

SKKE 290F



SEMIPACK[®] 2

Fast Diode Modules

SKKE 290F

Preliminary Data

Features

- CAL (controlled axial lifetime) chip technology, patent No. DE 43 10 44
- Very soft recovery over the whole current range
- Very short recovery times
- Low switching losses
- Heat transfer through ceramic isolated metal baseplate
- Materials and distances according to UL

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	$I_{FRMS} = 455$ A (maximum value for continuous operation) $I_{FAV} = 290$ A (sin. 180; 50 Hz; $T_c = 109$ °C)	
600	600	SKKE 290F06	

Symbol	Conditions	Values	Units
I_{FAV}	sin. 180; $T_c = 85$ (100) °C	390 (330)	A
I_{FSM}	$T_{vj} = 25$ °C; 10 ms	7000	A
	$T_{vj} = 150$ °C; 10 ms	6000	A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms	245000	A ² s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	180000	A ² s
V_F	$T_{vj} = 25$ °C; $I_F = 400$ A	max. 1,45	V
$V_{(TO)}$	$T_{vj} = 150$ °C	max. 0,9	V
r_T	$T_{vj} = 150$ °C	max. 1,2	mΩ
I_{RD}	$T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$	max. 0,4	mA
I_{RD}	$T_{vj} = 150$ °C; $V_{RD} = V_{RRM}$	max. 60	mA
Q_{rr}	$T_{vj} = 125$ °C, $I_F = 300$ A, -di/dt = 1600 A/μs, $V_R = 300$ V	33,5	μC
I_{RM}		160	A
t_{rr}		580	ns
E_{rr}		3,6	mJ
$R_{th(j-c)}$		0,08	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.	3600 / 3000	V~
M_s	to heatsink	5 ± 15 %	Nm
M_t	to terminals	5 ± 15 %	Nm
a		5 * 9,81	m/s ²
m	approx.	160	g
Case		A 54	



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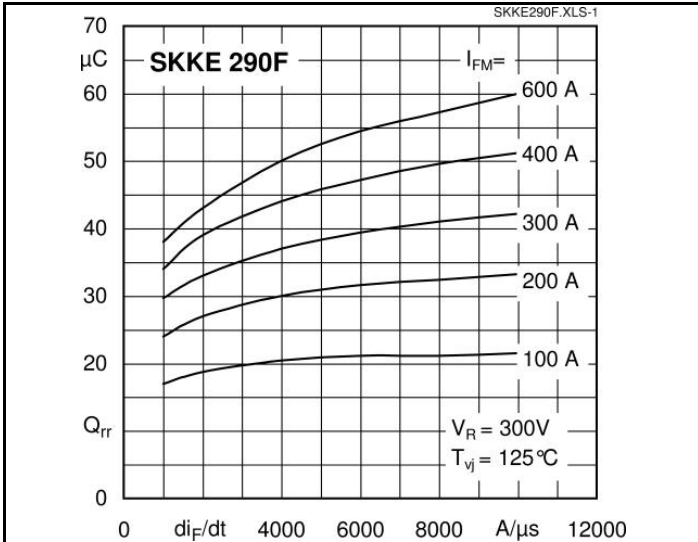


Fig. 1 Typ. recovery charge vs. current decrease

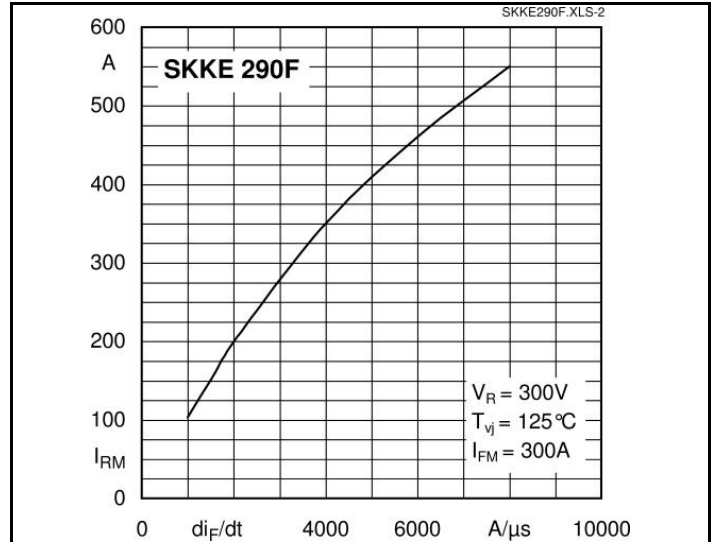


Fig. 2 Peak recovery current vs. current decrease

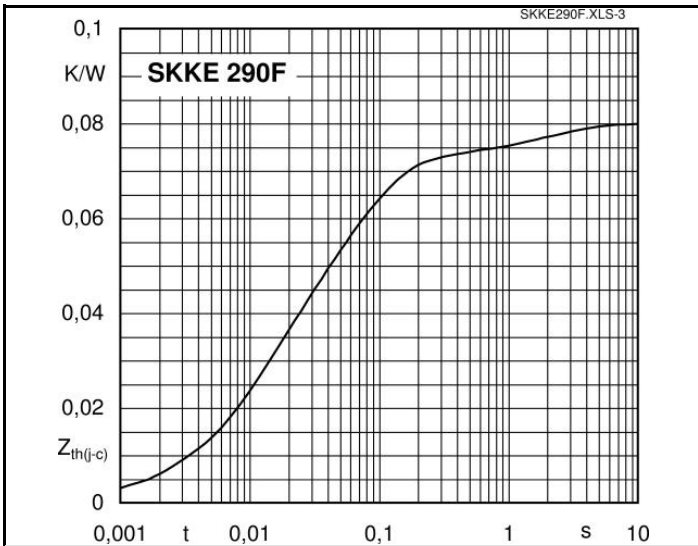


Fig. 3 Transient thermal impedance vs. time

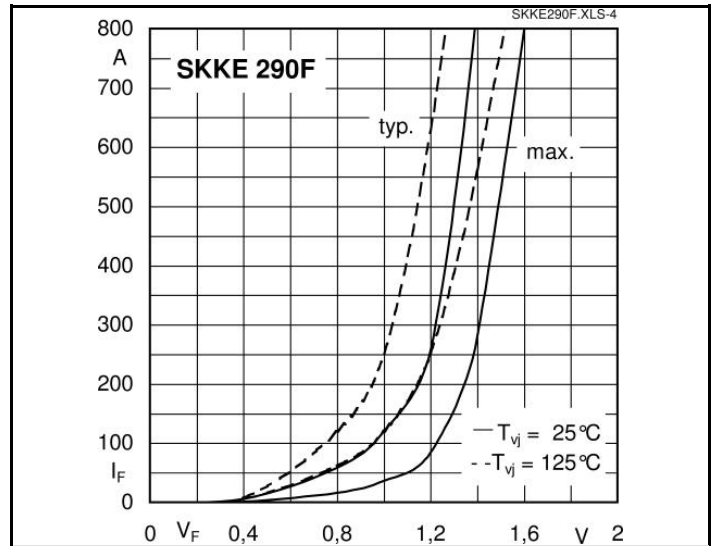


Fig. 4 Forward characteristics

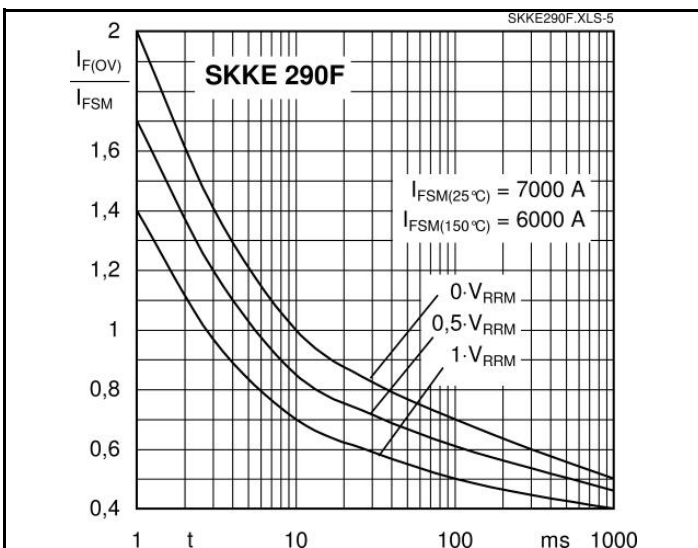
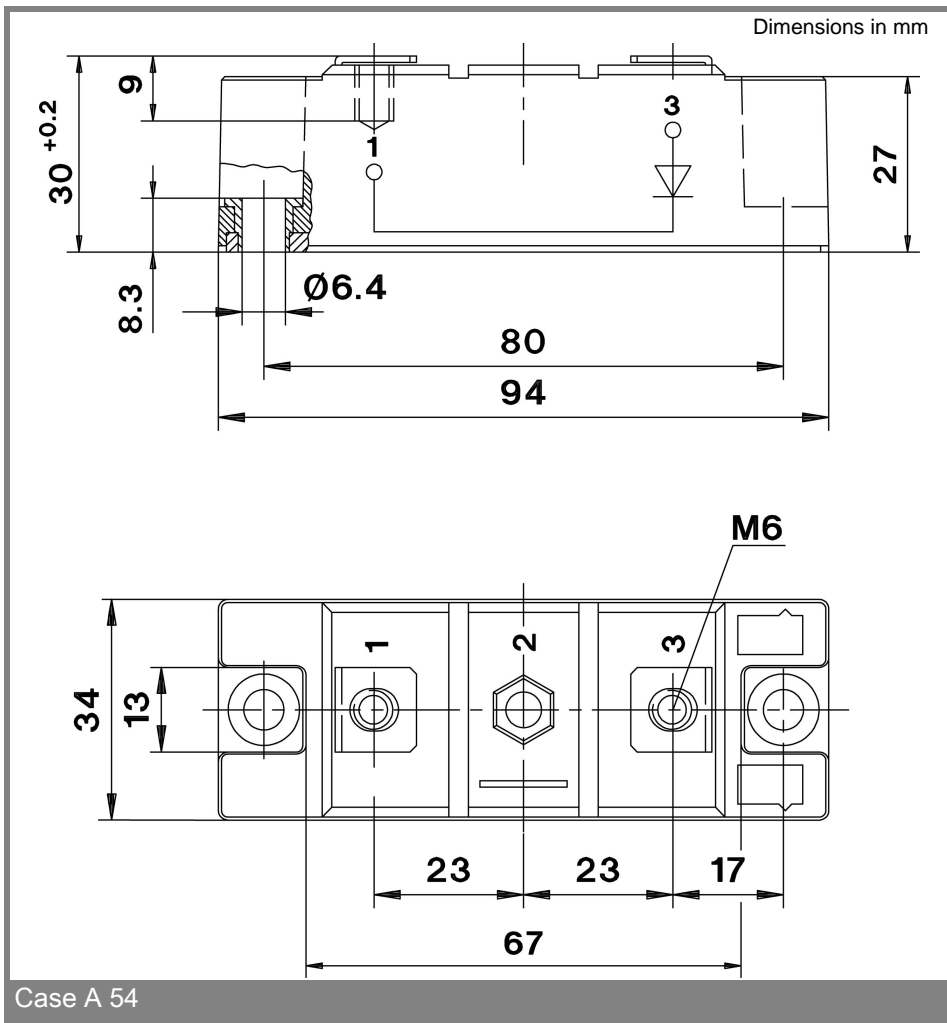


Fig. 5 Surge overload current vs. time



Case A 54

* 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.