @ T_{jmax} V	r_T @ T_{jmax} mΩ	T_j °C	Package	Thermal Interface Material	Topology
SK 35 TAA 2)	800-1600	35	80	380	0.85	9.10	-40 ... +130	2	P12	
SK 55 TAA	800-1600	55	80	900	0.85	5.70	-40 ... +130	2	P12	
SK 75 TAA 2)	800-1600	75	80	1500	0.90	4.50	-40 ... +130	2	P12	
SK 100 TAA 2)	800-1600	100	80	2000	0.90	3.50	-40 ... +130	2	P12	
SK 75 TAE 12	1200	75	80	1250	0.85	4.40	-40 ... +130	2	P12	
SK 25 KQ	800-1600	29	85	280	1.10	20.00	-40 ... +125	1	-	
SK 45 KQ	800-1600	47	85	380	1.00	10.00	-40 ... +125	1	-	
SK 70 KQ	800-1600	72	85	900	1	6.00	-40 ... +125	1	-	
SK 100 KQ	800-1600	101	85	1350	0.90	4.50	-40 ... +125	2	P12	
SK 120 KQ	800-1600	134	85	1800	0.90	3.50	-40 ... +125	2	P12	
SK 25 WT	800-1600	29	85	280	1.10	20.00	-40 ... +125	2	P12	
SK 45 WT	800-1600	47	85	380	1.00	10.00	-40 ... +125	2	P12	
SK 70 WT	800-1600	72	85	900	1.00	6.00	-40 ... +125	3	P12, HPTP	
SK 100 WT	800-1600	101	85	1350	0.90	4.50	-40 ... +125	3	P12, HPTP	
SK 35 BZ 2)	800-1600	35	80	270	0.85	14.00	-40 ... +125	2	P12	
SK 45 STA	800-1600	47	75	380	1.00	10.00	-40 ... +125	3	P12, HPTP	
SK 25 UT	800-1600	29	85	280	1.10	20.00	-40 ... +125	3	P12, HPTP	
SK 45 UT	800-1600	47	85	380	1.00	10.00	-40 ... +125	3	P12, HPTP	
SK 30 DTA	800-1600	25	80	900	1.00	6.00	-40 ... +150	3	P12, HPTP	
SK 60 DTA	800-1600	61	80	1350	0.90	0.60	-40 ... +125	3	P12, HPTP	
SK 80 DTA	800-1600	65	80	1800	0.90	3.50	-40 ... +150	3	P12, HPTP	

Footnotes: 2) In production new

Thyristor / Diode Modules / SEMITOP

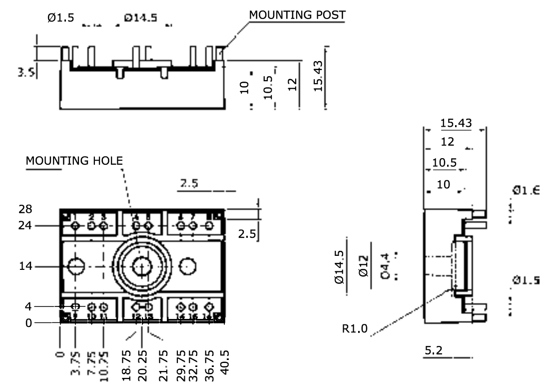
Packages

SEMITOP 1



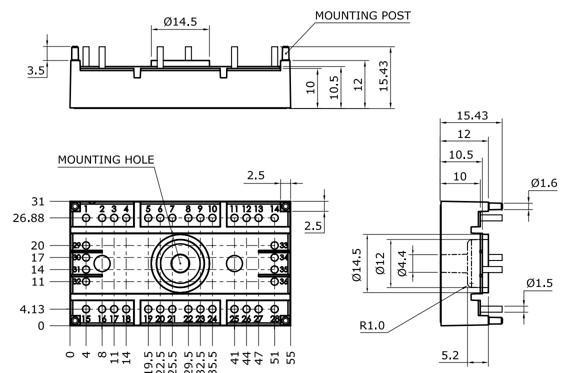
SEMITOP 2

Dimensions: mm
Tolerance system: ISO 2768-m



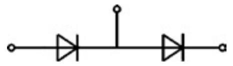
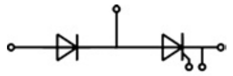
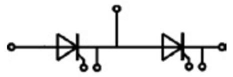
SEMITOP 3

Dimensions: mm
Tolerance system: ISO 2768-m



Dimensions in mm

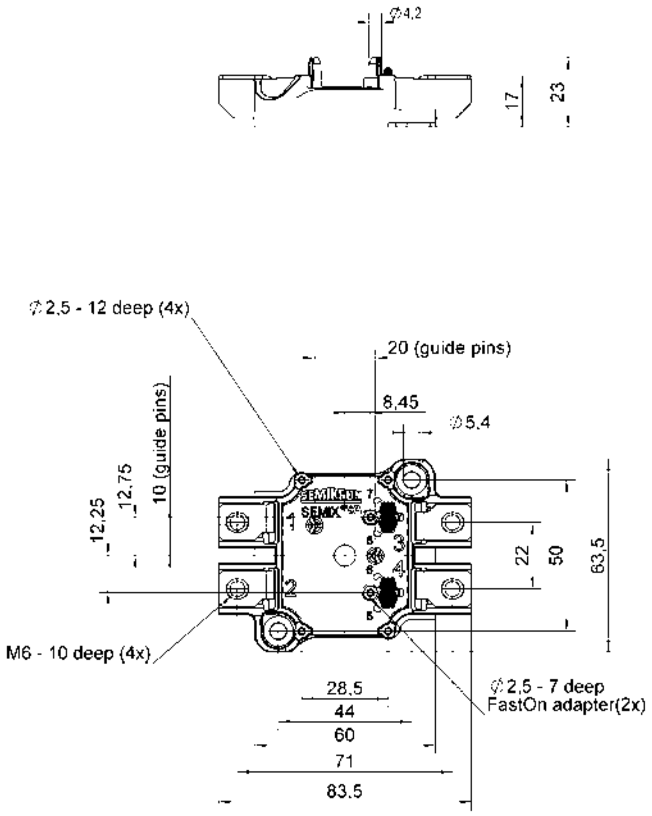
Thyristor / Diode Modules / SEMiX

Type	V_{RRM} V_{DRM} V	I_{TAV} I_{FAV} @ T_C A	T_C °C	I_{TSM} I_{FSM} @ T_{jmax} A	$V_{T(TO)}$ @ T_{jmax} V	r_T @ T_{jmax} mΩ	T_j °C	Package	Thermal Interface Material	Topology
SEMiX191KD16s	1600	190	85	5000	0.85	0.95	-40 ... +130	1s	HT	
SEMiX302KD16s	1600	300	85	7500	0.85	1.1	-40 ... +130	2s	P8	
SEMiX443KD16p[1]	1600	585	85	8200	0.916	2.0	-40 ... +175	3Ip	P8, HT	
SEMiX603KD16p[2]	1600	732	85	9000	0.916	1.9	-40 ... +175	3Ip	P8, HT	
SEMiX443KD22p[2]	2200	580	85	8200	0.834	2.0	-40 ... +150	3Ip	P8, HT	
SEMiX171KH16s	1600	170	85	4800	0.85	1.5	-40 ... +130	1s	HT	
SEMiX302KH16s	1600	300	85	8000	0.85	1.1	-40 ... +130	2s	P8	
SEMiX141KT16s	1600	140	85	3000	0.85	2.1	-40 ... +130	1s	HT	
SEMiX302KT16s	1600	300	85	8000	0.85	1.7	-40 ... +130	2s	P8	

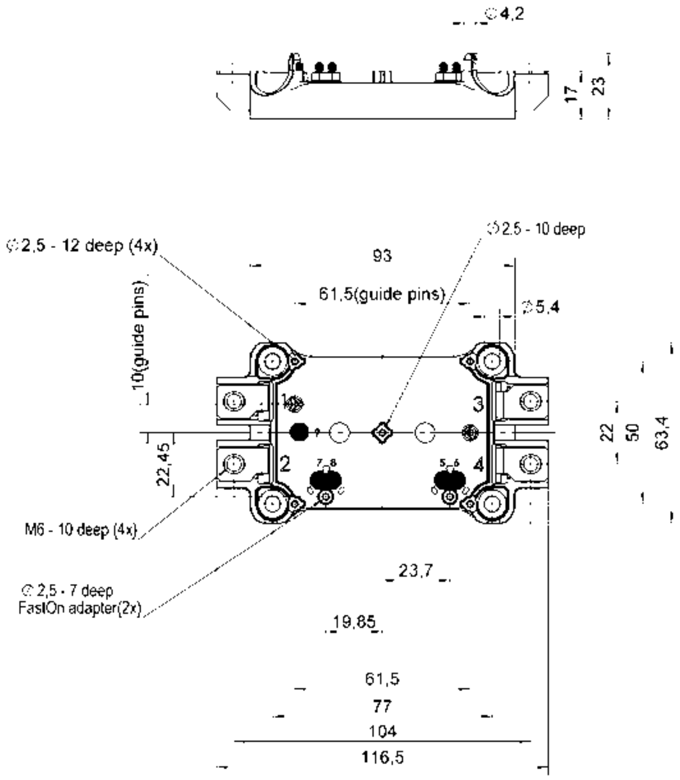
Footnotes: 1) Sample status / 2) In production new

Packages

SEMiX 1s



SEMiX 2s

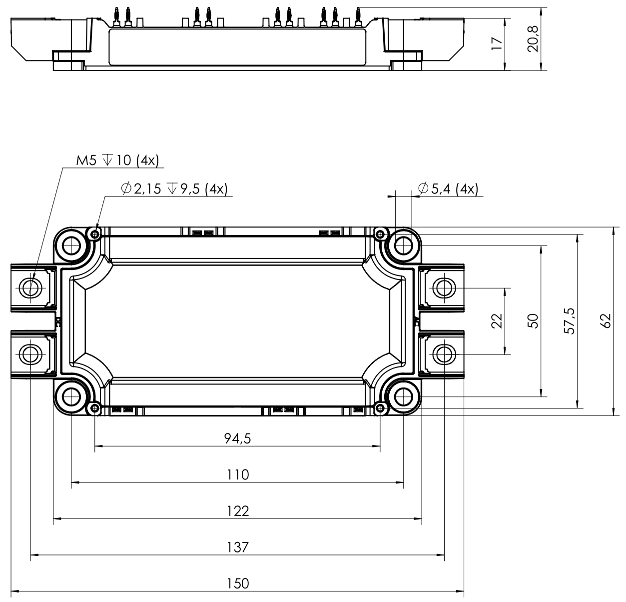


Dimensions in mm

Thyristor / Diode Modules / SEMiX

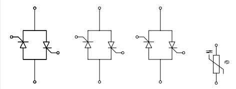
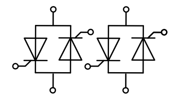
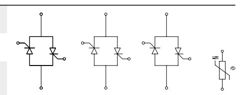
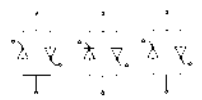
Packages

SEMiX 3Ip



Dimensions in mm

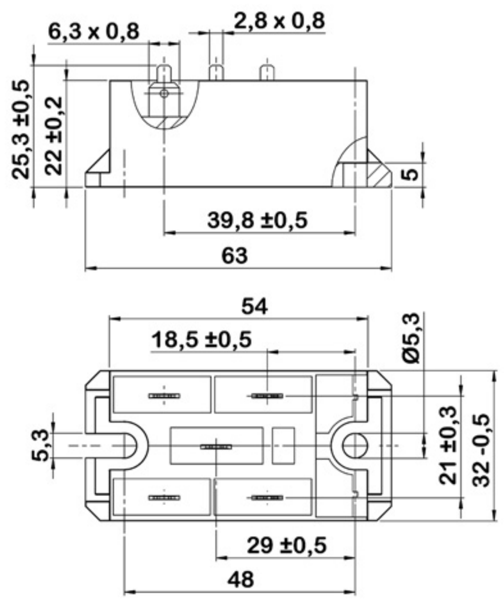
Thyristor / Diode Modules / SEMIPONT

Type	V_{RRM} V_{DRM}	I_{TAV} I_{FAV} @ T_S	T_S	I_{TSM} I_{FSM} @ T_{jmax}	$V_{T(TO)}$ @ T_{jmax}	r_T @ T_{jmax}	T_j	Package	Thermal Interface Material	Topology
	V	A	°C	A	V	mΩ	°C			
SKUT 85/12 T V2 2)	1200	94	85	1050	1.10	6.0	-40 ... +125	5	-	
SKWT 40 1)	800-2200	40	85	580	0.9	6.0	-40 ... +125	1	-	
SKUT 85/16 T V2 2)	1600	94	85	1050	1.10	6.0	-40 ... +125	5	-	
SKUT 115/12T V2 2)	1200	127	85	1250	0.90	5	-40 ... +125	5	-	
SKUT 115/16T V2 2)	1600	127	85	1250	0.90	5	-40 ... +125	5	-	
SKUT 85/12 V2 2)	1200	85	85	1050	1.1	6.0	-40 ... +125	5	-	
SKUT 85/16 V2 2)	1600	85	85	1050	1.1	6.0	-40 ... +125	5	-	
SKUT 115/12 V2 2)	1200	105	85	1250	0.9	5.0	-40 ... +125	5	-	
SKUT 115/16 V2 2)	1600	105	85	1250	0.9	5.0	-40 ... +125	5	-	

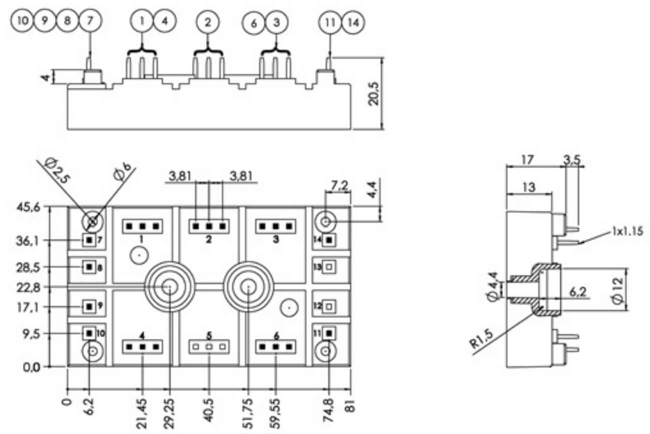
Footnotes: 1) Sample status / 2) In production new

Packages

SEMIPONT 1

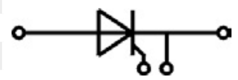
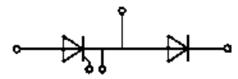
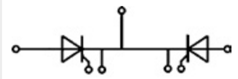
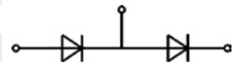
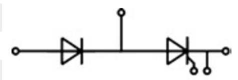


SEMIPONT 5

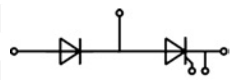
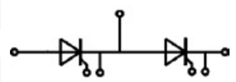


Dimensions in mm

Thyristor / Diode Modules / SEMIPACK

Type	V_{RRM} V_{DRM}	I_{TAV} I_{FAV} @ T_C	T_C	I_{TSM} I_{FSM} @ T_{jmax}	$V_{T(TO)}$ @ T_{jmax}	r_T @ T_{jmax}	T_j	Package	Thermal Interface Material	Topology
	V	A	°C	A	V	mΩ	°C			
SKET 330	800-2200	295	85	8000	1.20	0.55	-40 ... +130	4	-	
SKET 400	800-1800	392	85	12000	0.92	0.3	-40 ... +130	4	-	
SKET 741/22 E	2200	819	85	26500	0.82	0.17	-40 ... +125	6	-	
SKET 801/18 E	1800	819	85	30000	0.82	0.17	-40 ... +125	6	-	
SKKE 15	600-1600	14	85	280	0.85	15	-40 ... +125	0	-	
SKKE 81	800-1600	82	85	1750	0.85	1.8	-40 ... +125	1	-	
SKKE 162	800-2200	195	85	5000	0.85	1.2	-40 ... +135	2	HT	
SKKE 212/16 H2	1600	213	85	5500	0.75	1.05	-40 ... +135	2	HT	
SKKE 380	1200-1600	380	100	10000	0.80	0.35	-40 ... +150	3	-	
SKKE 600	1200-2200	600	100	18000	0.75	0.25	-40 ... +150	4	-	
SKKE 1201/22	2200	1360	85	35000	0.75	0.073	-40 ... +125	6	-	
SKKL 92	800-1800	95	85	1750	0.90	2	-40 ... +125	1	-	
SKMT 92	800-1800	95	85	1750	0.90	2	-40 ... +125	1	-	
SKKD 15	600-1600	14	85	280	0.85	15	-40 ... +125	0	-	
SKKD 26	1200-1600	31	85	480	0.85	6	-40 ... +125	1	-	
SKKD 46	800-1800	47	85	600	0.85	5	-40 ... +125	1	-	
SKKD 81	800-1800	82	85	1750	0.85	1.8	-40 ... +125	1	-	
SKKD 81 H4	2000-2200	82	85	1750	0.85	1.8	-40 ... +125	1	-	
SKKD 100	400-1800	100	85	2000	0.85	1.3	-40 ... +125	1	-	
SKKD 101/16	1600	134	85	2000	0.87	2.45	-40 ... +130	1	-	
SKKD 152/16 H1	1600	171	85	4500	0.82	1.35	-40 ... +135	2	HT	
SKKD 162	800-2200	195	85	5000	0.85	1.2	-40 ... +135	2	HT	
SKKD 212	1200-1800	212	85	5500	0.75	1.05	-40 ... +135	2	HT	
SKKD 260	800-2200	260	85	10000	0.9	0.37	-40 ... +130	3	-	
SKKD 353	1200-1800	350	85	9500	0.84	0.75	-40 ... +130	3	-	
SKKD 380	800-2200	380	100	10000	0.80	0.35	-40 ... +150	3	-	
SKKD 701	1200-2200	701	100	22500	0.70	0.28	-40 ... +160	5	-	
SKKH 15	600-1600	13.5	85	280	1.10	20	-40 ... +125	0	-	
SKKH 27	800-1800	25	85	480	0.90	12	-40 ... +125	1	-	
SKKH 42	800-1800	40	85	850	1.00	4.5	-40 ... +125	1	-	
SKKH 57	800-1800	50	85	1250	0.90	3.5	-40 ... +125	1	-	
SKKH 57 H4	2000-2200	50	85	1250	0.90	3.5	-40 ... +125	1	-	
SKKH 58/16 E	1600	55	85	1200	1.00	4.8	-40 ... +130	1	-	
SKKH 72	800-1800	70	85	1450	0.90	3.5	-40 ... +125	1	-	
SKKH 72 H4	2000-2200	70	85	1450	0.90	3.5	-40 ... +125	1	-	
SKKH 92	800-1800	95	85	1750	0.90	2	-40 ... +125	1	-	
SKKH 106	800-1800	106	85	1900	0.90	2	-40 ... +130	1	-	
SKKH 107/16 E	1600	119	85	1900	0.90	3.35	-40 ... +130	1	-	
SKKH 122	800-1800	129	85	3200	0.85	2	-40 ... +125	2	HT	
SKKH 132	800-1800	137	85	4000	1.00	1.6	-40 ... +125	2	HT	
SKKH 132 H4	2000-2200	128	85	3800	1.10	2	-40 ... +125	2	HT	
SKKH 162	800-1800	156	85	5000	0.85	1.5	-40 ... +125	2	HT	
SKKH 162 H4	2000-2200	143	85	4800	0.95	2	-40 ... +125	2	HT	
SKKH 172/16 E	1600	175	85	5000	0.83	1.3	-40 ... +125	2	HT	

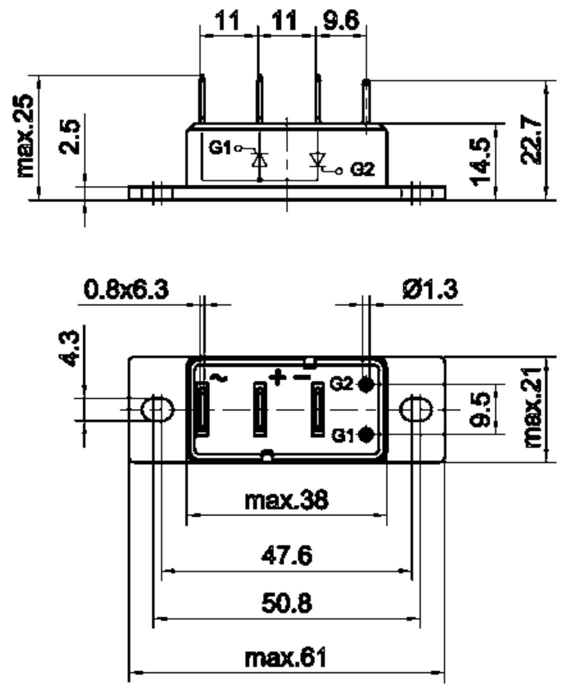
Thyristor / Diode Modules / SEMIPACK

Type	V_{RRM} V_{DRM} V	I_{TAV} I_{FAV} @ T_C A	T_C °C	I_{TSM} I_{FSM} @ T_{jmax} A	$V_{T(TO)}$ @ T_{jmax} V	r_T @ T_{jmax} mΩ	T_j °C	Package	Thermal Interface Material	Topology
SKKH 250	1200-1800	250	85	8000	0.93	0.45	-40 ... +130	3	-	
SKKH 273	1200-1800	273	85	8000	0.90	0.92	-40 ... +130	3	-	
SKKH 280 H4	2000-2200	252	85	7500	0.90	0.75	-40 ... +125	3	-	
SKKH 323	1200-1800	320	85	8200	0.81	0.85	-40 ... +130	3	-	
SKKH 330	800-1800	305	85	8000	0.80	0.6	-40 ... +130	3	-	
SKKH 460	1600-2200	460	85	15500	0.88	0.45	-40 ... +130	5	-	
SKKH 570	1600-1800	570	85	15500	0.78	0.32	-40 ... +135	5	-	
SKKT 15	600-1600	13.5	85	280	1.10	20	-40 ... +125	0	-	
SKKT 20	800-1600	18	85	280	1.00	16	-40 ... +125	1	-	
SKKT 20B	800-1600	18	85	280	1.00	16	-40 ... +125	1	-	
SKKT 27	800-1600	25	85	480	0.90	12	-40 ... +125	1	-	
SKKT 27B	800-1600	25	85	480	0.90	12	-40 ... +125	1	-	
SKKT 42	800-1800	40	85	850	1.00	4.5	-40 ... +125	1	-	
SKKT 42B	800-1800	40	85	850	1.00	4.5	-40 ... +125	1	-	
SKKT 57	800-1800	50	85	1250	0.90	3.5	-40 ... +125	1	-	
SKKT 57B	800-1800	50	85	1250	0.90	3.5	-40 ... +125	1	-	
SKKT 57 H4	2000-2200	50	85	1250	0.90	3.5	-40 ... +125	1	-	
SKKT 58/16 E	1600	55	85	1200	1.00	4.8	-40 ... +130	1	-	
SKKT 58B16 E	1600	55	85	1200	1.00	4.8	-40 ... +130	1	-	
SKKT 72	800-1800	70	85	1450	0.90	3.5	-40 ... +125	1	-	
SKKT 72B	800-1800	70	85	1450	0.90	3.5	-40 ... +125	1	-	
SKKT 72 H4	2000-2200	70	85	1450	0.90	3.5	-40 ... +125	1	-	
SKKT 92	800-1800	95	85	1750	0.90	2	-40 ... +125	1	-	
SKKT 92B	800-1800	95	85	1750	0.90	2	-40 ... +125	1	-	
SKKT 106	800-1800	106	85	1900	0.90	2	-40 ... +130	1	-	
SKKT 106B	800-1800	106	85	1900	0.90	2	-40 ... +130	1	-	
SKKT 107/16 E	1600	119	85	1900	0.90	3.35	-40 ... +130	1	-	
SKKT 107B16 E	1600	119	85	1900	0.90	3.35	-40 ... +130	1	-	
SKKT 122	800-1800	129	85	3200	0.85	2	-40 ... +125	2	HT	
SKKT 132	800-1800	137	85	4000	1.00	1.6	-40 ... +125	2	HT	
SKKT 132 H4	2000-2200	128	85	3800	1.10	2	-40 ... +125	2	HT	
SKKT 162	800-1800	156	85	5000	0.85	1.5	-40 ... +125	2	HT	
SKKT 162 H4	2000-2200	143	85	4800	0.95	2	-40 ... +125	2	HT	
SKKT 172	1400-1800	175	85	5000	0.83	1.3	-40 ... +125	2	HT	
SKKT 215/16 E	1600	215	85	5700	0.85	1.2	-40 ... +125	2	HT	
SKKT 215/18 E	1800	215	85	5700	0.85	1.2	-40 ... +125	2	HT	
SKKT 250	800-1800	250	85	8000	0.93	0.45	-40 ... +130	3	-	
SKKT 273	1200-1800	273	85	8000	0.90	0.92	-40 ... +130	3	-	
SKKT 280 H4	2000-2200	252	85	7500	0.90	0.75	-40 ... +125	3	-	
SKKT 323	1200-1800	320	85	8200	0.81	0.85	-40 ... +130	3	-	
SKKT 330	800-1800	305	85	8000	0.80	0.6	-40 ... +130	3	-	
SKKT 460/16 E	1600	460	85	15500	0.88	0.45	-40 ... +130	5	-	
SKKT 460/22 E H4	2200	460	85	15500	0.88	0.45	-40 ... +130	5	-	
SKKT 570	1200-1800	570	85	15500	0.78	0.32	-40 ... +135	5	-	

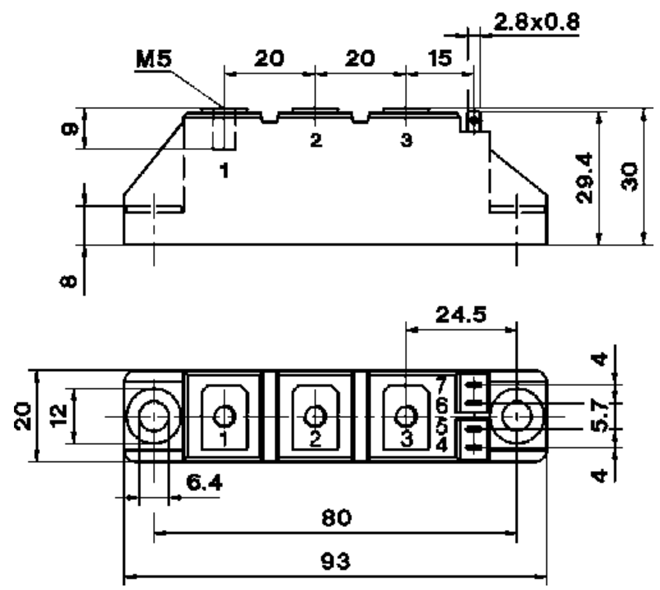
Thyristor / Diode Modules / SEMIPACK

Packages

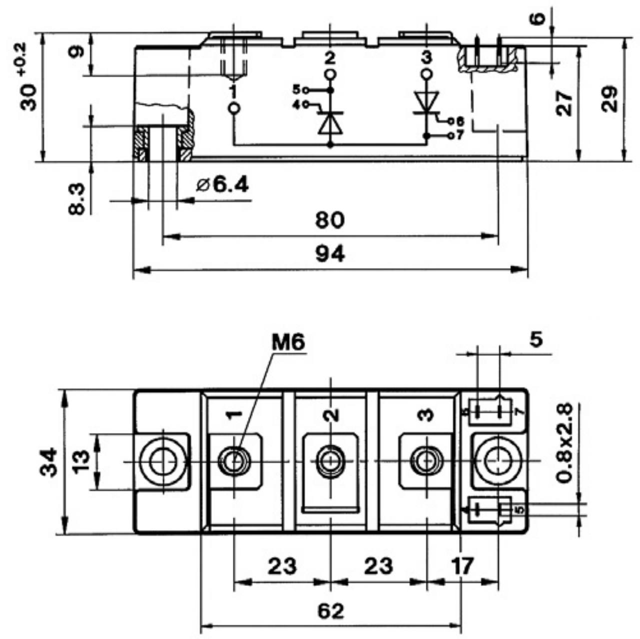
SEMIPACK 0



SEMIPACK 1

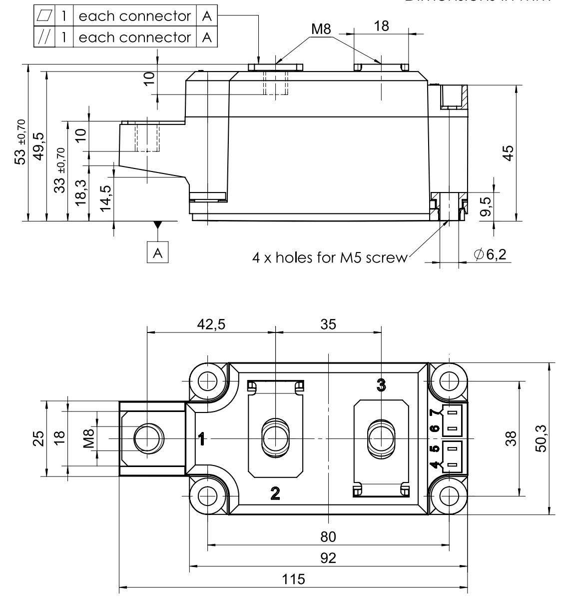


SEMIPACK 2



SEMIPACK 3

Dimensions in mm



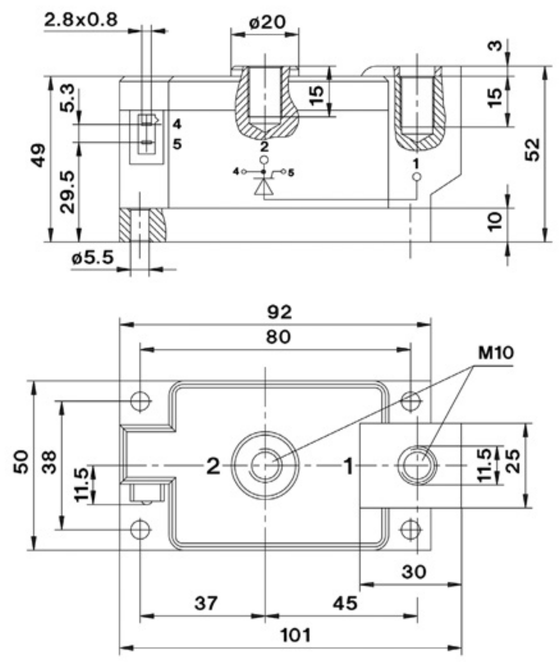
General tolerance ± 0,5 mm

Dimensions in mm

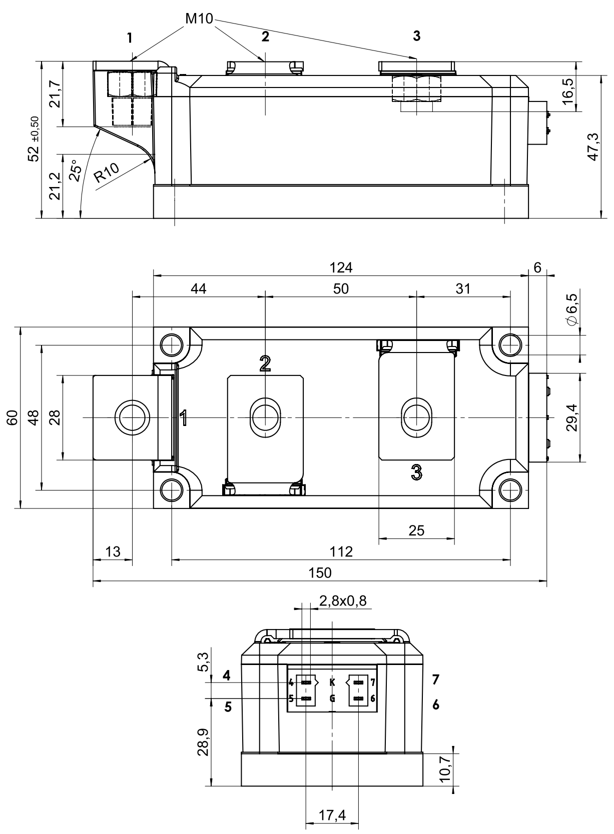
Thyristor / Diode Modules / SEMIPACK

Packages

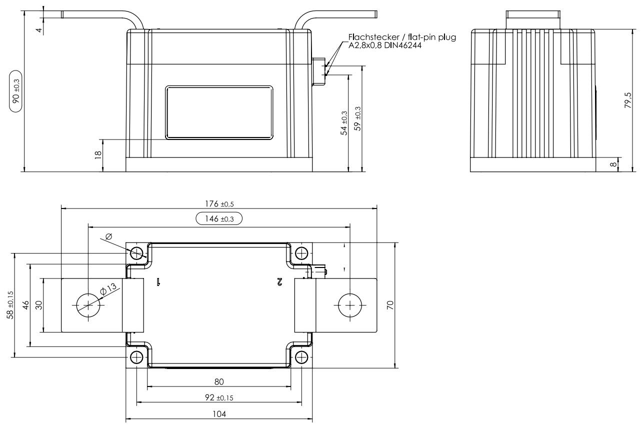
SEMIPACK 4



SEMIPACK 5

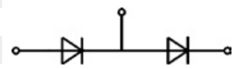
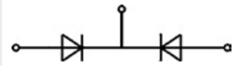
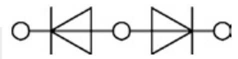


SEMIPACK 6



Dimensions in mm

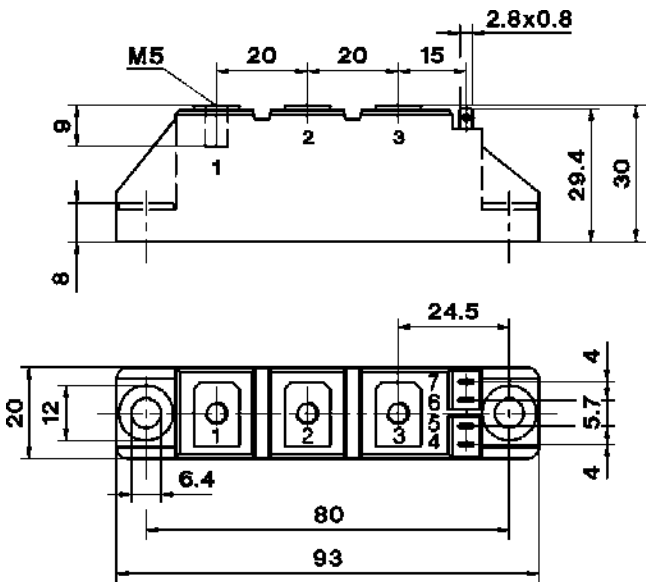
Thyristor / Diode Modules / SEMIPACK FAST

Type	V_{RRM} V_{DRM} V	I_{TAV} I_{FAV} @ T_C A	T_C °C	I_{FSM} @ T_{jmax} A	$V_{T(TO)}$ @ T_{jmax} V	r_T @ T_{jmax} mΩ	T_j °C	Package	Thermal Interface Material	Topology
SKKE 120F17	1700	120	82	1800	1.5	4.5	-40 ... +150	2	-	
SKKE 290F06	600	290	109	6000	0.9	1.2	-40 ... +150	2	-	
SKKE 301F12	1200	300	43	3600	1.2	2.75	-40 ... +150	2	-	
SKKE 310F12	1200	310	84	5500	1.2	1.9	-40 ... +150	2	-	
SKKE 330F17[5)]	1700	330	70	5200	1.5	1.9	-40 ... +150	4	-	
SKKE 600F12[5)]	1200	600	85	5800	1.2	1.9	-40 ... +150	4	-	
SKKD 40F	600-1000	40	80	940	1.2	4	-40 ... +125	1	-	
SKKD 42F	1200-1400	42	85	1100	1	5	-40 ... +130	1	-	
SKKD 60F	1700	60	83	900	1.5	9	-40 ... +150	2	-	
SKKD 75F12	1200	75	55	900	1.2	11	-40 ... +150	2	-	
SKKD 105F16	1600	105	83	2100	1.2	2.5	-40 ... +130	1	-	
SKKD 150F12	1200	150	54	1800	1.2	5.5	-40 ... +150	2	-	
SKKD 170F	1200	170	85	2300	1.2	3.5	-40 ... +150	2	-	
SKKD 205F06	600	205	87	3000	0.9	2	-40 ... +150	2	-	
SKMD 150F12	1200	150	54	1800	1.2	5.5	-40 ... +150	2	-	
SKND 150F12	1200	150	54	1800	1.2	5.5	-40 ... +150	2	-	
SKND 205F06	600	205	87	3000	0.9	2	-40 ... +150	2	-	

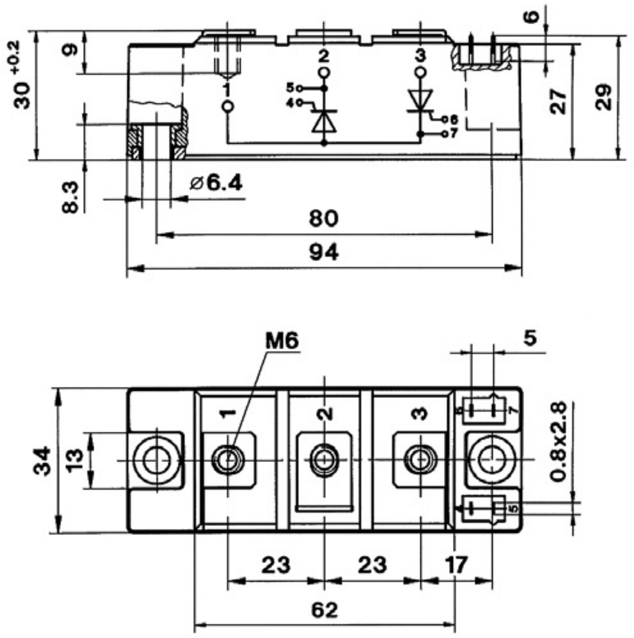
Footnotes: 5) SEMIPACK Fast in SEMITRANS 4 case

Packages

SEMIPACK 1



SEMIPACK 2



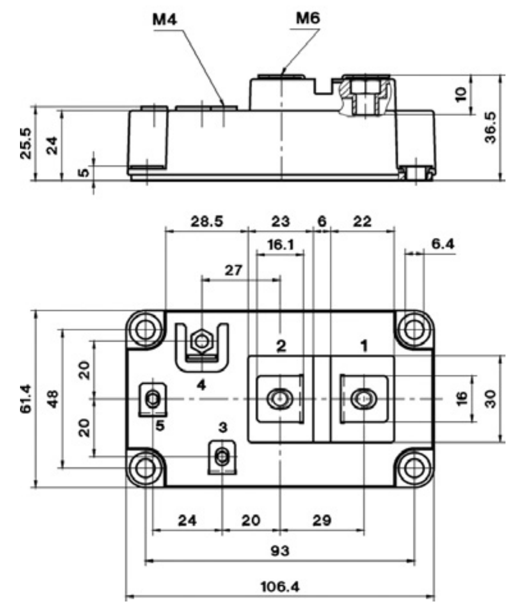
Dimensions in mm

1
2
3
4
5
6
7

Thyristor / Diode Modules / SEMIPACK FAST

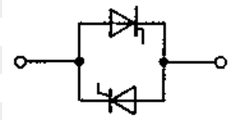
Packages

SEMIPACK Fast in SEMITRANS 4



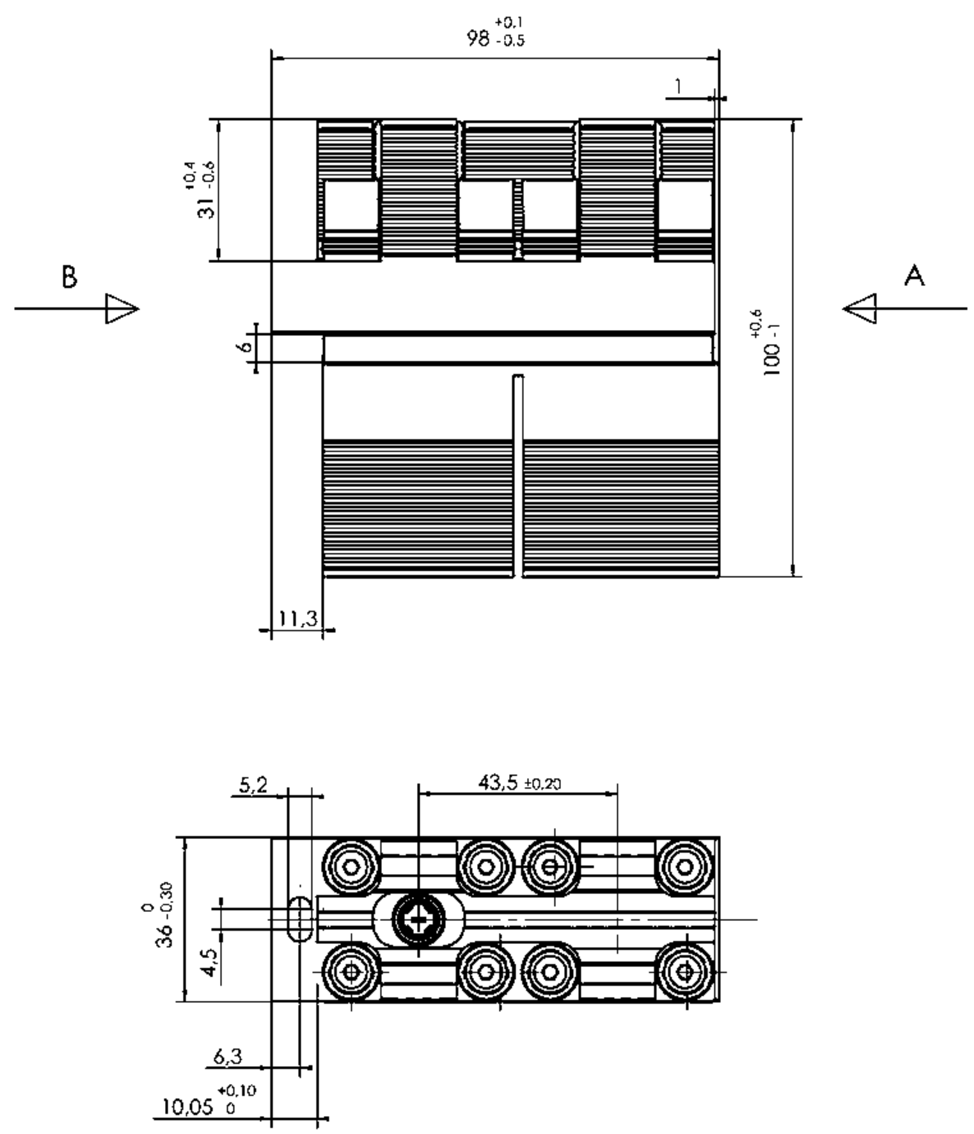
Dimensions in mm

Thyristor Modules / SEMiSTART

Type	V_{RRM} V_{DRM}	$I_{overload}$ W1C (for 20s)	T_C	I_{TSM} @ T_j = 125°C	$V_{T(TO)}$ @ T_{jmax} =125°C	r_T @ T_{jmax} =125°C	T_{jmax} (for 20s)	Package	Thermal Interface Material	Topology
	V	A	°C	A	V	mΩ	°C			
SKKQ 560	1400-1800	560	150	5200	0.9	0.9	150	1	-	
SKKQ 800	1400-1800	800	150	5200	0.9	0.8	150	2	-	
SKKQ 1200	1400-1800	1225	150	8000	0.9	0.5	150	2	-	
SKKQ 1500	1400-1800	1500	150	15000	0.85	0.3	150	2	-	
SKKQ 3000	1400-1800	3080	150	25500	0.95	0.18	150	3	-	

Packages

SEMiSTART 1

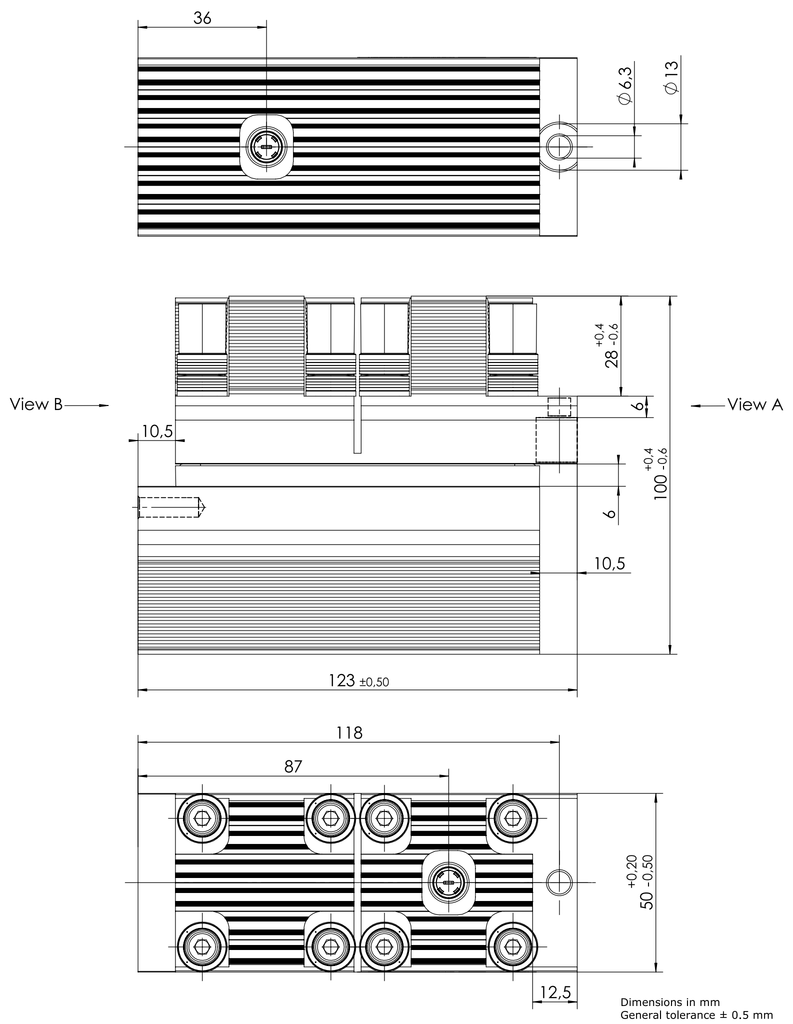


Dimensions in mm

Thyristor Modules / SEMiSTART

Packages

SEMiSTART 2

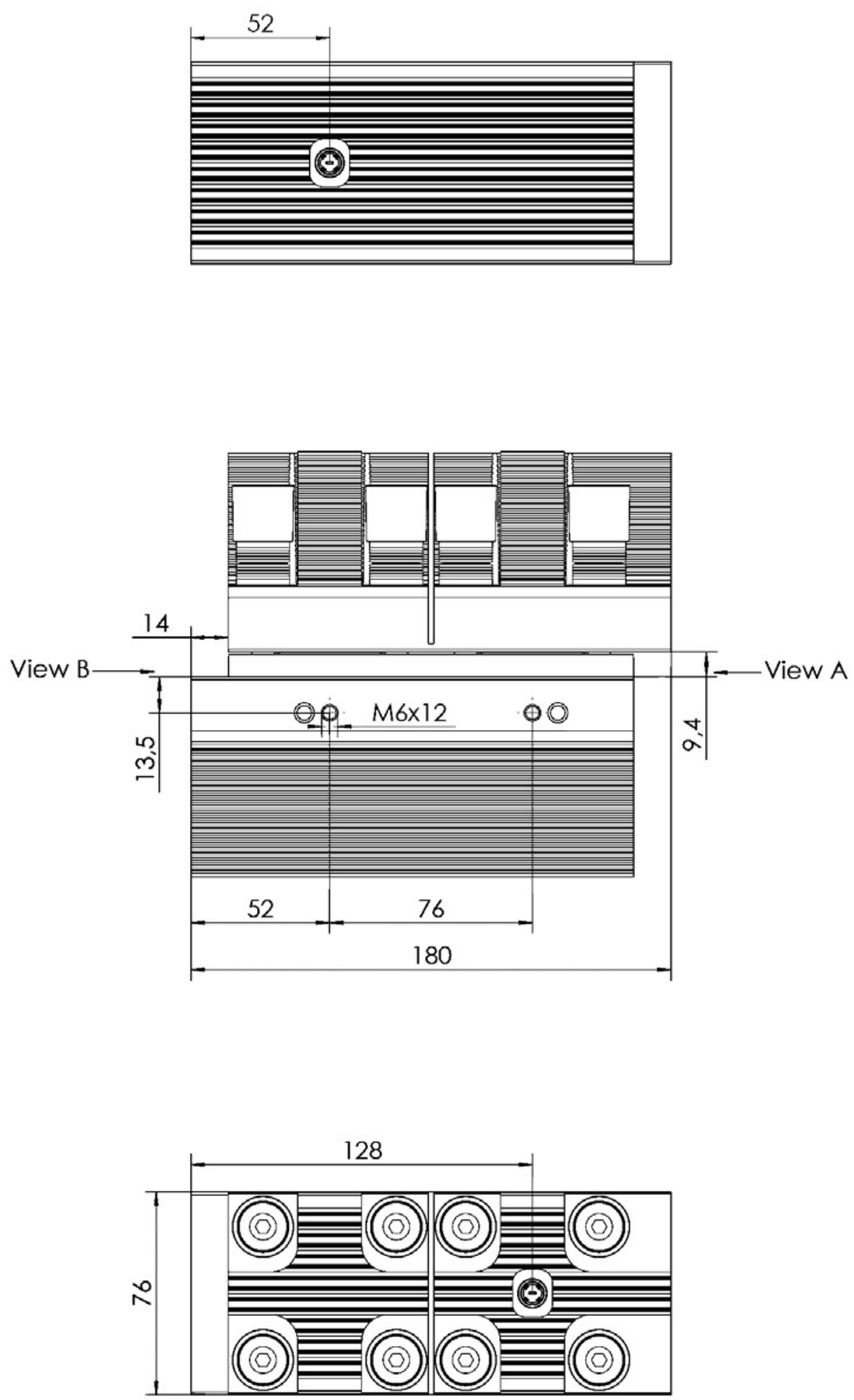


Dimensions in mm

Thyristor Modules / SEMiSTART

Packages

SEMiSTART 3



Dimensions in mm