

# SKKE 290F



**SEMIPACK<sup>®</sup> 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)	
600	600	$I_{FAV} = 290$ A (sin. 180; 50 Hz; $T_c = 109$ °C)	
		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 <sup>2</sup> s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	180000	A <sup>2</sup> 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,	33,5	μC
$I_{RM}$	-di/dt = 1600 A/μs, $V_R = 300$ V	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 <sup>2</sup>
$m$	approx.	160	g
Case		A 54	



**SKKE**

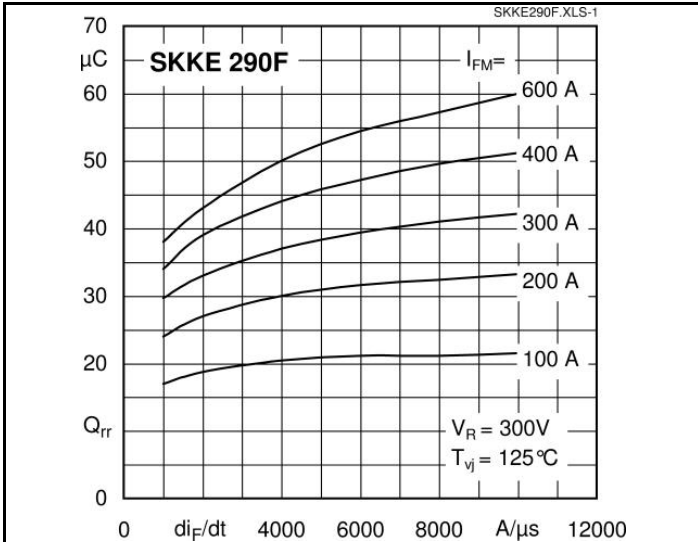


Fig. 1 Typ. recovery charge vs. current decrease

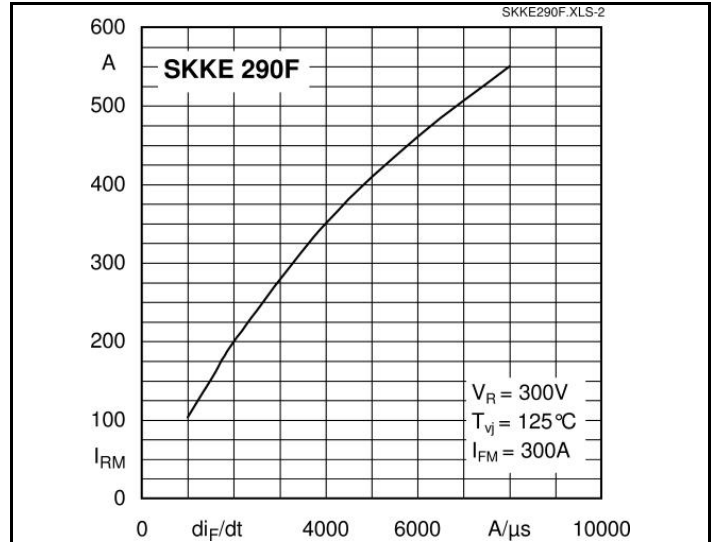


Fig. 2 Peak recovery current vs. current decrease

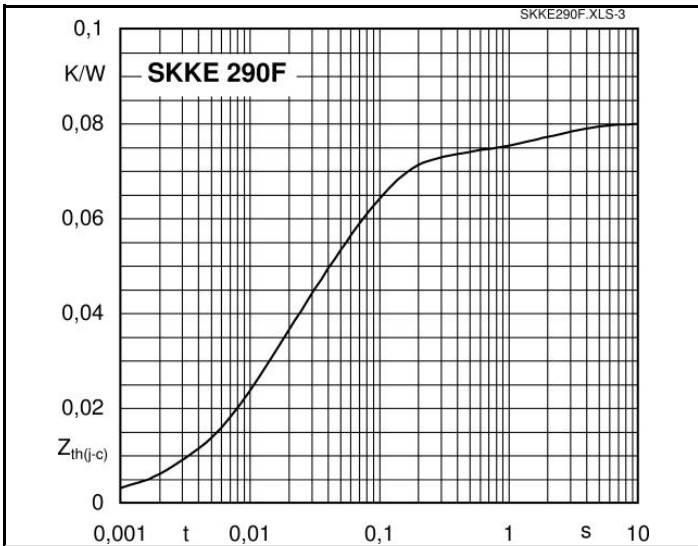


Fig. 3 Transient thermal impedance vs. time

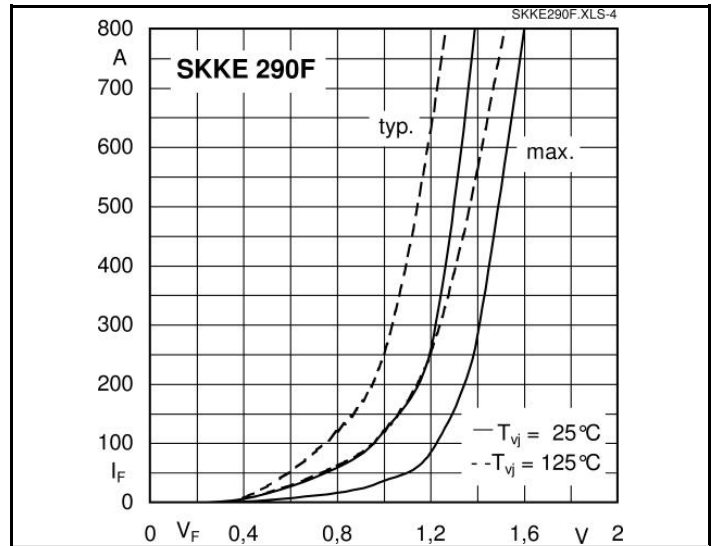


Fig. 4 Forward characteristics

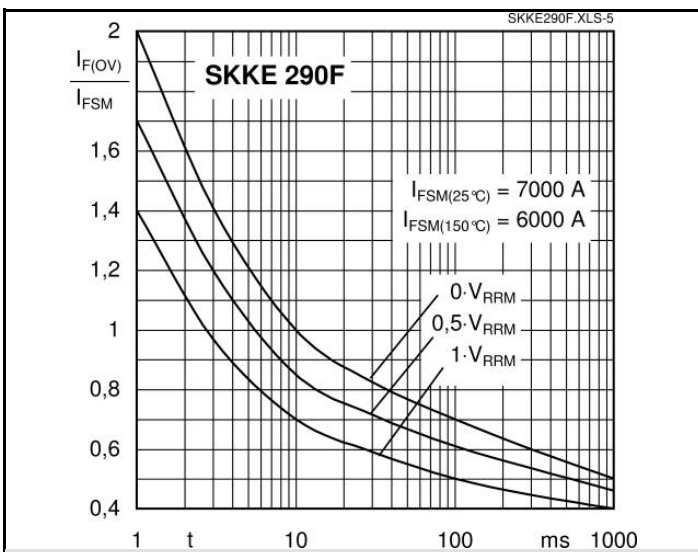
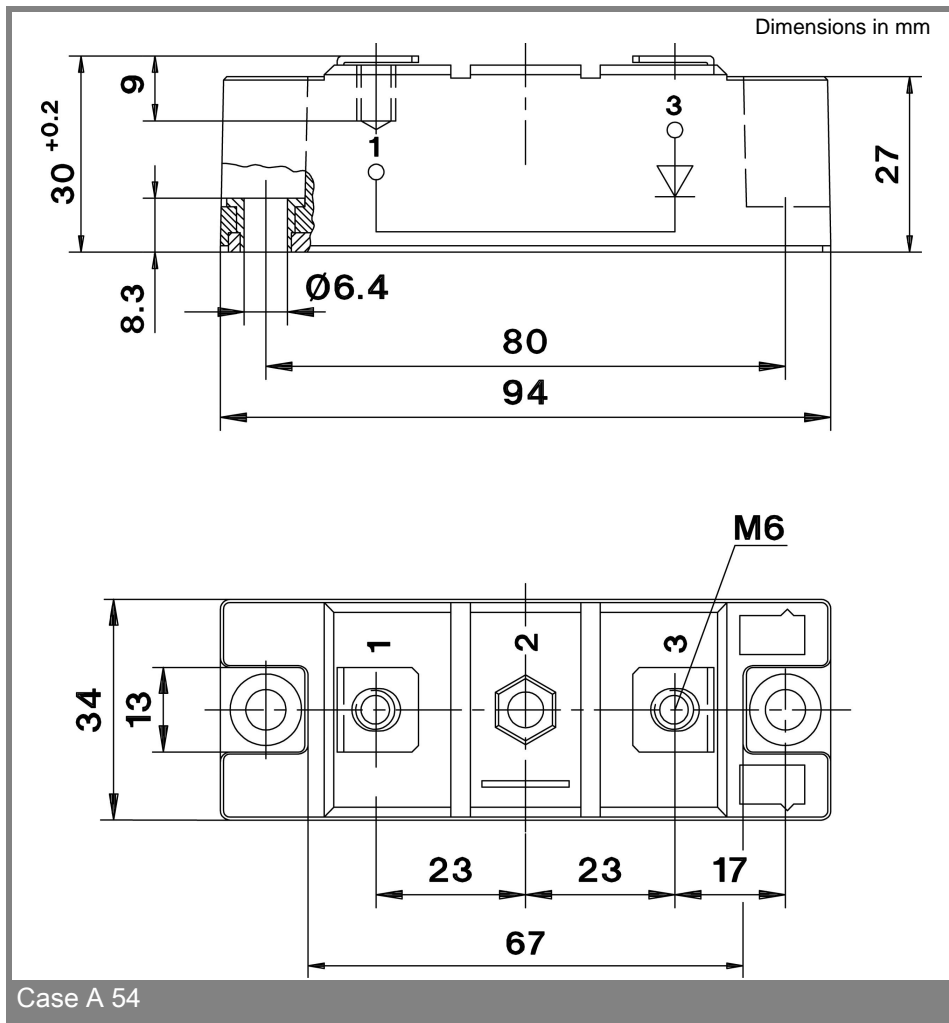


Fig. 5 Surge overload current vs. time



This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.