

SKKE 301F



SEMIPACK[®] 2

Fast Diode Modules

SKKE 301F

Features

- CAL (controlled axial lifetime) technology, patent No. DE 43 10 44
- Heat transfer through ceramic isolated metal baseplate
- Very short recovery times
- Very soft recovery over the whole current range
- 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

V_{RSM} V	V_{RRM} V	$I_{FRMS} = 450$ A (maximum value for continuous operation) $I_{FAV} = 300$ A (sin. 180; 50 Hz; $T_c = 43$ °C)	
1200	1200	SKKE 301F12	

Symbol	Conditions	Values	Units
I_{FAV}	sin. 180; $T_c = 85$ (100) °C	220 (185)	A
I_{FSM}	$T_{vj} = 25$ °C; 10 ms	4000	A
	$T_{vj} = 150$ °C; 10 ms	3600	A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms	80000	A ² s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	64800	A ² s
V_F	$T_{vj} = 25$ °C; $I_F = 300$ A	max. 2,2	V
$V_{(TO)}$	$T_{vj} = 150$ °C	max. 1,2	V
r_T	$T_{vj} = 150$ °C	max. 2,75	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. 80	mA
Q_{rr}	$T_{vj} = 125$ °C; $I_F = 300$ A,	42	μC
I_{RM}	$-di/dt = 2000$ A/μs, $V_R = 600$ V	165	A
t_{rr}		690	ns
E_{rr}		10,8	mJ
$R_{th(j-c)}$		0,11	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 terminal	5 ± 15 %	Nm
a		5 * 9,81	m/s ²
m	approx.	160	g
Case		A 54	



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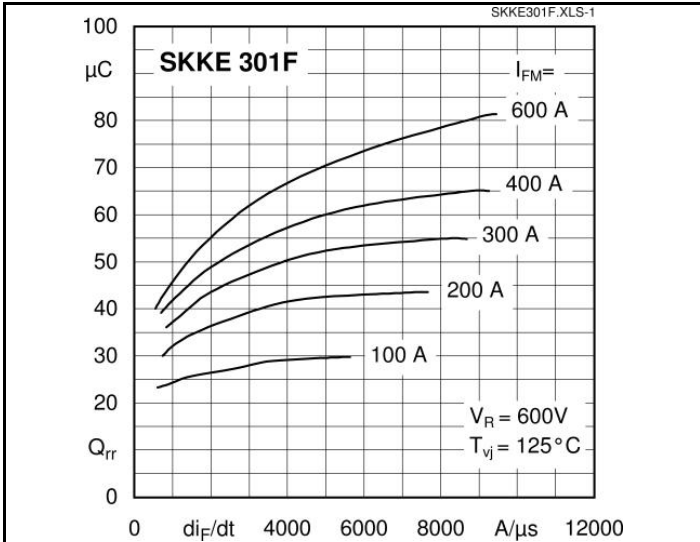


Fig. 1 Typ. recovery charge vs. current decrease

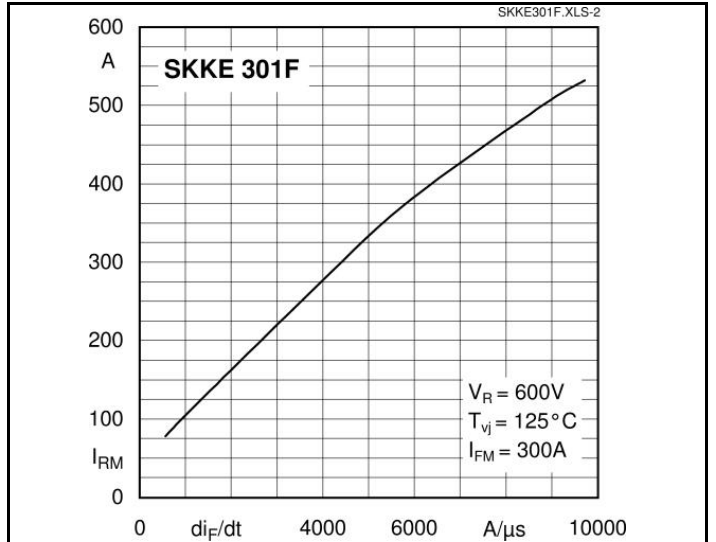


Fig. 2 Peak recovery current vs. current decrease

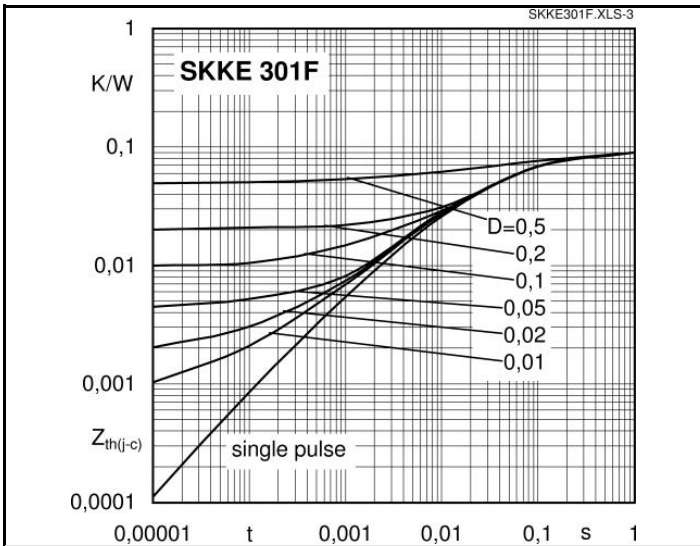


Fig. 3 Transient thermal impedance vs. time

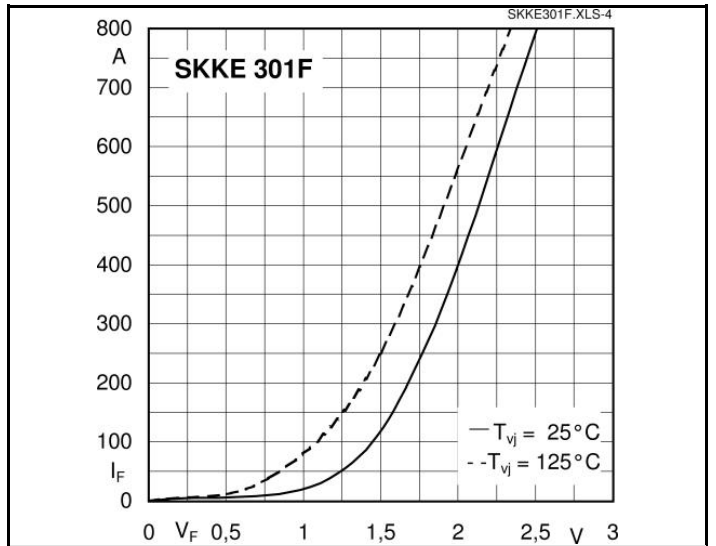


Fig. 4 Typ. forward characteristics

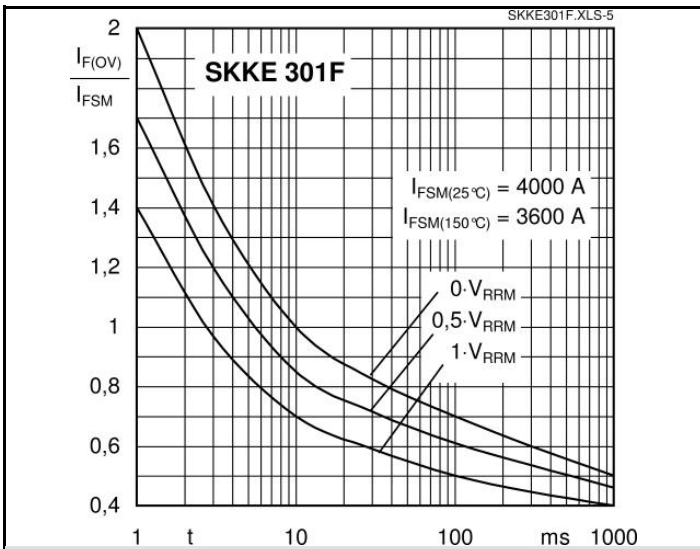
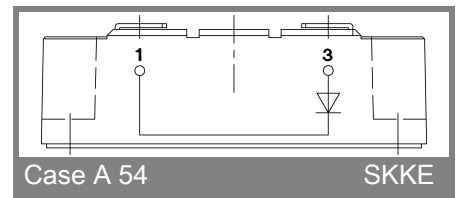
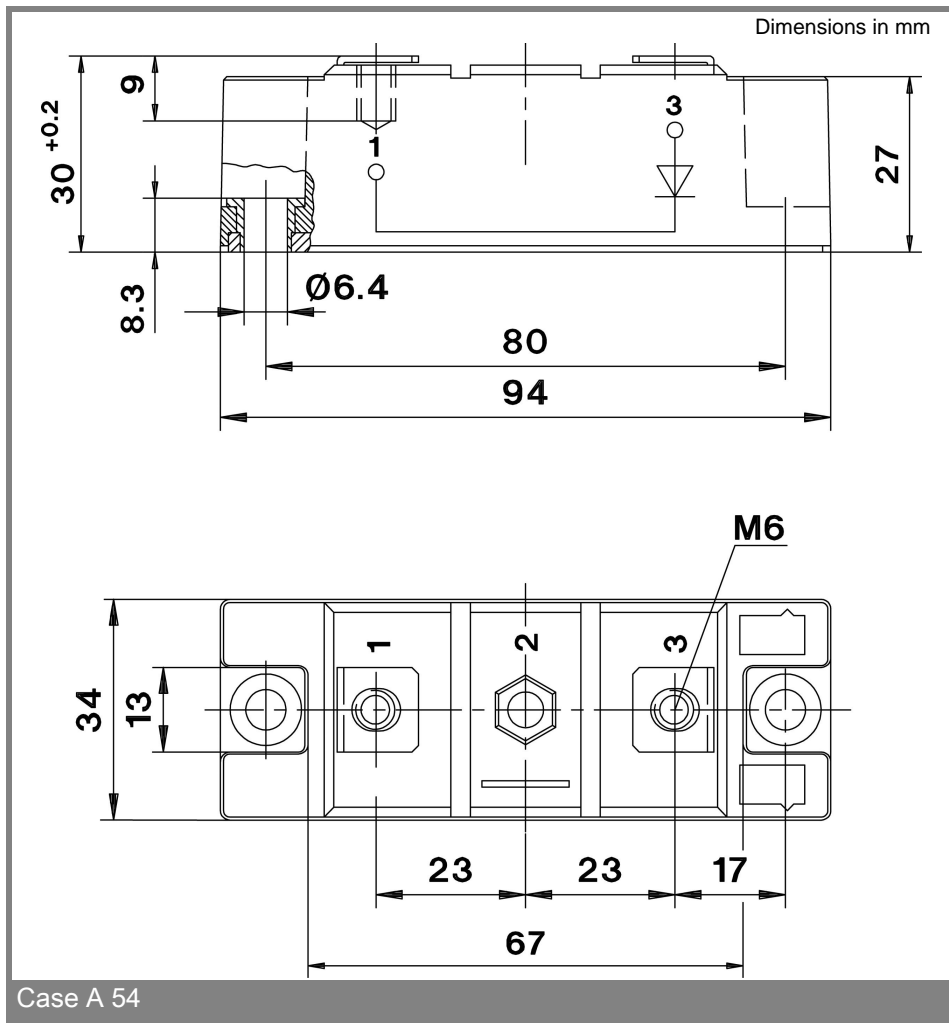


Fig. 5 Surge overload current vs. time



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