

# SKKD 205F, SKND 205F



## SEMIPACK<sup>®</sup> 2

### Fast Diode Modules

**SKKD 205F**

**SKND 205F**

#### Preliminary Data

#### Features

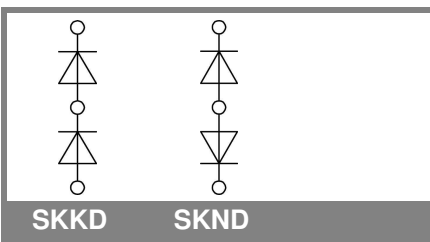
- Very soft recovery over the whole current range
- Very short recovery times
- Low switching losses
- Heat transfer through ceramic isolated metal baseplate
- Materials and distances according to UL

#### Typical Applications\*

- Self-commutated inverters
- DC choppers
- AC motor speed control
- Inductive heating
- Uninterruptible power supplies
- Electronic welders
- General power switching applications

$V_{RSM}$ V	$V_{RRM}$ V	$I_{FRMS} = 455$ A (maximum value for continuous operation) $I_{FAV} = 205$ A (sin. 180; 50 Hz; $T_c = 87$ °C)	
600	600	SKKD 205F06	SKND 205F06

Symbol	Conditions	Values	Units
$I_{FAV}$	sin. 180; $T_c = 87$ °C	205	A
$I_{FSM}$	$T_{vj} = 25$ °C; 10 ms ms	3500	A
	$T_{vj} = 150$ °C; 10 ms ms	3000	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	61250	A <sup>2</sup> s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	45000	A <sup>2</sup> s
$V_F$	$T_{vj} = 25$ °C; $I_F = 400$ A	max. 1,3	V
$V_{(TO)}$	$T_{vj} = 150$ °C	max. 0,9	V
$r_T$	$T_{vj} = 150$ °C	max. 2	mΩ
$I_{RD}$	$T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$	max. 0,4	mA
$I_{RD}$	$T_{vj} = 150$ °C; $V_{RD} = V_{RRM}$	max. 30	mA
$Q_{rr}$	$T_{vj} = 150$ °C; $I_F = 300$ A,	25	μC
$I_{RM}$	-di/dt = 800 A/μs, $V_R = 300$ V	120	A
$t_{rr}$		130	ns
$E_{rr}$		-	mJ
$R_{th(j-c)}$	per diode / per module	0,16 / 0,08	K/W
$R_{th(c-s)}$	per diode / per module	0,1 / 0,05	K/W
$T_{vj}$		- 40 ... + 150	°C
$T_{stg}$		- 40 ... + 125	°C
$V_{isol}$	a.c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
$M_s$	to heatsink	5 ± 15 %	
$M_t$	for terminals	5 ± 15 %	
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	250	g
Case	SKND	A 52	
	SKKD	A 53	



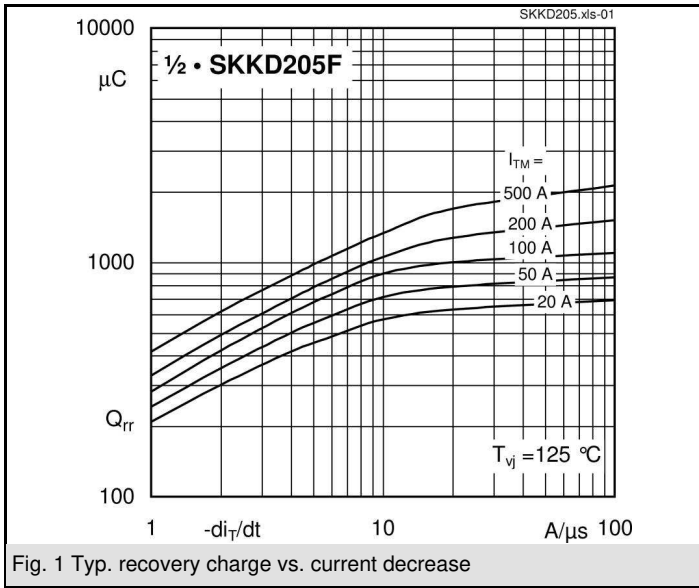


Fig. 1 Typ. recovery charge vs. current decrease

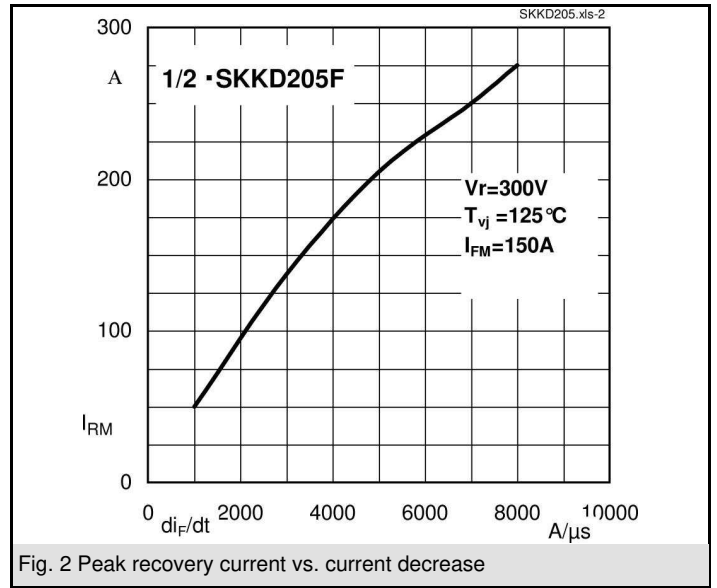


Fig. 2 Peak recovery current vs. current decrease

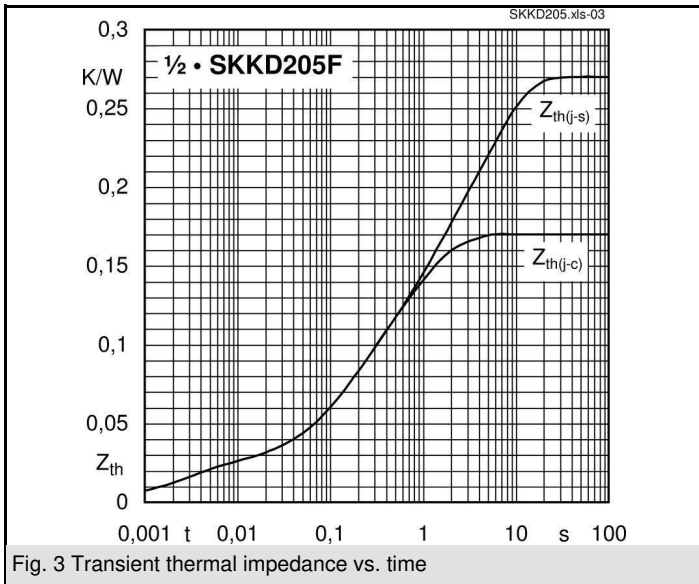


Fig. 3 Transient thermal impedance vs. time

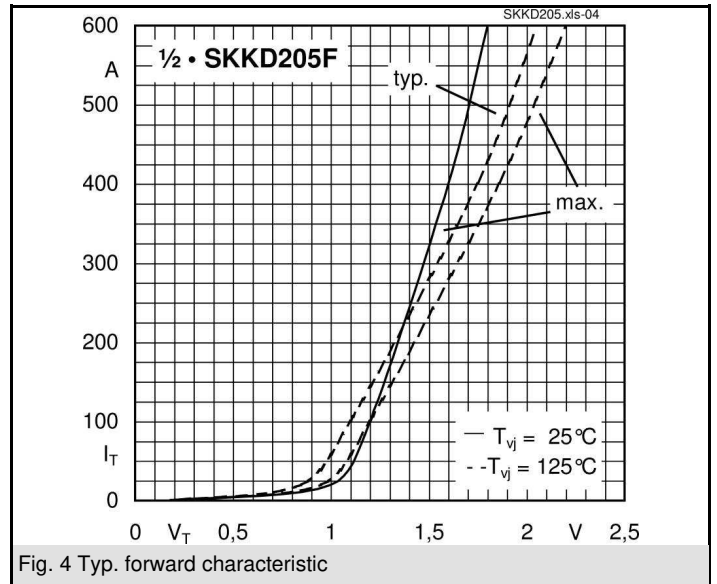


Fig. 4 Typ. forward characteristic

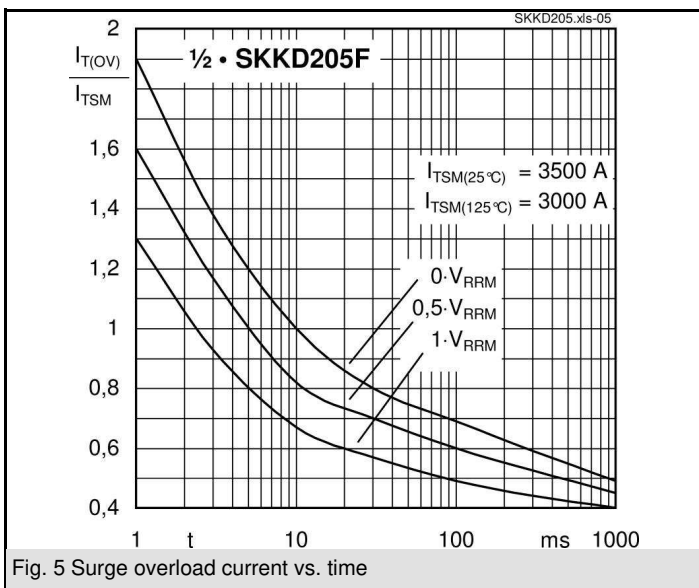
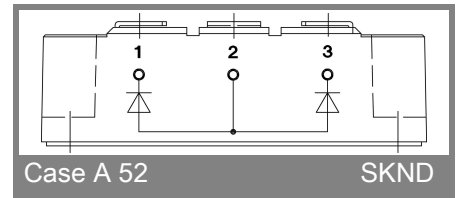
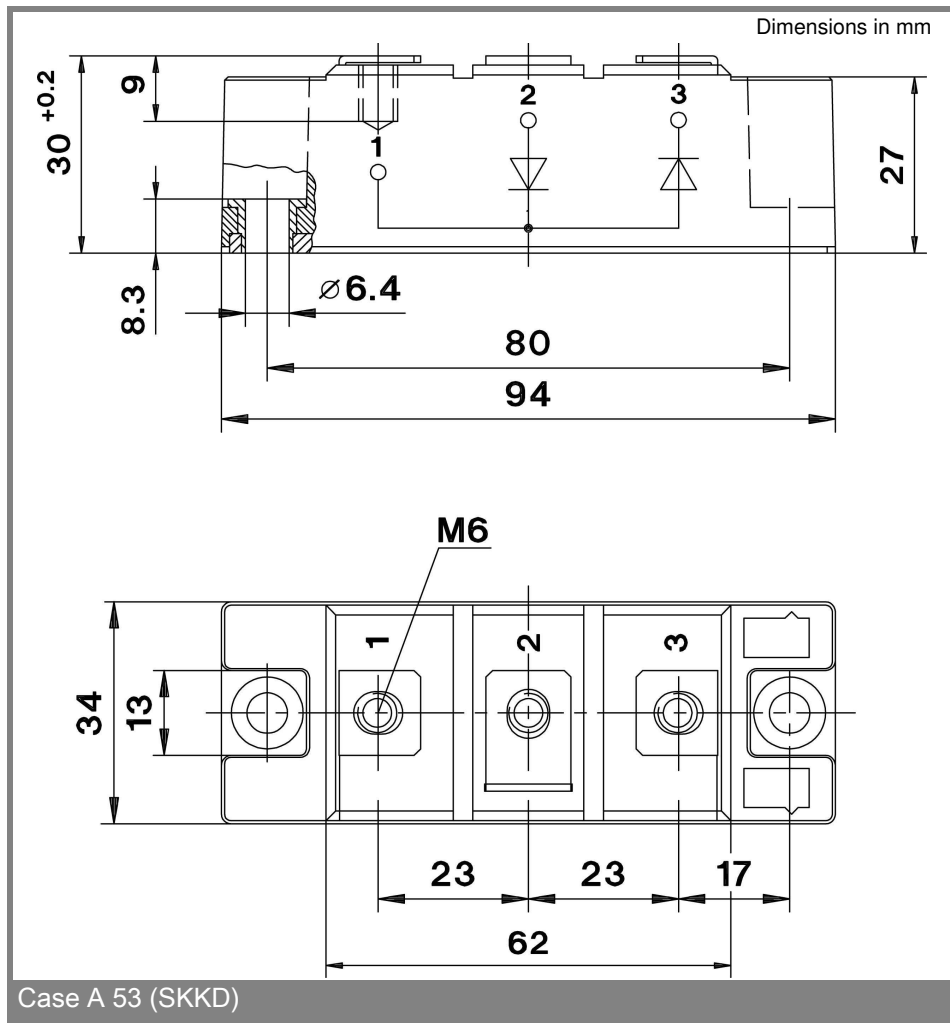


Fig. 5 Surge overload current vs. time

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\* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.