

# SKKD 150F, SKMD 150F, SKND 150F



**SEMIPACK<sup>®</sup> 2**

## Fast Diode Modules

**SKKD 150F**

**SKMD 150F**

**SKND 150F**

### Features

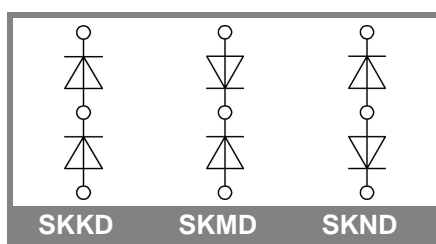
- CAL (controlled axial lifetime) technology, patent No. DE 43 10 44
- Heat transfer through ceramic isolated metal baseplate
- Very short recovery times
- Soft recovery
- Low switching losses
- SKKD half bridge connection
- centre tap connections: SKMD common cathode SKND common anode
- UL recognized, file no. E 63 532

### 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	$I_{FRMS} = 220$ A (maximum value for continuous operation) $I_{FAV} = 150$ A (sin. 180; 50 Hz; $T_c = 54$ °C)		
1200	1200	SKKD 150F12	SKMD 150F12	SKND 150F12

Symbol	Conditions	Values	Units
$I_{FAV}$	sin. 180; $T_c = 85$ (100) °C	117 (99)	A
$I_{FSM}$	$T_{vj} = 25$ °C; 10 ms	2000	A
	$T_{vj} = 150$ °C; 10 ms	1800	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	20000	A <sup>2</sup> s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	16200	A <sup>2</sup> s
$V_F$	$T_{vj} = 25$ °C; $I_F = 150$ A	max. 2,2	V
$V_{(TO)}$	$T_{vj} = 150$ °C	max. 1,2	V
$r_T$	$T_{vj} = 150$ °C	max. 5,5	mΩ
$I_{RD}$	$T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$	max. 1	mA
$I_{RD}$	$T_{vj} = 150$ °C; $V_{RD} = V_{RRM}$	max. 40	mA
$Q_{rr}$	$T_{vj} = 125$ °C, $I_F = 150$ A,	21	μC
$I_{RM}$	-di/dt = 1000 A/μs, $V_R = 600$ V	80	A
$t_{rr}$		710	ns
$E_{rr}$		4,5	mJ
$R_{th(j-c)}$	per diode / per module	0,2 / 0,1	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.	4800 / 4000	V~
$M_s$	to heatsink	5 ± 15%	Nm
$M_t$	to terminals	5 ± 15 %	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	160	g
Case	SKKD	A 53	
	SKMD	A 51	
	SKND	A 52	



SKKD

SKMD

SKND

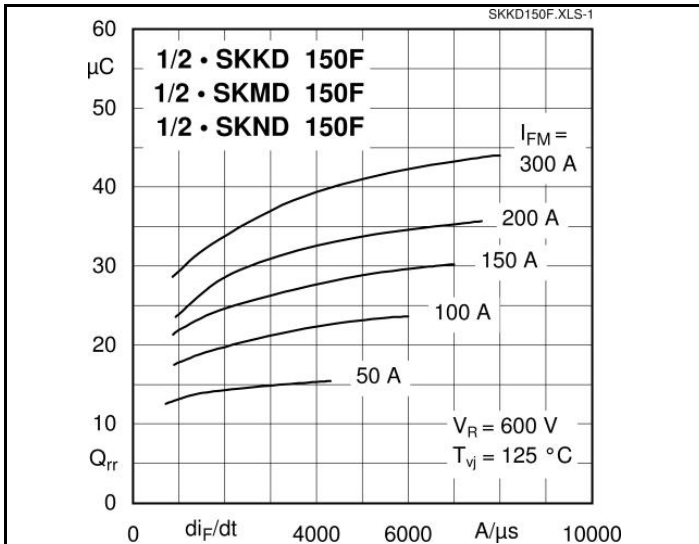


Fig. 1 Typ. recovery charge vs. current decrease

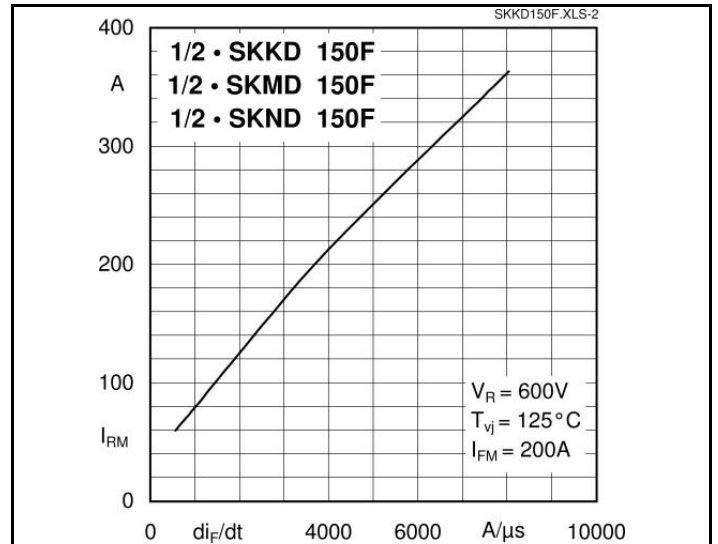


Fig. 2 Peak recovery current vs. current decrease

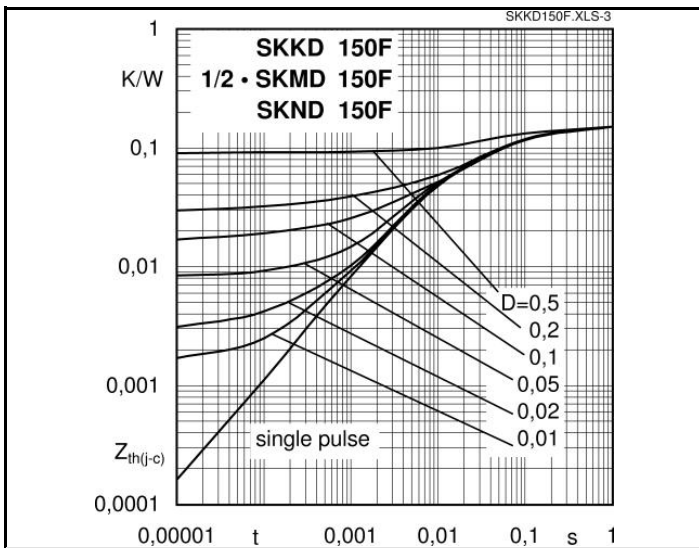


Fig. 3 Transient thermal impedance vs. time

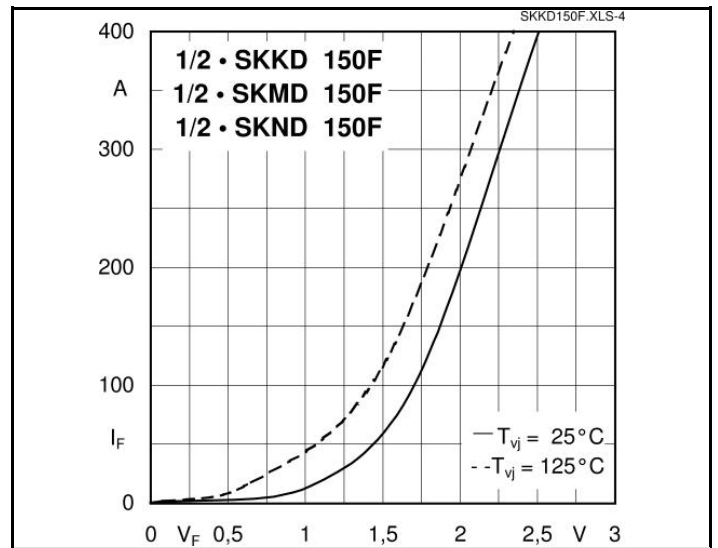


Fig. 4 Typ. forward characteristics

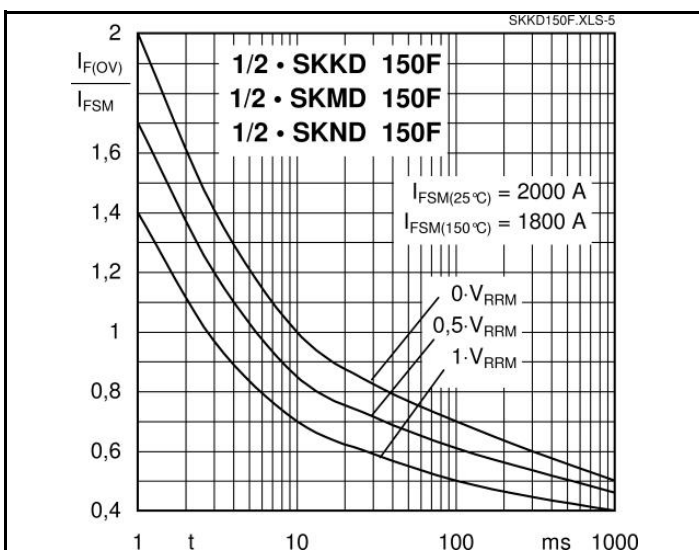


Fig. 5 Surge overload current vs. time

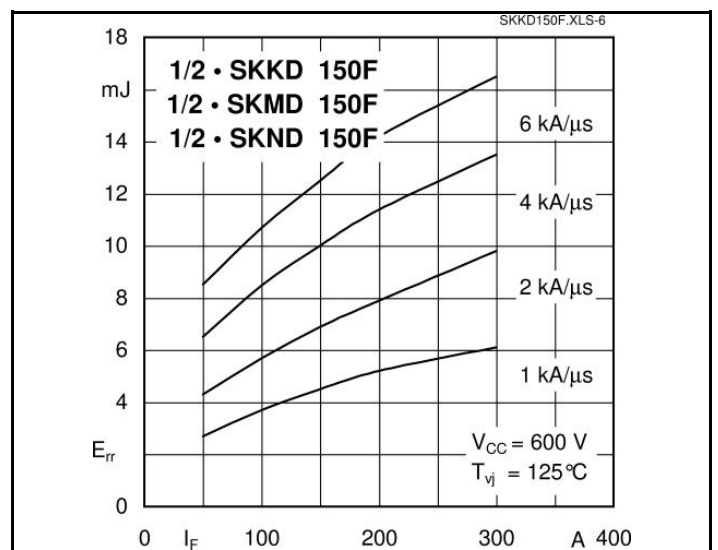
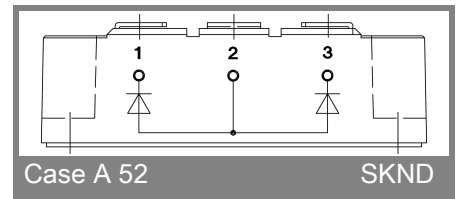
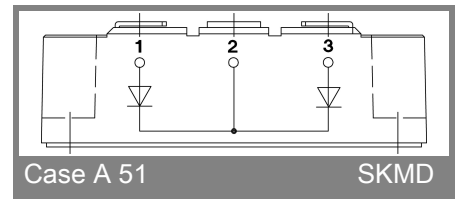
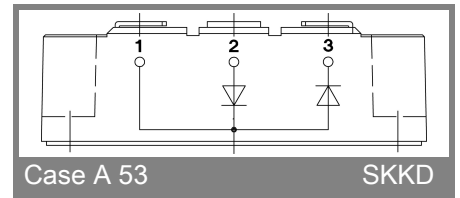
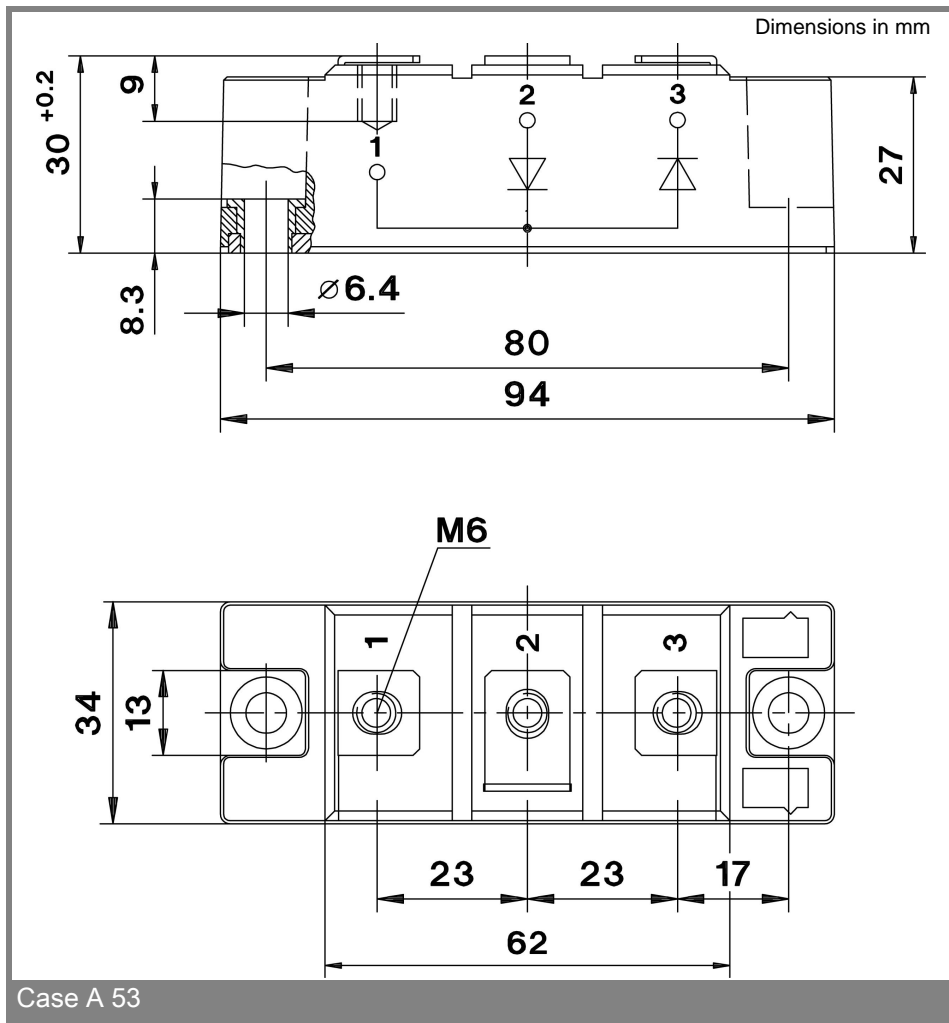


Fig. 6 Typ. turn-off energy dissipation per pulse

# SKKD 150F, SKMD 150F, SKND 150F



This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.