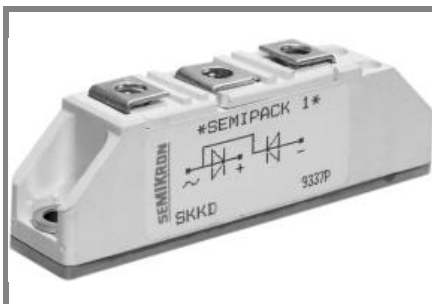


SKKD 50E, SKND 50E



SEMIPACK[®] 1

Ultrafast Epitaxial Diode Modules

SKKD 50E

SKND 50E

Features

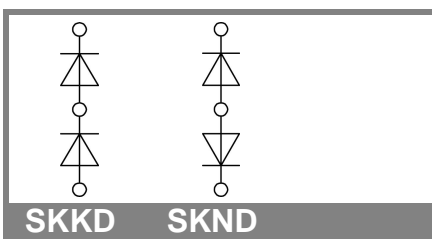
- Isolated metal baseplate
- Very short recovery times
- Low switching losses
- Up to 400 V peak inverse voltage
- SKKD half bridge connections; SKND common anode
- UL recognized, file no. E 63 532

Typical Applications

- Switched mode power converters
- Inverse diode for transistors in AC and DC motor controls
- Uninterruptible power supplies (UPS)

V_{RSM} V	V_{RRM} V	$I_{FRMS} = 110$ A (maximum value for continuous operation)	
		$I_{FAV} = 50$ A (sin. 180; 50 Hz; $T_c = 84$ °C)	
100	100	SKKD 50E01	SKND 50E01
200	200	SKKD 50E02	SKND 50E02
300	300	SKKD 50E03	SKND 50E03
400	400	SKKD 50E04	SKND 50E04

Symbol	Conditions	Values	Units
I_{FAV}	sin. 180; $T_c = 85$ (100) °C	49 (41)	A
I_{FSM}	$T_{vj} = 25$ °C; 10 ms	800	A
	$T_{vj} = 150$ °C; 10 ms	700	A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms	3200	A ² s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	2450	A ² s
V_F	$T_{vj} = 25$ °C; $I_F = 120$ A	max. 1,6	V
$V_{(TO)}$	$T_{vj} = 150$ °C	0,8	V
r_T	$T_{vj} = 150$ °C	6,5	mΩ
I_{RD}	$T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$	max. 0,2	mA
I_{RD}	$T_{vj} = 130$ °C; $V_{RD} = V_{RRM}$	max. 40	mA
Q_{rr}	$T_{vj} = 150$ °C; $I_F = 50$ A,	0,7	μC
I_{RM}	$-di/dt = 100$ A/μs, $V_R = 100$ V	10	A
t_{rr}		140	ns
E_{rr}		0,03	mJ
$R_{th(j-c)}$	per diode / per module	0,85 / 0,43	K/W
$R_{th(c-s)}$	per diode / per module	0,2 / 0,1	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.	3000 / 2500	V~
M_s	to heatsink	5 ± 15 %	Nm
M_t	to terminals	3 ± 15 %	Nm
a		5 * 9,81	m/s ²
m	approx.	120	g
Case	SKKD	A 20a	
	SKND	A 19	



SKKD

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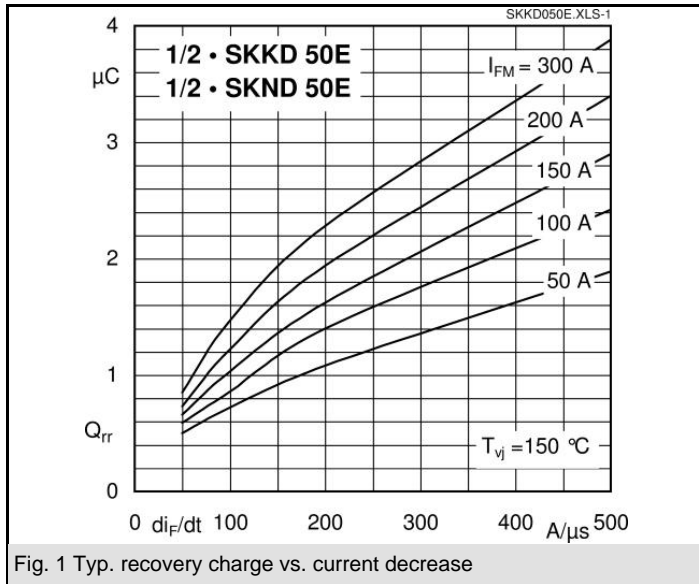


Fig. 1 Typ. recovery charge vs. current decrease

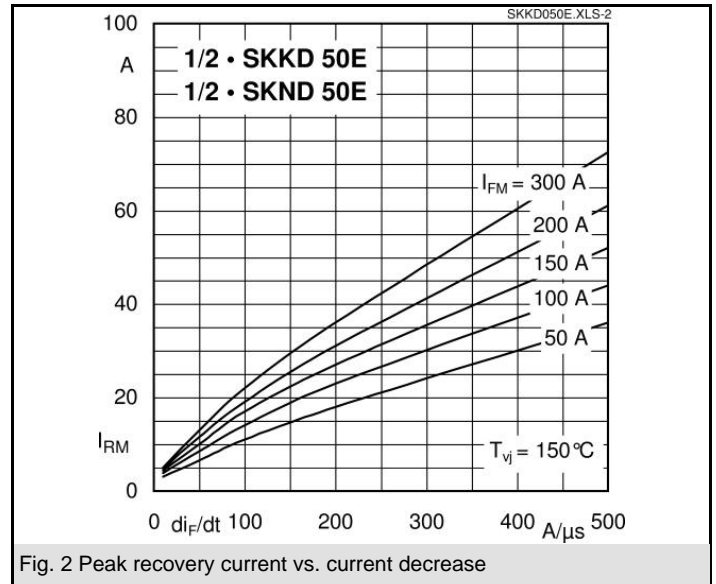


Fig. 2 Peak recovery current vs. current decrease

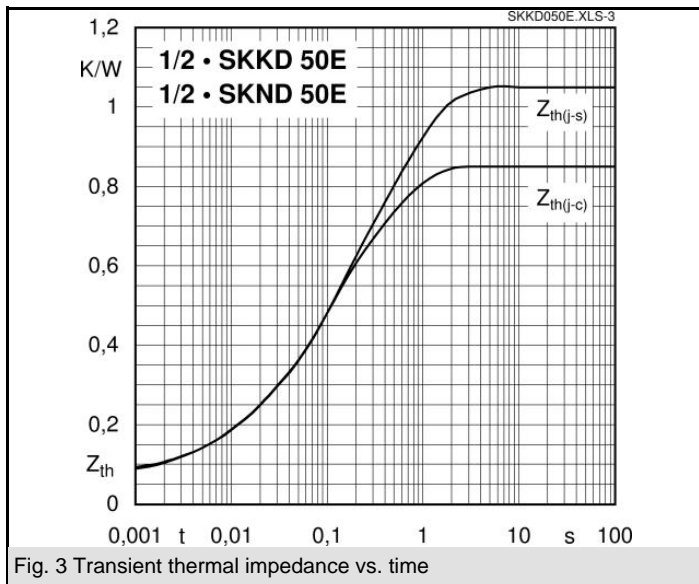


Fig. 3 Transient thermal impedance vs. time

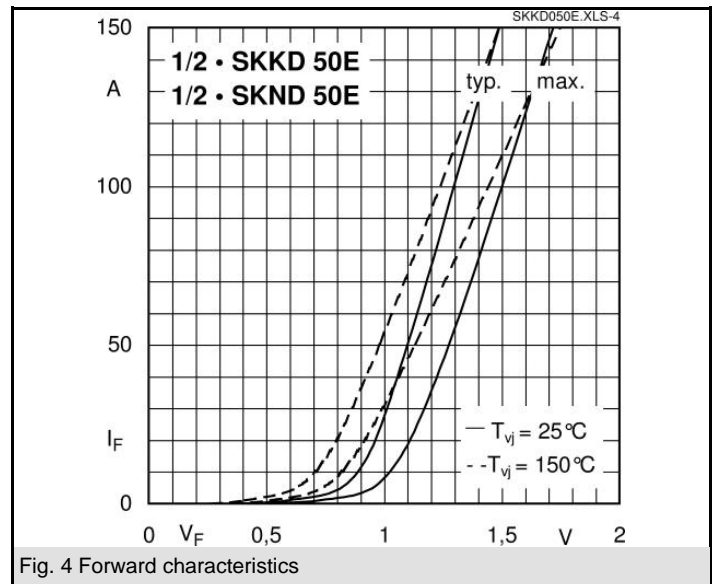


Fig. 4 Forward characteristics

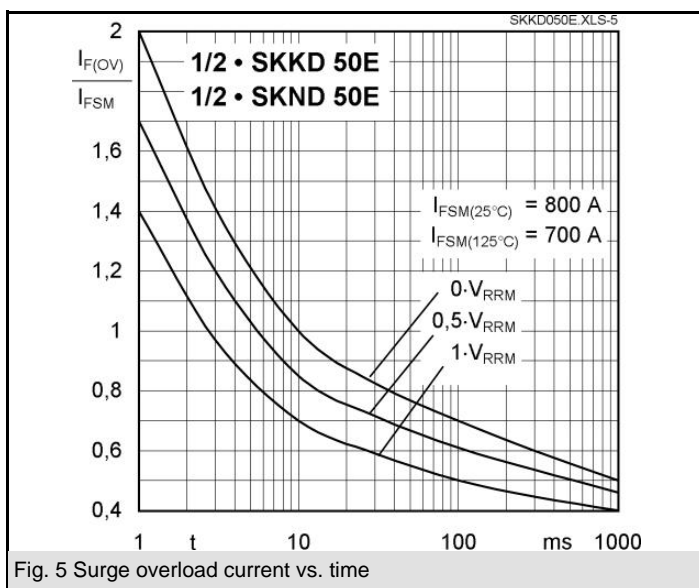
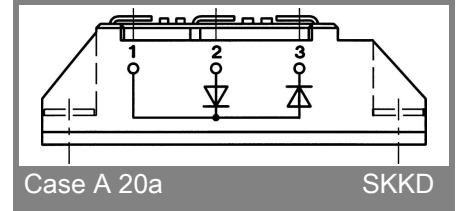
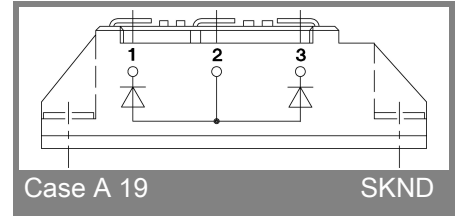
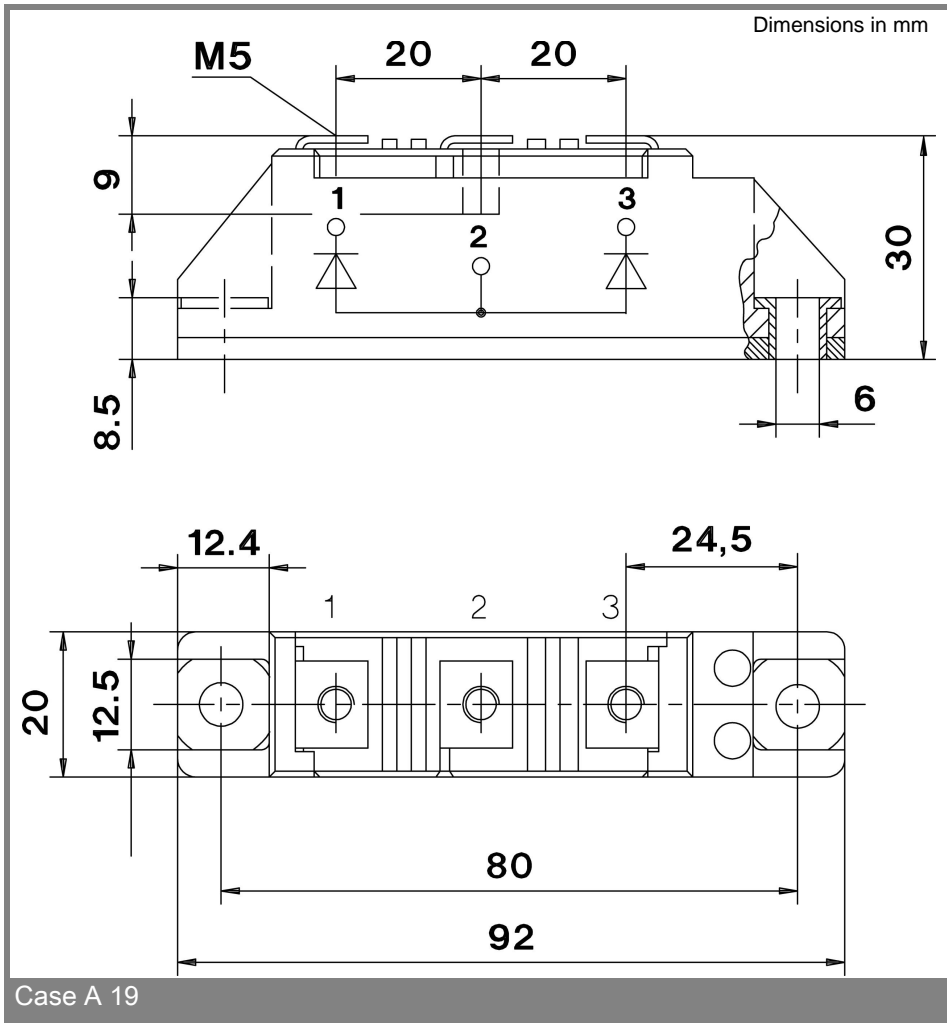


Fig. 5 Surge overload current vs. time

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