

# SKN 2F50



## Stud Diode

## Fast Recovery Rectifier Diode

SKN 2F50

### Features

- Small recovered charge
- Soft recovery
- Up to 1000 V reverse voltage
- Hermetic metal case with glass insulator
- Threaded stud ISO M6 or 1/4-28 UNF
- SKN: anode to stud

### Typical Applications\*

- Inverse diodes for power transistors, GTO thyristors, asymmetric thyristors
- SMPS, inverters, choppers
- For severe ambient conditions

$V_{RSM}$ V	$V_{RRM}$ V	$I_{FRMS} = 100$ A (maximum value for continuous operation) $I_{FAV} = 50$ A (sin. 180; 5000 Hz; $T_c = 105$ °C)	
400	400	SKN 2F50/04	
400	400	SKN 2F50/04UNF	
600	600	SKN 2F50/06	
600	600	SKN 2F50/06UNF	
800	800	SKN 2F50/08	
800	800	SKN 2F50/08UNF	
1000	1000	SKN 2F50/10	
1000	1000	SKN 2F50/10UNF	

Symbol	Conditions	Values	Units
$I_{FAV}$	sin. 180; $T_c = 85$ (100) °C	69 (57)	A
$I_{FAV}$	K3; $T_a = 45$ °C; sin. 180; 5000 Hz	18	
$I_{FSM}$	$T_{vj} = 25$ °C; 10 ms	1100	A
	$T_{vj} = 150$ °C; 10 ms	940	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	6000	A <sup>2</sup> s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	4400	A <sup>2</sup> s
$V_F$	$T_{vj} = 25$ °C; $I_F = 50$ A	max. 1,8	V
$V_{(TO)}$	$T_{vj} = 150$ °C	max. 1,2	V
$r_T$	$T_{vj} = 150$ °C	max. 4	mΩ
$I_{RD}$	$T_{vj} = 25$ °C; $V_{RD} = V_{RRM}$	max. 0,4	mA
$I_{RD}$	$T_{vj} = 130$ °C; $V_{RD} = V_{RRM}$	max. 50	mA
$Q_{rr}$	$T_{vj} = 130$ °C, $I_F = 100$ A,	3	μC
$I_{RM}$	$-di/dt = 30$ A/μs, $V_R = 30$ V	10	A
$t_{rr}$		600	ns
$E_{rr}$		-	mJ
$R_{th(j-c)}$		0,5	K/W
$R_{th(c-s)}$		0,25	K/W
$T_{vj}$		- 40 ... + 150	°C
$T_{stg}$		- 55 ... + 150	°C
$V_{isol}$		-	V~
$M_s$	to heatsink	2,5	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	20	g
Case		E 10	



SKN

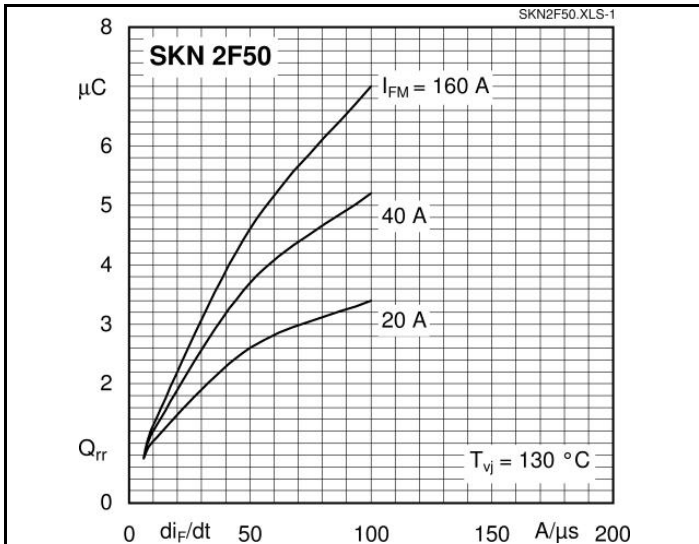


Fig. 1 Typ. recovery charge vs. current decrease

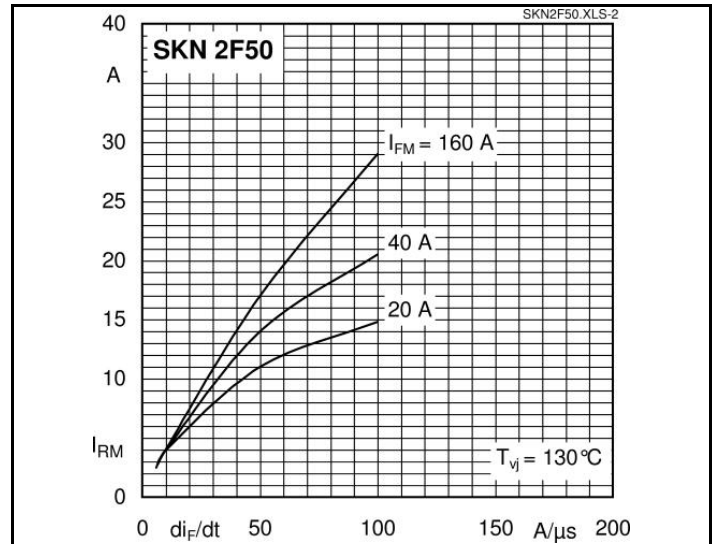


Fig. 2 Peak recovery current vs. current decrease

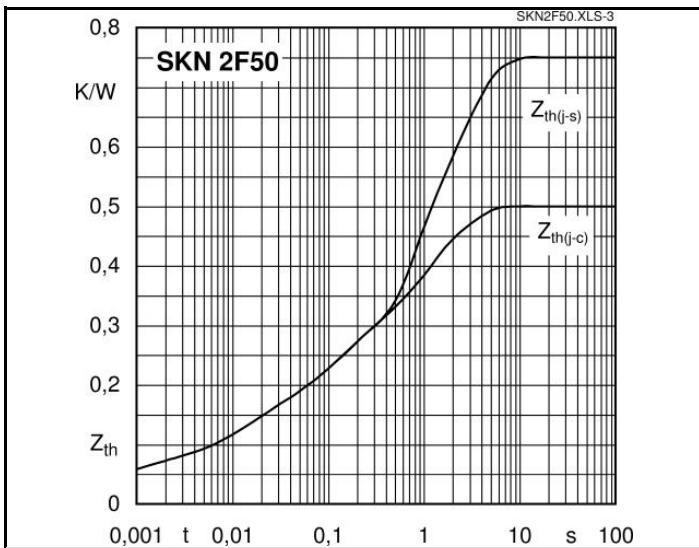


Fig. 3 Transient thermal impedance vs. time

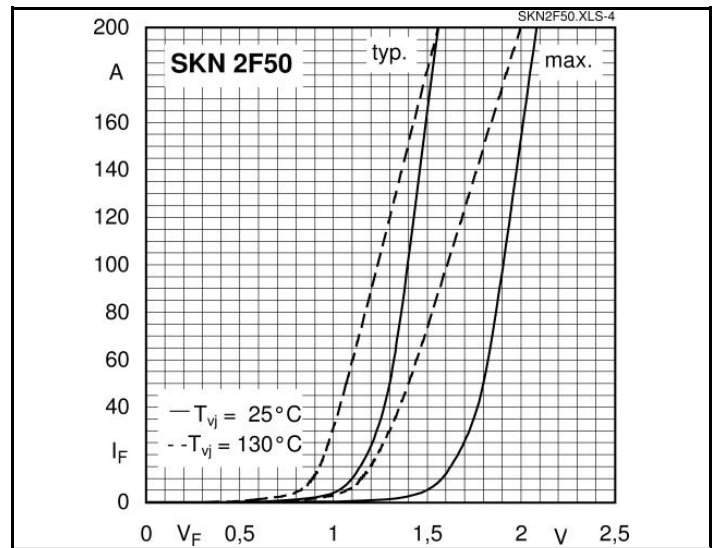


Fig. 4 Forward characteristics

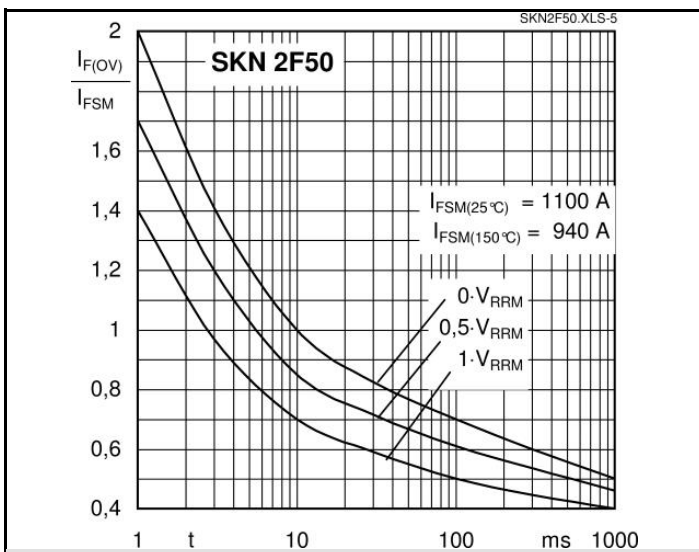
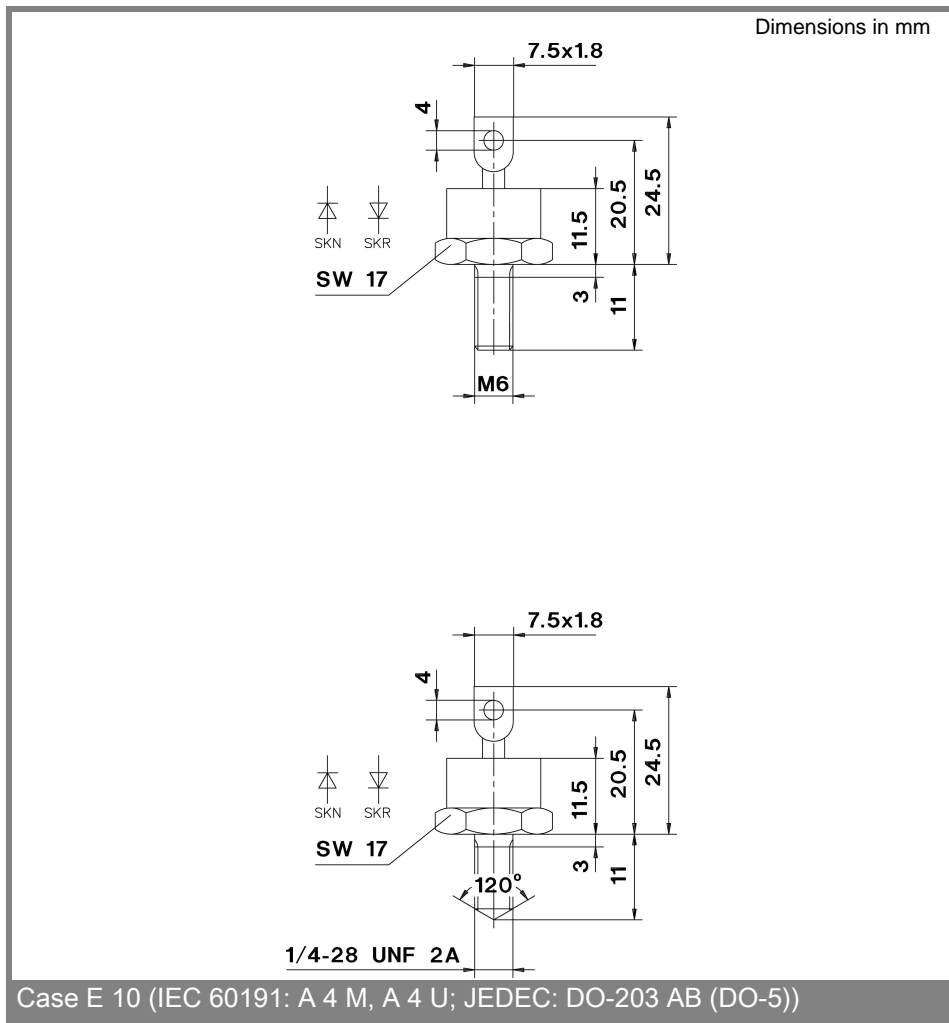


Fig. 5 Surge overload current vs. time



\* 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.