

# SKKE 600F



**SEMIPACK®**

## Fast Diode Modules

### SKKE 600F

#### Features

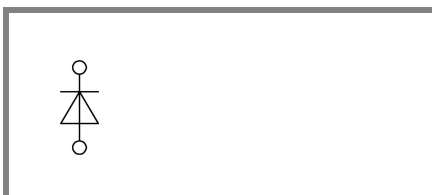
- CAL (controlled axial lifetime) technology, patent No. 43 10 44
- Heat transfer through aluminium oxide DCB ceramic isolated metal baseplate
- Small recovered charge
- Fast & soft recovery CAL diodes
- UL recognized, file no. E 63 532

#### Typical Applications

- Freewheeling diodes for IGBT
- Freewheeling diode for inductive loads
- Brake choppers
- Inverters and DC choppers
- AC motor control
- Boost choppers
- up to 20 kHz

$V_{RSM}$ V	$V_{RRM}$ V	$I_{FRMS} = 450$ A (maximum value for continuous operation)	
1200	1200	$I_{FAV} = 360$ A (sin. 180; 50 Hz; $T_c = 85$ °C)	
		SKKE 600F12	

Symbol	Conditions	Values	Units
$I_{FAV}$	sin. 180; $T_c = 85$ (100) °C	360 (305)	A
$I_{FSM}$	$T_{vj} = 25$ °C; 10 ms	7000	A
	$T_{vj} = 150$ °C; 10 ms	5800	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	245000	A <sup>2</sup> s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	168000	A <sup>2</sup> s
$V_F$	$T_{vj} = 25$ °C; $I_F = 600$ A	max. 2,5	V
$V_{(TO)}$	$T_{vj} = 150$ °C	max. 1,2	V
$r_T$	$T_{vj} = 150$ °C	max. 1,9	mΩ
$I_{RD}$	$T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$	max. 4	mA
$I_{RD}$	$T_{vj} = 150$ °C; $V_{RD} = V_{RRM}$	max. 30	mA
$Q_{rr}$	$T_{vj} = 150$ °C, $I_F = 600$ A,	80	μC
$I_{RM}$	-di/dt = 4000 A/μs, $V_R = 600$ V	280	A
$t_{rr}$		780	ns
$E_{rr}$		21	mJ
$R_{th(j-c)}$	DC	0,062	K/W
$R_{th(c-s)}$		0,038	K/W
$T_{vj}$		- 40 ... + 150	°C
$T_{stg}$		- 40 ... + 125	°C
$V_{isol}$	a. c. 50 Hz; r.m.s.; 1s / 1 min.	4800 / 4000	V~
$M_s$	to heatsink	3 ... 5	Nm
$M_t$	to terminals	2,5 ... 5	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	330	g
Case	SEMITRANS 4	A 68	



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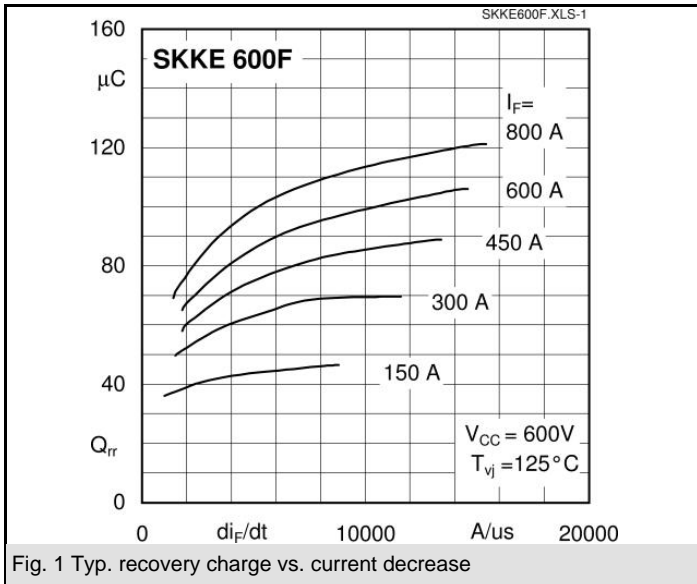


Fig. 1 Typ. recovery charge vs. current decrease

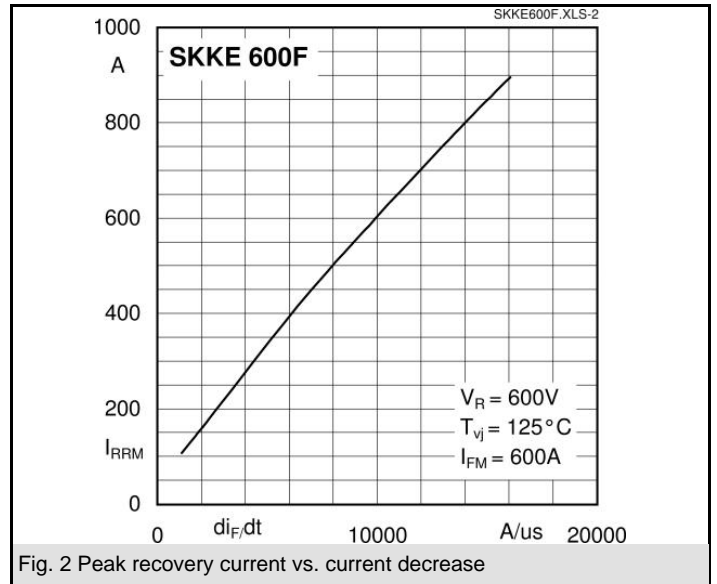


Fig. 2 Peak recovery current vs. current decrease

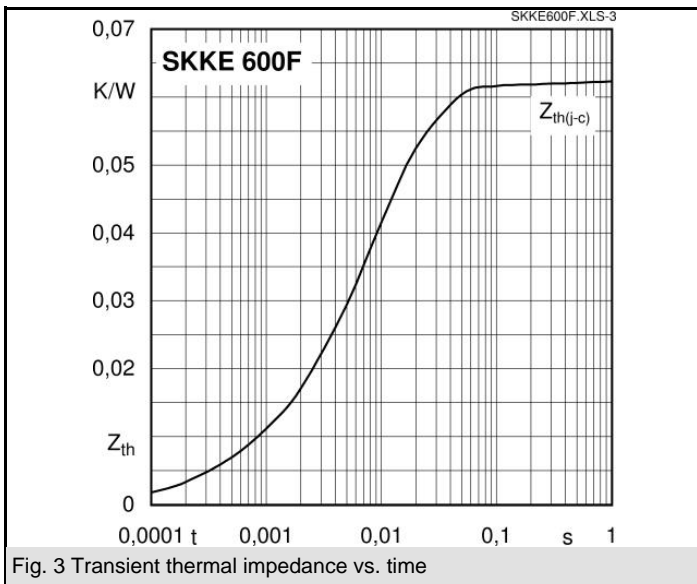


Fig. 3 Transient thermal impedance vs. time

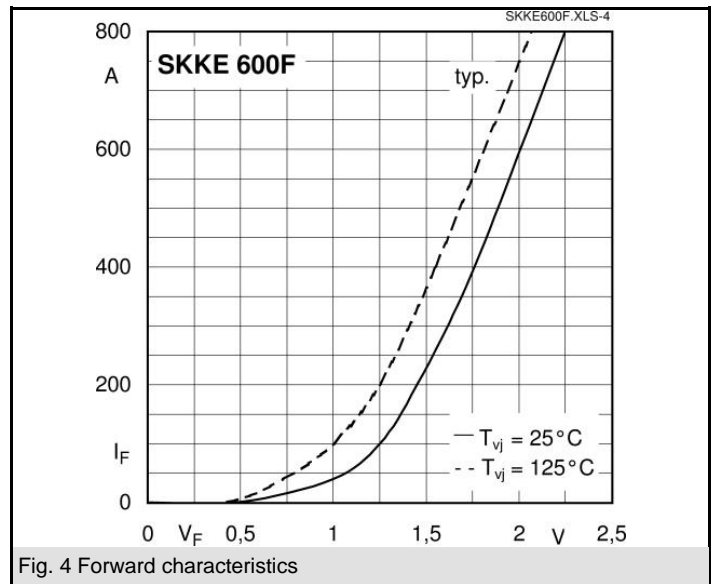


Fig. 4 Forward characteristics

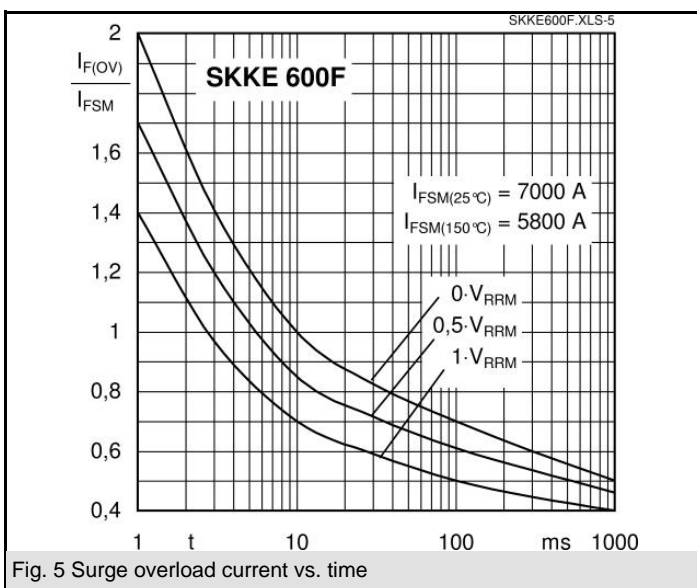


Fig. 5 Surge overload current vs. time

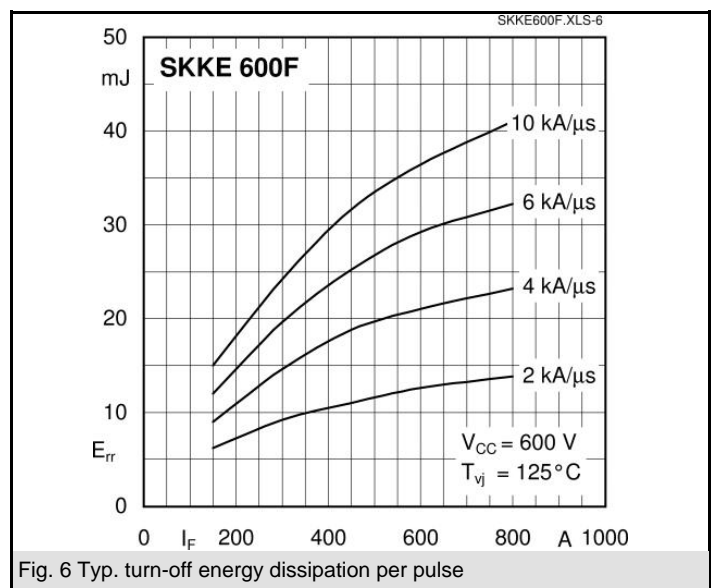
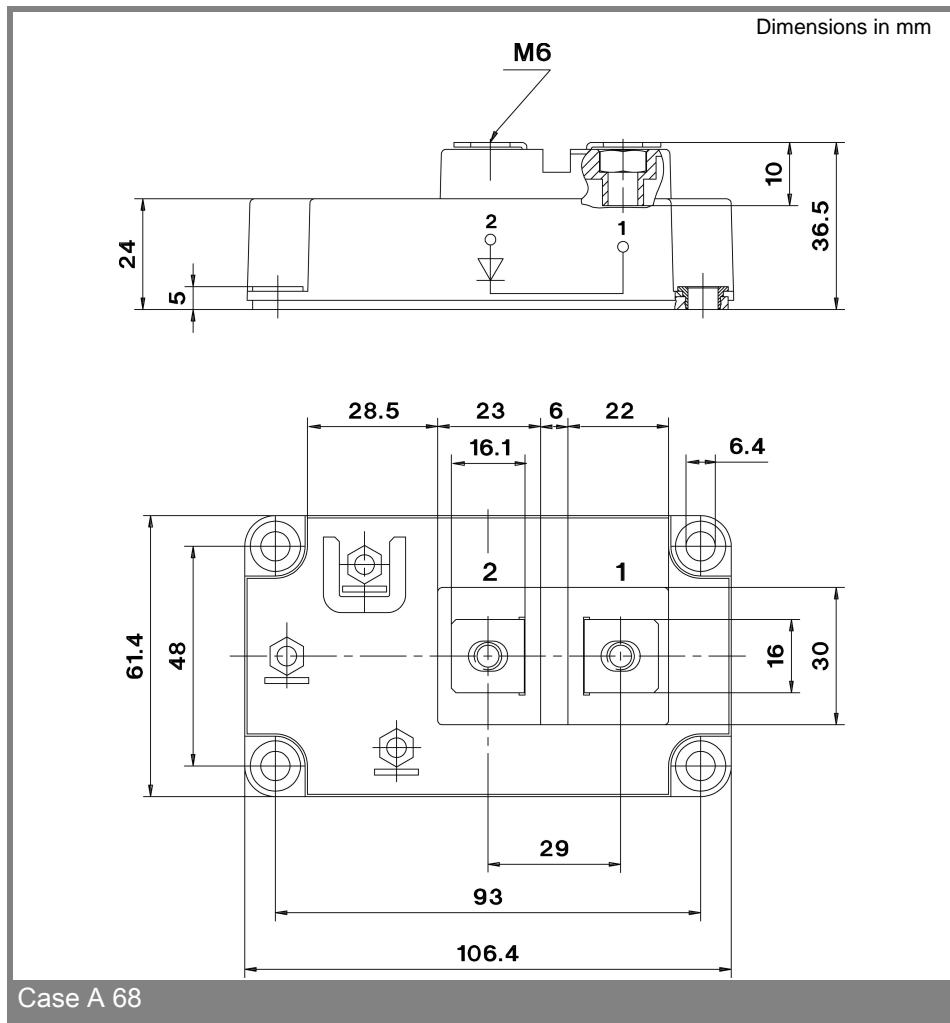


Fig. 6 Typ. turn-off energy dissipation per pulse



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