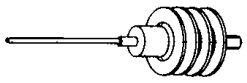
Summary of Types (continued)

Avalanche Rectifier Diodes

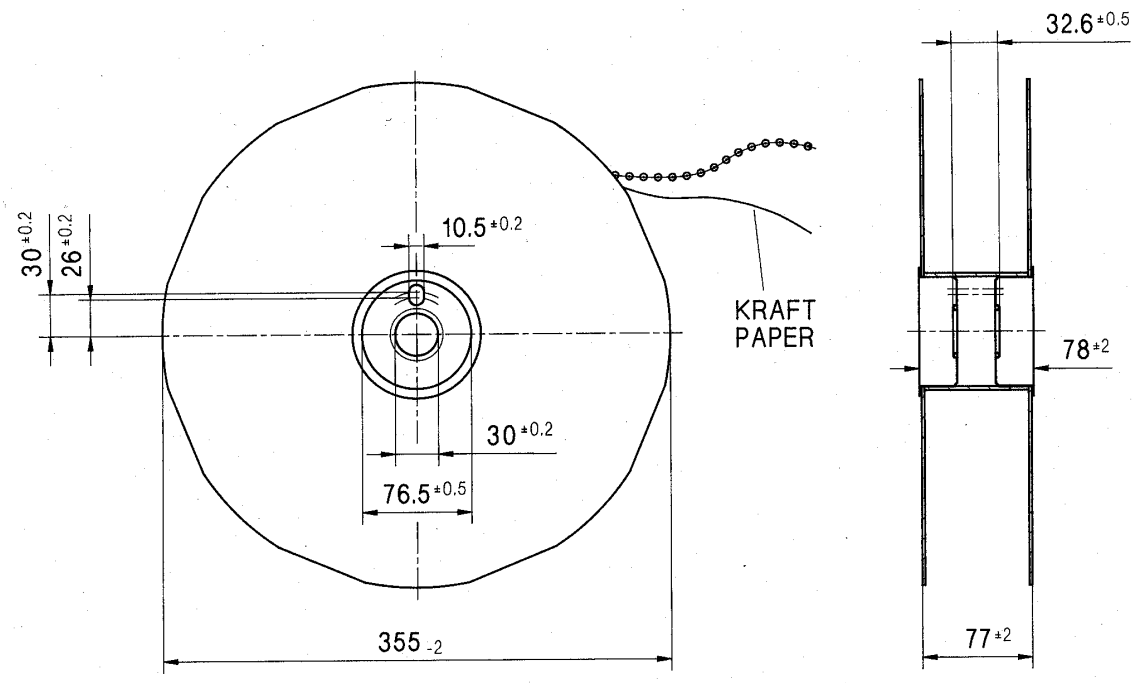
Type	V_{RRM} V_{RSM} V	$V_{(BR)}$ min.	I_{FRMS} A	I_{FAV} @ T_{case} sin. 180 A	°C	I_{FSM} 10 ms 25 °C A	i^2t 10 ms 25 °C A^2s	Case		Page
SKa 1		1 300 1 700	3	1,15	45[1)]	60	18	E 33		B 8-5
SKa 3		1 300 1 700	6,7	1,8	45[1)]	180	162	E 34		
SKNa 2/13 **SKNa 2/17**		1 300 1 700	5	2,0	45[1)]	180	160	E 5		B 8-9
SKNa 4/13 **SKNa 4/17**		1 300 1 700	10	3,7	45[1)]	190	180	E 6		
SKNa 20/13 **SKNa 20/17**		1 300 1 700	40	20	93	375	700	E 9		B 8-13

High Current Rectifier Diode Blocks for Water Cooling

SKWD 7000	200 ... 600			7 000	H_20 8 l/min T_W=40°C	120 000	$72 \cdot 10^6$	C 4		B 8-49

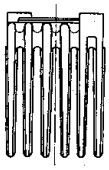
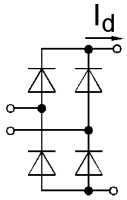
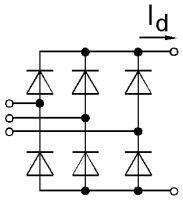
[1)] T_{amb}

Reel for Axial Leaded Diodes



Dimensions in mm

Current Ratings (Limiting Values)

Rectifier Diode		 Type	R_{thca} °C/W	 I_d A		 I_d A	
SKN 20 SKR 20	SKNa 20	K 9 K 5 K 3	11 5,5 3,5	20 28 35	17 23 30	29 40 50	24 33 42
SKN 26 SKR 26		K 9 K 5 K 3	11 5,5 3,5	20 28 35		29 40 50	
SKN 45 SKR 45		K 5 K 3 K 1,1	5,2 3,2 1,3	40 56 86		57 81 120	
SKN 70 SKR 70		K 3 K 1,1 P 1/120 K 1,1 F	3,2 1,3 0,85 0,60	66 112 156 174		96 159 225 246	
SKN 71 SKR 71		K 3 K 1,1 P 1/120 K 1,1 F	3,2 1,3 0,85 0,60	66 112 156 174		96 159 225 246	
SKN 100 SKR 100		K 3 K 1,1 K 0,55 K 1,1 F P 1/75	3,1 1,2 0,65 0,40 0,8	80 140 190 240 190		117 204 270 336 270	
SKN 130 SKR 130		K 1,1 K 0,55 K 1,1 F P 1/75	1,2 0,65 0,40 0,8	160 230 290 220		225 315 405 300	
SKN 240 SKR 240		K 1,1 K 0,55 K 1,1 F K 0,55 F P 1/200 P 4/200	1,1 0,55 0,35 0,17 0,40 0,29	210 340 460 620 420 480		300 480 630 840 570 660	
SKN 320 SKR 320		K 0,55 K 0,55 F P 1/200 P 4/200	0,55 0,17 0,40 0,25	390 760 480 600		570 1080 690 840	
SKN 400		K 0,55 K 0,55 F	0,55 0,17	310 700		450 1000	
SKN 450		2 x P 8/180 2 x P 17/130 F	0,32 0,145	430 710		620 1000	
SKN 501		2 x P 8/180 2 x P 8/180 F 2 x P17/130 F	0,32 0,105 0,145	550 1000 900		800 1400 1250	
SKN 870		2 x P 8/180 2 x P 8/180 F 2 x P 9/210 F	0,29 0,078 0,065	600 1400 1500		870 2000 2200	
SKN 1500		2 x P 8/180 2 x P 8/180 F 2 x P 9/210 F	0,29 0,071 0,055	350 1850 2100		500 2650 3000	
SKN 2000		2 x P 8/180 2 x P 8/180 F 2 x P 9/210 F	0,29 0,071 0,055	600 2200 2500		800 3500 3700	

Natural cooling: T_{amb} = 45 °C; forced air cooling: T_{amb} = 35 °C

Heatsinks

Rectifier Diodes	Heatsinks	Approximate weight	Thermal resistance R_{thca} (including contact thermal resistance)	
			Natural cooling	Forced air cooling v_{air} = 6 m/s
		g	°C/W	°C/W
SKN 20, SKR 20 **SKN 26, SKR 26** **SKNa 20**	K 5 – M 6 K 3 – M 6	100 200	5,5 3,5	– –
SKN 45, SKR 45 **SKN 70, SKR 70** **SKN 71, SKR 71**	K 5 – M 8 K 3 – M 8 K 1,1 – M 8 P 1/120 – M 8	100 200 700 1300	5,2 3,2 1,3 0,85	– – 0,60 0,40
SKN 100, SKR 100 **SKN 130, SKR 130**	K 3 – M 12 K 1,1 – M 12 P 1/75 – M 12	200 700 820	3,1 1,2 0,8	– 0,40 0,27
SKN 240 **SKR 240**	K 1,1 – M 16 x 1,5 K 0,55 – M 16 x 1,5 P 1/200 – M 16 x 1,5 P 4/200– M 16 x 1,5	700 2 000 2 200 4 000	1,1 0,55 0,40 0,29	0,35 0,17 0,17 –
SKN 320 **SKR 320** **SKN 400**	K 0,55 – M 24 x 1,5 P 1/200 – M 24 x 1,5 P 4/200– M 24 x 1,5	2 000 2 200 4 100	0,55 0,40 0,25	0,17 0,15 –
SKN 450 **SKN 501**	2 x P 17/130 P 17/130 + 2 x P 17/60 2 x P 8/180 P 8/375 + 2 x P 8/180	3 000 3 000 3 450 7 000	0,49 – 0,32 –	0,122[1)] 0,155[1)] 0,090[2)] 0,109[2)]
SKN 870 **SKN 1500**	2 x P 8/180 P 8/375 + 2 x P 8/180 2 x P 9/210	3 450 7 000 8 200	0,30 – 0,22	0,067[2)] 0,094[2)] 0,065[2)]
SKN 2000	2 x P 8/180 P 8/357 + 2 x P 8/180 2 x P 9/210 P 9/430 + 2 x P 9/210	3 450 7 000 8 200 16 700	0,30 – 0,205 –	0,055[2)] 0,066[2)] 0,053[2)] 0,063[2)]
SKN 3000 **SKN 3400**	2 x N 4/250 2 x N 4/400	12 550 20 080	– –	0,405[3)] 0,033[3)]

[1)] V_{air}/t = 300 m^3/h

[2)] V_{air}/t = 600 m^3/h

[3)] v_{air} = 8 m/s

The thermal resistances with natural cooling are valid for heatsinks with black surfaces. They increase by 20 % with metallic surfaces.

Available Heatsinks

Rectifier Diode	Heatsink	w g	R_{thca} Natural cooling °C/W	 Forced air cooling[1)] °C/W
SKN 2 F 17 SKR 2 F 17	K 9 – M 5	50	9,5	–
SKN 3 F 20 SKR 3 F 20	K 5 – M 5	100	5,7	–
SKN 2 F 50 SKR 2 F 50	K 5 – M 6	100	5,5	–
SKN 60 F SKR 60 F	K 3 – M 6	200	3,5	–
SKN 135 F SKR 135 F	K 3 – M 12	200	3,1	–
SKN 136 F SKR 136 F	K 1,1 – M 12	700	1,2	0,40
SKN 140 F SKR 140 F	P 1/75 – M 12	820	0,8	0,27
SKN 141 F SKR 141 F				
SKN 340 F	2 x P 8/180	3450	0,32	0,105
SKN 2 M 400	2 x P 17/130	3000	0,49	0,145
	2 x P 18/130	3130	0,368	–

The thermal resistances with natural cooling are valid for heatsinks with black surfaces. They increase by 20 % with metallic surfaces.

[1)] v_{air} = 6 m/s