



SEMIPACK® 2

## Fast Diode Modules

**SKKD 150F**

**SKMD 150F**

**SKND 150F**

## Features

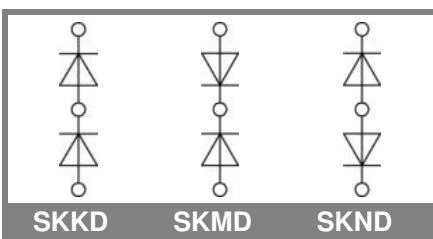
- CAL (controlled axial lifetime) technology, patent No. DE 43 10 44
- Heat transfer through ceramic isolated metal baseplate
- Very short recovery times
- Soft recovery
- Low switching losses
- SKKD half bridge connection
- centre tap connections: SKMD common cathode SKND common anode
- UL recognized, 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)
1200	1200	$I_{FAV} = 150$ A (sin. 180; 50 Hz; $T_c = 54$ °C)
		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	A²s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	16200	A²s
$V_F$	$T_{vj} = 25$ °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, -di/dt = 1000 A/μs, $V_R = 600$ V	21	μC
$I_{RM}$		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/s²
$m$	approx.	160	g
Case	SKKD SKMD SKND	A 53 A 51 A 52	



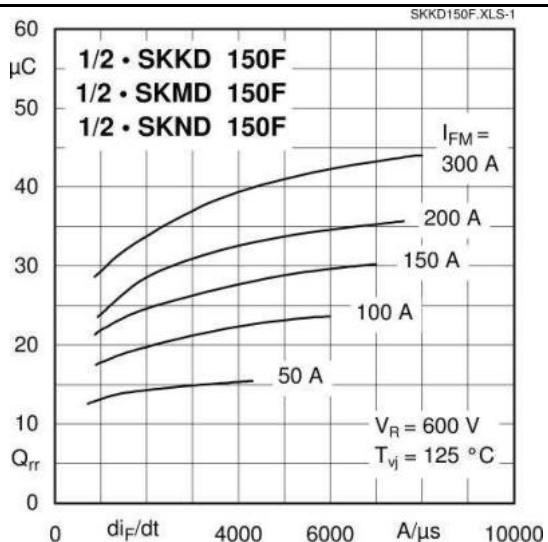


Fig. 1 Typ. recovery charge vs. current decrease

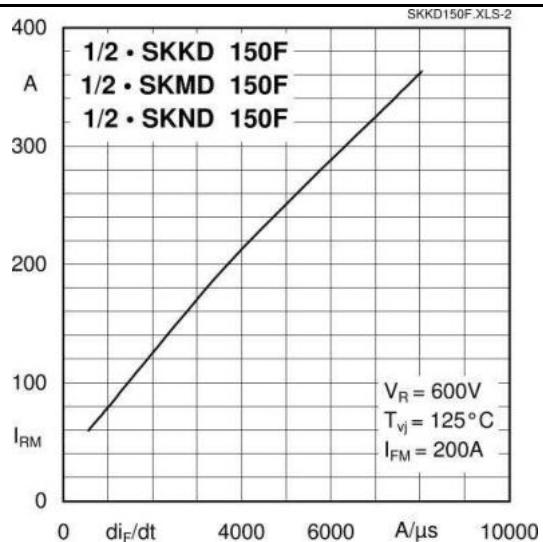


Fig. 2 Peak recovery current vs. current decrease

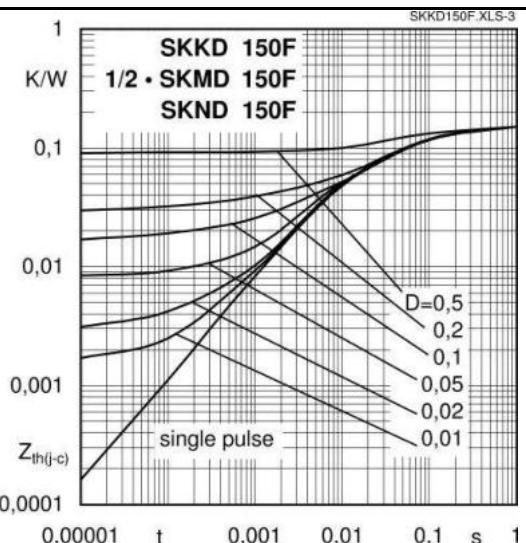


Fig. 3 Transient thermal impedance vs. time

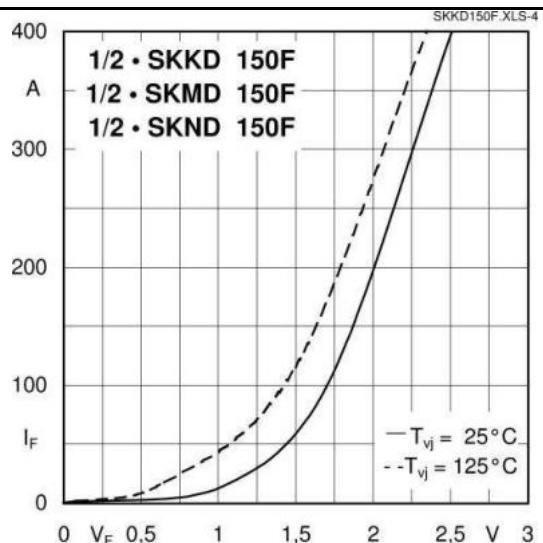


Fig. 4 Typ. forward characteristics

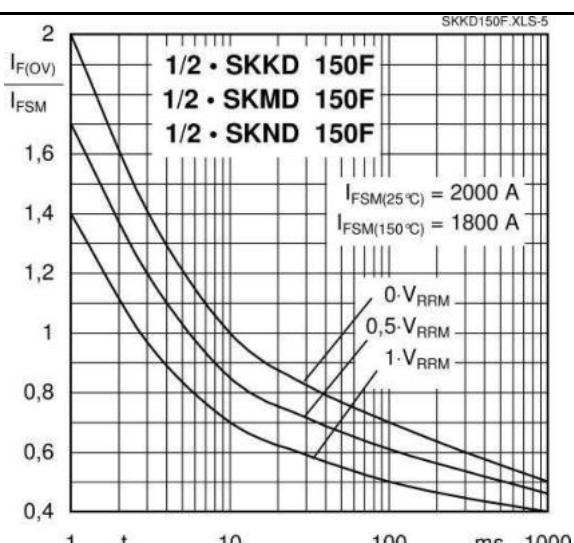


Fig. 5 Surge overload current vs. time

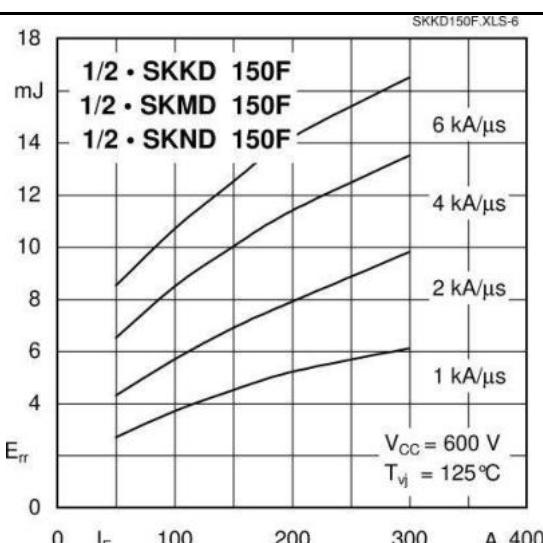
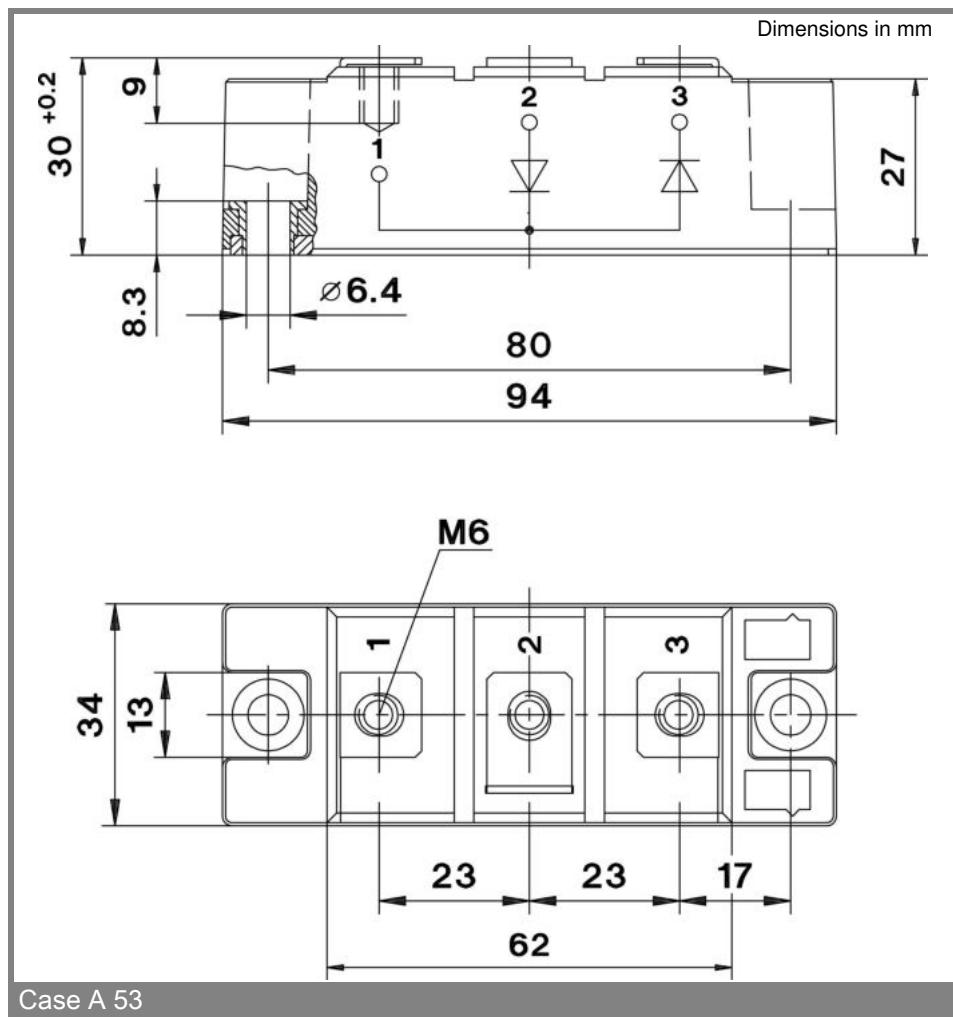


Fig. 6 Typ. turn-off energy dissipation per pulse



\* 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.