

V_{RSM}	=	3000 V	Rectifier Diode 5SDD 24F2800 Target specification
I_{FAVM}	=	2415 A	
I_{FRMS}	=	3520 A	
I_{FSM}	=	30 kA	
V_{F0}	=	0.85 V	
r_F	=	0.150 mΩ	

Doc. No. 5SYA1167-00 Sep. 01

- Very low on-state losses
- Optimum power handling capability

Blocking

Part Number	5SDD 24F2800	5SDD 20F2600	5SDD 20F2200	Conditions	
V_{RRM}	2800 V	2600 V	2200 V	f = 50 Hz, $t_p = 10\text{ms}$	$T_j = 0\text{-}160^\circ\text{C}$
V_{RSM}	3000 V	2800 V	2400 V	$t_p = 10\text{ms}$	
I_{RRM}	$\leq 75\text{ mA}$			V_{RRM}	$T_j = 160^\circ\text{C}$

Mechanical data

F_m	Mounting force	nom.	22 kN
		min.	20 kN
		max.	24 kN
a	Acceleration		
	Device unclamped		50 m/s ²
	Device clamped		100 m/s ²
D_p	Pole-piece diameter		47 mm
H	Housing thickness		26 mm
m	Weight IGCT		0.5 kg
D_s	Surface creepage distance	$\geq$	30 mm
D_a	Air strike distance	$\geq$	20 mm

ABB Semiconductors AG reserves the right to change specifications without notice.



On-state

I _{FAVM}	Max. average on-state current	2415 A	50 Hz, T _C = 90°C, Half sine wave		
I _{FRMS}	Max. RMS on-state current	3520 A			
I _{FSM}	Max. peak non-repetitive surge current	30 kA	t _p =	10 ms	T _J = 160°C
		32 kA	t _p =	8.3 ms	After surge:
I ² t	Limiting load integral	2760 kA ² s	t _p =	10 ms	V _R = 0V
		2460 kA ² s	t _p =	8.3 ms	
V _F	On-state voltage	1.30 V	I _F =	3000 A	T _J = 160°C
V _{F0}	Threshold voltage	0.85 V	I _F =	1200 - 3600 A	
r _F	Slope resistance	0.150 mΩ			

Switching

Q_{rr}	Recovery charge	max	5200 μAs	$di_F/dt = -30\text{A}/\mu\text{s}$	$V_R = 200\text{ V}$
				$I_{FRM} = \text{A}$	$T_j = 160^\circ\text{C}$

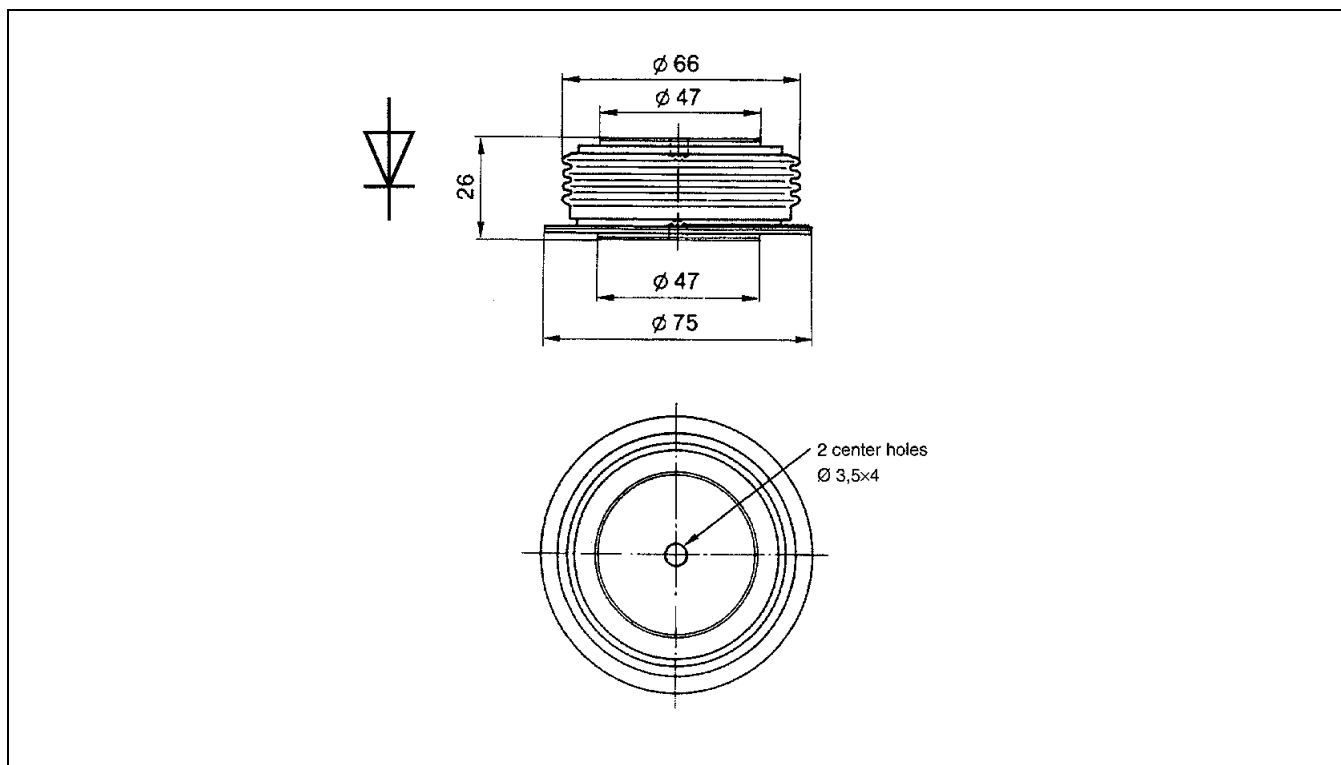


Fig. 1 Outline drawing. All dimensions are in millimeters and represent nominal values unless stated otherwise.

ABB Semiconductors AG reserves the right to change specifications without notice.



ABB Semiconductors AG
 Fabrikstrasse 3
 CH-5600 Lenzburg, Switzerland

Doc. No. 5SYA1167-00 Sep. 01

Telephone +41 (0)62 888 6419
 Fax +41 (0)62 888 6306
 Email abbsem@ch.abb.com
 Internet www.abbsem.com