

# SKKE 120F



SEMIPACK® 2

## Fast Diode Modules

### SKKE 120F

#### Features

- CAL (controlled axial lifetime) chip technology, patent No. DE 43 10 44
- Heat transfer through ceramic isolated metal baseplate
- Very short recovery times
- Soft recovery
- Low switching losses
- 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
- snubber and free wheeling circuits



SKKE

$V_{RSM}$	$V_{RRM}$	$I_{FRMS} = 220$ A (maximum value for continuous operation)	
V	V	$I_{FAV} = 120$ A (sin. 180; 50 Hz; $T_c = 82$ °C)	
1700	1700	SKKE 120F17	

Symbol	Conditions	Values	Units
$I_{FAV}$	sin. 180; $T_c = 85$ (100) °C	116 (87)	A
$I_{FSM}$	$T_{vj} = 25$ °C; 10 ms $T_{vj} = 150$ °C; 10 ms	2000 1800	A A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms $T_{vj} = 150$ °C; 8,3 ... 10 ms	20000 16200	A <sup>2</sup> s A <sup>2</sup> s
$V_F$	$T_{vj} = 25$ °C; $I_F = 200$ A	max. 2,7	V
$V_{(TO)}$	$T_{vj} = 150$ °C	max. 1,5	V
$r_T$	$T_{vj} = 150$ °C	max. 4,5	mΩ
$I_{RD}$	$T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$	max. 0,4	mA
$I_{RD}$	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}$	max. 50	mA
$Q_{rr}$	$T_{vj} = 125$ °C; $I_F = 120$ A,	41	μC
$I_{RM}$	$-di/dt = 1000$ A/μs, $V_R = 1200$ V	110	A
$t_{rr}$		1020	ns
$E_{rr}$		10	mJ
$R_{th(j-c)}$		0,2	K/W
$R_{th(c-s)}$		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		A 54	

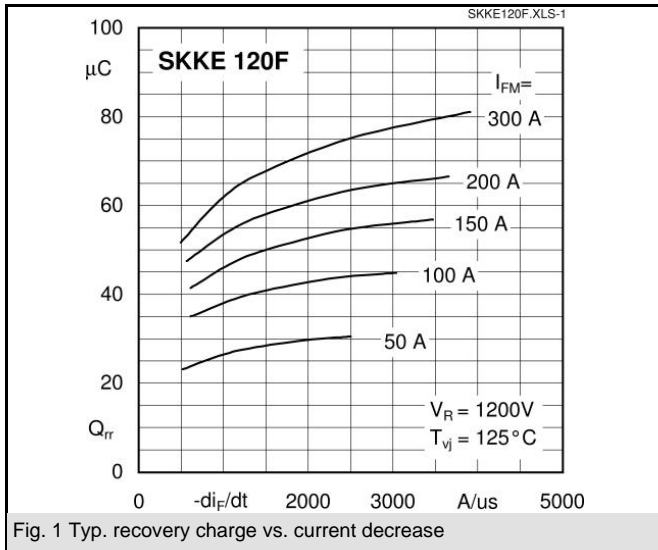


Fig. 1 Typ. recovery charge vs. current decrease

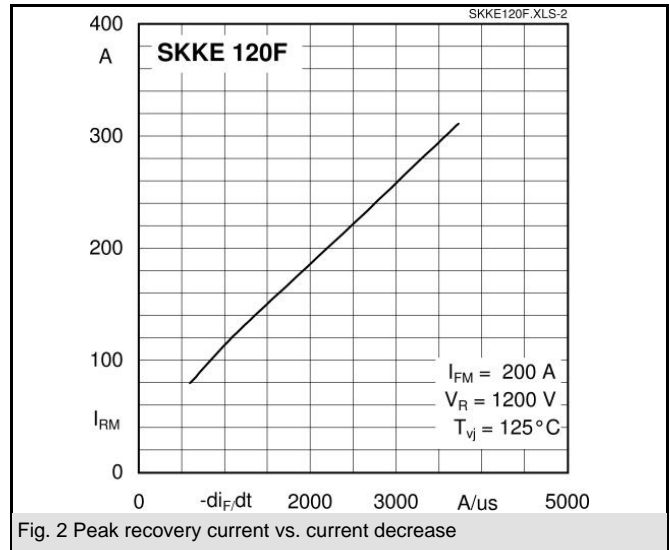


Fig. 2 Peak recovery current vs. current decrease

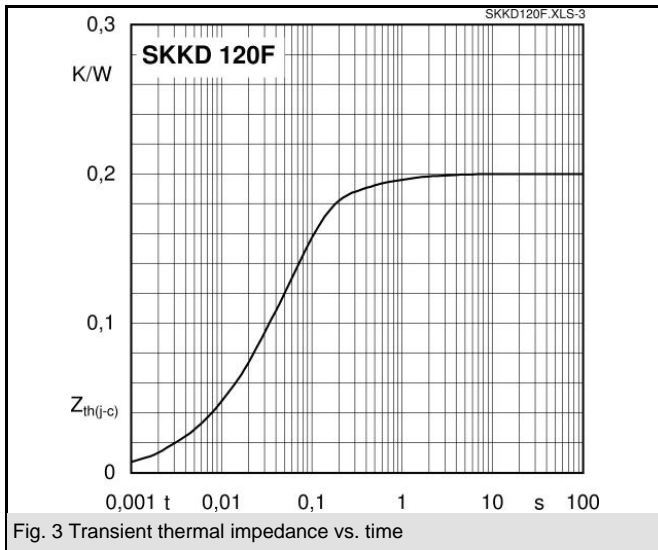


Fig. 3 Transient thermal impedance vs. time

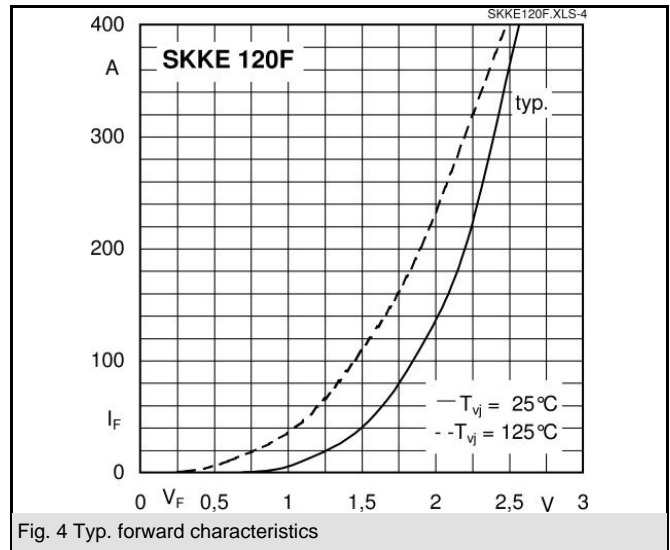


Fig. 4 Typ. forward characteristics

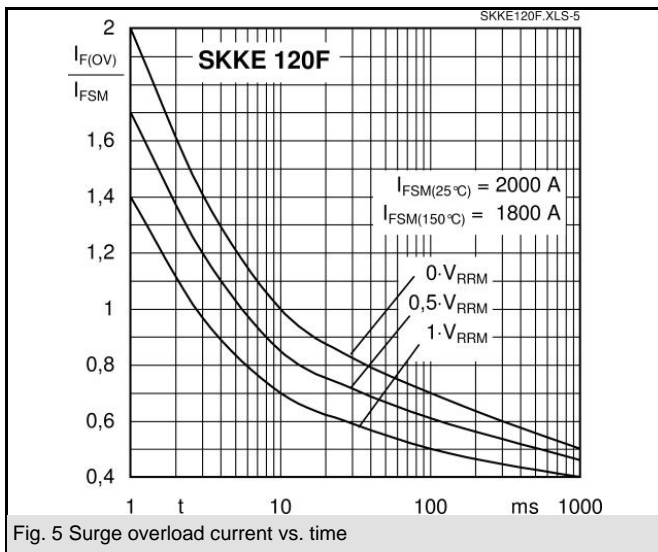
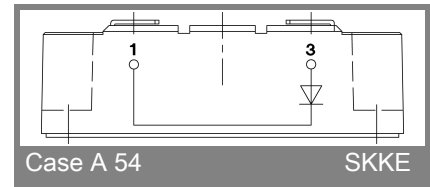
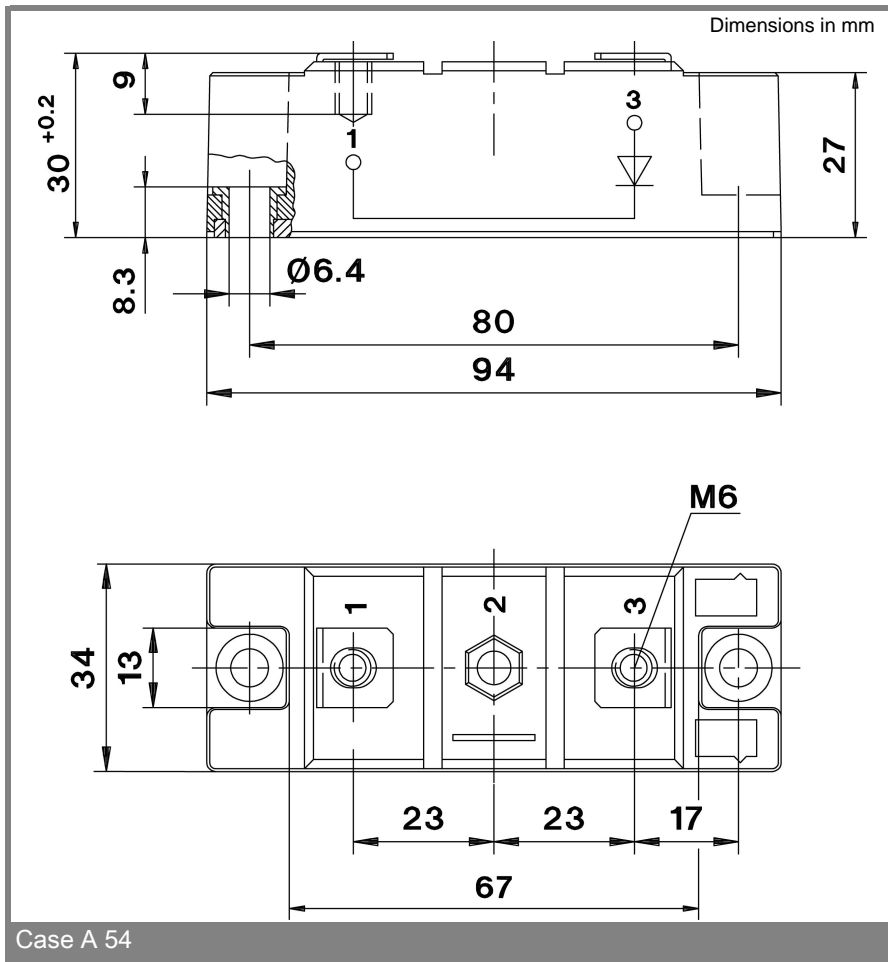


Fig. 5 Surge overload current vs. time

# SKKE 120F



\* 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.